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## Editorial

Dear conference visitors and readers,

The 20th International HPH conference in 2012 will be a special event for at least 3 reasons:

To begin with, the conference is the first ever HPH conference outside Europe. With Taiwan, a very potent HPH network has taken the challenge to host this premiere, and has undertaken a huge effort in enabling conference participants from around the globe to attend. A global perspective on HPH is also mirrored in the conference programme: The Scientific Committee chose a focus on "Health Promoting Healthcare in a Changing World", addressing current challenges for health care reform in light of the increasing inequity in health, the rise of non-communicable diseases, and the return of infectious diseases. Potential contributions of HPH to mastering these challenges will be presented and discussed with regard to improving and innovating services provision, healthcare management, and health system design. 10 invited plenary lectures in 4 plenary sessions will be dedicated to these topics.

Second, the International HPH conference 2012 is not only a premiere with regard to its venue, but also marks the 20th anniversary of international HPH conferences, 22 years after the foundation of the international HPH network in 1990. For this reason, a round table on the achievements and future challenges HPH is facing will be organised during the conference.

Third, the 20th HPH Conference is record-breaking also with regard to figures: around 1000 participants have registered. The Scientific Committee made a special effort in screening almost 950 submitted abstracts from all continents. Of these, 713 papers (75%) were finally accepted for presentation in:

- 38 oral paper sessions and workshops (119 papers)
- 20 oral mini sessions (68 papers)
- 2 poster sessions (526 papers).

For the second time, the abstract book of the annual HPH conference is presented as a supplement to the official journal of the international HPH network, *Clinical Health Promotion* – a format which grants increased visibility and recognition to the conference and to the substantial work of the many people working on HPH around the globe, by that complementing the Virtual Proceedings that will be launched after the conference online at [www.hphconferences.org/taipei2012](http://www.hphconferences.org/taipei2012).

Thanks go to all those who contributed to the programme development and to the production of this abstract book: the plenary speakers, the abstract submitters, the members of the Scientific Committee, the session chairs, the Editorial Office at the WHO Collaborating Centre for Evidence-based Health Promotion in Copenhagen, but especially and primarily to the local hosts of the 20th HPH conference.

**Jürgen M. Pelikan & Christina Dietscher**

Vienna WHO Collaborating Centre for Health Promotion in Hospitals and Healthcare

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## Scope and Purpose

The 20th International Conference on Health Promoting Hospitals and Health Services (HPH) will be special for at least two reasons. First, with its location in Taipei, Taiwan, it will be the first ever HPH conference outside Europe and, by that, will set a clear landmark for the globalization of the HPH network which is now active in all continents. Second, with the 20th conference on HPH, time has come to look back on what HPH originally set out to do, what the network has achieved so far, and what challenges and changes for the future lie ahead.

Against this background, the Scientific Committee has decided to highlight five major topics for the scientific program of the HPH conference 2012:

### **Healthcare at a crossroad in a changing world: new demands for health care provision, health promotion and health systems design**

The speed of global change is increasingly accelerating, confronting people, nation states and the planet as a whole with enormous challenges, some of them with considerable effects on the global burden of disease. We observe an increase of climate-change related diseases, including a return of infectious diseases, an increasing competition for access to scarce resources – including safe drinking water and nutrition – and, as a result, a growing risk for conflict and war, famine and other humanitarian catastrophes. Unhealthy lifestyles and the ageing of populations have led to an increase of non-communicable diseases, especially of cardiovascular diseases, cancers, respiratory and metabolic diseases and mental health problems. And there is increasing evidence for the huge impact of social and economic determinants of health, leading to an increasing health gap around the globe. How can health policy, health systems and health services adapt to the pressing needs that arise from these challenges?

### **Evidence for HPH related interventions: What do we know already, and what further research is needed?**

Health promotion in healthcare is pressured to provide evidence for the interventions set. While health promotion in other settings uses and discusses different types of “evidence”, HPH strongly follows the notion of clinical evidence. This orientation favors evidence for person-oriented interventions, while potentially neglecting the impact of organizational, community and systems interventions. The conference shall discuss approaches, methods, indicators and needs for further research concerning evidence for the comprehensive HPH approach, including

- Evidence for the effectiveness, patient centredness and efficiency of patient interventions;
- Evidence for workplace health promotion;
- Evidence for health policy, health systems, setting and organizational interventions;
- Evidence for community interventions;
- Evidence for interventions to support environment-friendly health services.

### **Strengthening the public health agenda in health service development**

Health services are still designed to primarily meet the acute health needs of the populations they serve. However, societal, economic and demographic changes increasingly bring about the need for a changed orientation of health services in terms of meeting today's public health needs. The conference shall especially focus on the potential contributions of health promoting healthcare to

- Supporting ageing populations;
- Tackling the challenge of physical and mental NCDs;
- Addressing the increasing proportion of vulnerable citizens, including migrants and socially and economically disadvantaged population groups;
- Women and child health.

### **What capacities do Health Promoting Hospitals and Health Services need to improve their contributions?**

The capacity approach in health promotion draws the attention to the many necessary preconditions and resources that are needed on personal, organizational, community, systems and policy level for establishing and maintaining the reorientation of health services HPH has set out to achieve. The conference will discuss which capacities can make a difference and how they can be built up:

- Health policy and health systems: What national / regional capacities for health promotion, including funding schemes, payment design, and legal mandates, do make a difference?
- Communities: How can community awareness and public demand for health promotion services be created and maintained?
- Organizational capacities for HPH: What organizational structures and resources do HPH need to be able to operate successfully?
- Network capacities: How can networks support the establishment of capacities for HPH?

### **20 years of reorienting health services towards health promotion – achievements and outlook**

After the launch of WHO's Ottawa Charter (1986), which formulated the demand of reorienting health services as one of five action areas, conceptual developments on HPH began in 1988. The international HPH network was formally founded in 1990. In its history, HPH saw model and pilot hospital projects, the launch of international network media, the development of national and regional networks, the installment of international support centres and task forces, the development of tools, and the expansion from a European to a global network. The conference will reflect HPH achievements and future plans in Asia, America, Australia, Europe, and Africa.

## Wednesday, April 11, 2012

**09:00-16:00**

HPH General Assembly (upon invitation only)

**16:15-17:15**

HPH Governance Board (upon invitation only)

**18:00-18:30**

Conference Opening

**18:30-20:00**

Plenary 1

**20:00-22:00**

Welcome Reception

## Thursday, April 12, 2012

**08:00-09:00**

Onsite Registration

**09:00-10:30**

Plenary 2

**10:30-11:00**

Coffee, tea, refreshments

**11:00-12:30**

Oral Sessions 1

**12:30-13:30**

Lunch

**13:15-13:45**

Mini Oral Sessions 1

**13:30-14:00**

Poster Sessions 1

**14:00-15:30**

Oral Sessions 2

**15:30-16:00**

Coffee, tea, refreshments

**16:00-17:30**

Plenary 3

**20:00-00:00**

Conference Dinner

## Friday, April 13, 2012

**09:00-10:30**

Plenary 4

**10:30-11:00**

Coffee, tea, refreshments

**11:00-12:30**

Oral Sessions 3

**12:30-13:30**

Lunch

**13:15-13:45**

Mini Oral Sessions 2

**13:30-14:00**

Poster Sessions 2

**14:00-15:30**

Oral Sessions 4

**15:30-16:30**

Coffee, tea, refreshments

**16:00-17:00**

Plenary 5

**17:00-17:30**

Conference Summary & Closing

**17:30-19:00**

Farewell Refreshments



## Plenary 1: Healthcare at a cross-road in a changing world: new demands for health care, health promotion and health systems design

### Social Determinants of Health, Doctors and Hospitals

**GOMES DO AMARAL Jose Luiz**

What should be our role in this context? There is a vast range of possibilities regarding our participation on SDH. I would not limit the scope of just some of them. Nevertheless I suggest you to pick up among many alternatives, clinical activity, monitoring and advocacy. Clinical practice Direct health care is and will be ALSO in the center of medical profession and hospital activity. And this activity should be driven by the best standards. Always. Because there are no double standards of medical care, but just the best. Which is based but NOT limited to health promotion or primary care, but all range of possible effective proven interventions. It would not be needed to say that health care is itself a direct determinant of health since equitable access to assistance has utmost importance to assure recovery and return to normal life. Nevertheless we shall recognize that is mandatory looking beyond direct care (or repairing the damage caused by ill health) and tackle the causes of poor health, which are the conditions in which people are born\*grow\*live\*work\*age and they (those conditions) are strongly influenced by social\*cultural\*environmental\*economic factors. Consultation and operating rooms are and certainly will continue to be our habitat, but the presence of doctors and medicine in this context is necessarily ubiquitous. Monitoring We shall use hospital means and medical competences to identify health determinants and evaluate their impact; to measure health status and the impact of health care interventions on outcomes, Starting with excellent primary care, but including a range of possible effective proven interventions under different social contexts, showing evidences of how the change of social context affect health and effectiveness of health care. In summary, monitoring 1) health status and SDH, 2) Effectiveness of health care interventions and SDH, and 2) Collecting data, organizing evidences, publicizing them. Advocacy Doctors are expected to champion the cause of health and prioritizing health in all policies, as well as implementing it! Access to clean water, food, shelter, education, work and good work conditions constitute the pillars of human wellbeing and progress. In addition, without those essentials the effectiveness of any initiative in health care will be substantially limited. Since we have the necessary experience and expertise to lobby and advocate, (congressmen) politicians, social leaders, civil authorities, and more important of all of those, the citizen. The informed citizen will recognize the importance of SDH being able to decide and drive this process. Which means implementing health status through a profound transformation of the structure of our society. Since it will not be possible without the

participation of the society. We have many opportunities to show the multitude of consequences of every policy and action taken in any sector or public and private administration on the health of people. Doctors can use evidence and influence to have a positive impact on health inequalities. Doctors can use their position and their expertise to advocate for change to areas outside traditional medical areas, and to promote the generation of research, especially on the efficacy of prevention measures. Doctors should act not just as health care providers but also agents of social transformation, shaping public opinion. We cannot disregard the political role of doctors. In conclusion: Doctors shall extend the role of their profession "from repairing people's poor health and involve themselves more with the root causes of premature ill health". We shall monitor progress and get deeply involved in advocacy (which means shaping social justice) for quality and equity of medical care (assuring universal access to good quality health services). And real progress will certainly result from this movement.

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### Health Promotion in Health Services in an NCD Era - the US Perspective

**LABRESH Ken**

Heart disease and stroke are the number one cause of mortality in the world. Effectively addressing cardiovascular diseases will require initiatives in health policy, public health and surveillance, and health sector interventions. The US Centers for Disease Control and Prevention, has created a Public Health Action Plan to Prevent Heart Disease of Stroke which includes four strategies: 1. Preventing the development of risk, 2. Detection and treatment of Risk Factors, 3. Early Detection and treatment of heart attack and stroke, and 4 Prevention of recurrent cardiovascular events. While this framework is focused on heart disease and stroke, cancer, chronic respiratory disease and diabetes are also impacted by the reduction of risk through the same lifestyle changes. 1. The National Heart, Lung, and Blood Institute (NHLBI) has created and recently published the Integrated Guidelines for Cardiovascular Health and Risk Reduction in Children and Adolescents. We are currently conducting a cluster randomized trial of the implementation of these guidelines by the use of a tool kit and supported pediatric practice redesign strategy. 2. The recently launched Million Hearts Campaign of the Department of Health and Human Services (HHS), partnering in the American Heart Association and other organizations, will make preventing heart attacks and stroke a top priority for HHS, its component agencies, and the broader healthcare system. Million Hearts will target improvements in both clinical preventive practice (blood pressure and cholesterol control, increasing aspirin use to prevent and reduce the severity of heart attacks and strokes) and community prevention, including eliminating smoking and exposure to secondhand smoke, decreasing sodium and trans

fat intake in the population. 3. and 4. The early detection and treatment of heart disease and stroke and the prevention of recurrent events have been addressed by the American Heart Association's Get With The Guidelines (GWTG) program: At the individual patient level, improvement initiatives need to be driven by clinical evidence in the form of clinical guidelines. Here there is good evidence that this translation of clinical research provides a link to improved patient outcomes. A major barrier to realizing improved outcomes is the translation of evidence into the delivery of evidence based care in every patient encounter. The development of GWTG in Massachusetts and its expansion to include modules in heart failure and resuscitation will be reviewed to serve as a possible model for international adaptation. This hospital based program is designed to increase the use of evidence based guidelines using an online clinical registry which supports point of care data collection and provides clinical decision support, and clinical summaries that can be given to patients on discharge, and communicated to their primary care physicians to coordinate post hospital care. Over the last 10 years, GWTG has been adopted by 40% of US hospitals and the GWTG registry has enrolled more than 4 million patients. Multiple analyses of GWTG data have demonstrated significant, sustained improvement in evidence based performance measures. Data will also be presented to demonstrate improvement in patient outcomes when evidence based process are consistently delivered during the hospitalization

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## **Plenary 2: Evidence for HPH related interventions: What is known to be effective, and what are the needs for further research?**

### **Evidence-informed health promotion: Progress and challenges in evidence generation and translation**

#### **LIN Vivian**

It is well accepted that health care interventions, if not health policy, should be evidence-informed and progress in realising this goal has been considerable. However, in the fields of health promotion and public health, there continue to be challenges in generating the necessary evidence, funding adequate research and evaluation, and translating the available evidence base into policy and practice. Efforts to institute evidence-informed policy and practice need to consider: how good is the evidence? To what extent is it the right evidence? Is the evidence appropriate for the population and setting? What evidence is missing? Is the evidence translated or applied effectively into the practice or policy setting? Is there sufficient infrastructure, resources, and skills to implement the evidence appropriately? Can the results of the policy or intervention be evaluated so as to contribute to furthering the evidence base? This presentation will draw upon a number of diverse case studies to consider these questions and challenges: the development of guidelines for evidence-based public health in Australia, a World Bank-supported national health promotion project in China, the approach adopted in the Cochrane Collaboration project on Communicate to Vaccinate, the decision to register Chinese Medicine practitioners in Victoria (Australia), and the development of a policy framework for people-centred health care for countries in the Western Pacific Region. These case studies illustrate why the International Union for Health Promotion and Education (IUHPE) established a global program on health promotion effectiveness as a priority, and has now also established a health promotion research working group.

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## Plenary 3: Strengthening the public health agenda in health service development

### Baby- and mother-friendly care

#### SAADEH Randa Jarudi

Breastfeeding is an unequalled way of providing ideal food for the healthy growth and development of infants. Interventions to promote optimal feeding practices (exclusive breastfeeding for full 6 months and appropriate complementary foods) are two of the three most effective preventive interventions available to prevent child mortality. These interventions are also essential to achievements of the Millennium development Goals (MDGs) related to child survival, the eradication of hunger and educational attainment. The most effective way to promote exclusive breastfeeding is through communities and health facilities. The Baby-friendly Hospital Initiative (BFHI) provides an efficient and cost effective way of delivering best practices to the beneficiaries by working on policy and patient care level alike. The BFHI was launched by WHO, in collaboration with UNICEF in 1991 to protect, promote and support breastfeeding. It helps mother to breastfeed exclusively (meaning nothing but breastmilk) and the effect is seen way after hospital discharge. BFHI is based on The Ten Steps to Successful Breastfeeding and the WHO International Code of Marketing of Breastmilk Substitutes and focuses on ensuring evidence-based best practice standards delivered to antenatal and new mothers. It applies to all mothers and babies in maternity facilities, and facilitates equity in health service standards. It has a measurable and proven impact increasing the likelihood that babies will be exclusively breastfed for the first six months and reducing gastro-intestinal infections. The Baby-friendly Hospital Initiative promotes 10 actions necessary to facilitate early initiation of breastfeeding and ensure that hospitals provide an environment supportive for breastfeeding. Early breastfeeding initiation - that is, during the first hour and week of life - is especially important to prevent newborn mortality (infants less than one month old). During the first hour of life, the baby is in an alert status and should be kept in skin-to-skin contact with his mother. Among the actions are training of hospital staff in aspects related with breastfeeding in maternities, non-acceptance of infant formula donations and facilitation of early contact and rooming-in. The BFHI can be expanded and integrated into other activities including women's health care units, pediatric, medical and surgical units, community health programmes, support for breastfeeding women who work in health facilities and other programmes. The Global Criteria for the BFHI provides a standard to measure adherence to the Ten Steps for Successful Breastfeeding and aspects of the International Code of Marketing of Breastmilk Substitutes. These criteria can link with other quality assurance systems in health facilities to assist mainstreaming BFHI. BFHI is a quality tool for ensuring all areas in hospitals and health services protect, promote and support breastfeeding and so clearly links with Health Promoting Hospitals. These BFHI standards apply to clients in maternity wards and other areas in the hospital and for staff as well. For staff ensuring they have access to good education, antenatal and

postnatal support, protection and promotion of breastfeeding as well as when they return to work. Finally, the BFHI is one of the operational targets of the Global Strategy for Infant and Young Child Feeding. It should be a central part of a comprehensive, multi-sector, multi-level efforts to enable every mother and family to give every child the best start in life.

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### Adapting health services to meet the needs of migrants and disadvantaged population groups

#### PUEBLA FORTIER Julia

Societies across the globe are becoming increasingly multi-lingual and multi-ethnic. This diversity presents a number of opportunities and challenges for health care systems, especially hospitals. By addressing the unique needs of migrants, minorities and other mobile or disadvantaged populations, health care institutions can make improvements on the key goals of most health care systems: improving quality and efficiency, reducing errors and ensuring patient safety, achieving good outcomes, and fostering good patient and community relations. This presentation will explore trends in adapting health services for diverse populations around the world. From North America to Europe to the Asia-Pacific region, great innovation is occurring in both practice and policy. Increasingly, government agencies and international organizations are taking an interest in promoting adaptations that will improve access to services and quality of care. Good practice models include interpretation and translation services, patient-centered care training for health professionals, epidemiologically and culturally targeted population programs (e.g. health promotion, disease prevention, disease support), and the use of patient support staff such as community health workers, patient navigators, and intercultural mediators. These interventions are promoted and supported by emerging organizational and governmental policies that include practice and quality standards, organizational management frameworks, detailed demographic and epidemiological data utilization, and reimbursement structures. The role of key stakeholders, such as government ministries, accreditation agencies, health professional associations and non governmental organizations, will be addressed as a means of developing strategic alliances to mobilize changes in the health care system

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## Contributions of Health Services to Mental Health Promotion

### HOSMAN Clemens

Mental disorders are highly prevalent in the population and cause a high human, social and economic burden to our societies. Poor mental health is also found to have a significant impact on the onset and development of chronic diseases and mortality. Mental capacities, also called "mental capital", are found crucial to the functioning of citizens, parents and families, schools, workplaces, communities and even economies. How do hospitals and other health services respond to these needs and challenges? Over the last three decades major progress has been made worldwide in promoting mental health and preventing mental disorders. Our knowledge on changeable determinants of mental health and developmental trajectories of mental disorders has increased dramatically, as is the availability of evidence-based preventive interventions and mental health promotion programs. Successful preventive interventions are currently available for instance for depression, anxiety disorders, eating disorders, conduct disorders and behavioral problems. Pre-school and school-based programs have shown to effectively promote social-emotional resilience of children and school achievements. Thousands of controlled studies have shown that these interventions can result in a wide spectrum of mental health, health, social and even economic benefits. Positive effects have even been found up to 15 to even 40 years after participation in such programs. Like is the case for somatic conditions such as contagious diseases, injuries, cancer, HIV/AIDS, cardiovascular diseases and traffic related mortality, societies have now increasing opportunities to also reduce the risk of mental disorders and to promote the mental health of children, adolescents, adults and elderly. This could contribute significantly to their well-being. In many public and private domains our societies are quickly moving to become more prevention-oriented societies. The domain of mental health will be no exception. These developments represent a major challenge to hospitals and other health services to reorient themselves and to find innovative ways to respond to the health and mental health problems of the populations they serve. Worldwide we see a transformation from exclusively patient-oriented mental health services to a stronger focus on public mental health. Making a change in the mental health burden of communities and countries will depend on willingness of hospitals and other health services to adopt effective mental health promotion and prevention policies and programs, and implement them on a large scale. What are the current opportunities and what is needed to make this happen? In my presentation I will discuss several promising options for innovative contributions of hospitals and health services to promote mental health and prevent mental disorders in patients and communities. This include for instance the integration of indicated prevention in a stepped care approach (e.g. for depression, anxiety, psychosis), mentally healthy aging, addressing clusters of narrowly related health and mental health problems, use of E-health services, collaborative networks of hospitals and primary health care to offer community-based preventive services, consultation and capacity building to schools, companies and non-profit organizations, consultation

to local policy-makers on public mental health issues and related social policies. Special attention will be given to opportunities for preventing transmission of psychiatric problems from parents to children; and to protecting the development of social-emotional and cognitive capacities early in life through services to pregnant mothers and young parents. To make this happen health services need to develop expertise in mental health promotion, supportive outcome research is needed, and health insurance companies and other financing agencies need to become convinced of the multiple benefits of such investments.

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## Responding to Climate Change with Green and Healthy Hospitals

### KARLINER Joshua

The global environmental crisis has significant impacts on public health. With carbon emissions continuing to increase and climate change's impacts accelerating, we are facing what the Lancet calls the greatest health threat of the 21st century. Yet although its mandate is to heal and promote public health, the health care sector inadvertently contributes to climate change and other of the world's other most serious environmental problems - chemical contamination, water and air pollution. On the positive side, the health sector is increasingly playing a leadership role in developing and implementing sustainable practices, reducing its climate footprint, protecting and promoting environmental health. An emerging framework, articulated by the Global Green and Healthy Hospitals Agenda, and increasingly implemented by various hospitals and health systems around the world, is setting the stage for the confluence of environmental protection and health promotion --creating an opportunity for HPH to become a leader in this area.

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## Plenary 4: What capacities do Health Promoting Hospitals and Health Services need to improve their contributions?

### How can health policy and health system capacities for health promoting healthcare be created and maintained?

#### CHIOU Shu-Ti

A "health promoting hospital or health service" is defined as an organization that aims to improve health gain for its stakeholders by developing structures, cultures, decisions and processes. The implementation applies a setting-based approach involving the change process of the whole organization to achieve quality improvement in health promotion for patients, staff and community. This presentation provides Taiwan's experiences in collaborative capacity building for members and whether its efforts have made some differences. Taiwan Network was established in 2006. Now it has expanded to 76 members and is currently one of the largest networks in the international network. It has several designs to facilitate capacity building for its members. For example, to get full membership, hospitals have to register as preparatory members first. They can then attend educational activities and get familiar with the concept, methods and tools of HPH. All of them performed self-assessment on WHO HPH Standards, identified their weaknesses, allocated resources, developed action plan for improvement, and developed or reported three or more health promotion projects before they applied and passed the site-visit to become a full member. As a member, hospitals continued to implement their action plans, improved quality of health promotion, fulfilled continuous education hours, and did the reassessment to renew membership every 4 years. The network selects and awards champion hospitals and innovative projects every year and shares these good practices in many educational activities. Recently, the re-assessment by 25 hospitals on HPH Standards demonstrated significant improvements on all of the items with lowest scores in the first assessment. The central government sees clinical settings as an important partner and has developed many policies to support the re-orientation of health services. The hospital accreditation standards endorse patient-centered care and healthy workplace. Several health promotion indicators are included in the national core measures for healthcare quality. The national health insurance has piloted capitation payment scheme in several hospitals. The Bureau of Health Promotion provided budget support in two ways; one is through payment for preventive services and the other is through project-based granting. There are many collaborative health promotion projects coordinated by the central government, such as baby-friendly hospitals, smoke-free hospitals, age-friendly hospitals, cancer control hospitals, environment-friendly hospitals, healthy workplaces, etc. Many of them have lead to significant improvement in population health such as

national cancer screening volume, exclusive breastfeeding rate and its mean duration, reduction in CO2 emission, etc. With the support from the network and government policy, hospitals in Taiwan welcome the HPH model and found it helpful in improving quality of patient care and meeting accreditation requirement. Hospitals have demonstrated themselves to be a powerful partner for the government in supporting the implementation of HP policies and promoting population health.

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### What organizational capacities do make a difference for the implementation of HPH?

#### PELIKAN Jürgen M.

The effective and sustainable implementation of health promotion measures into the setting of hospitals and health care services has been debated from different perspectives since the beginning of the HPH movement and network. Implementation has been understood as organizational development of hospitals or the hospital as a learning organization, as part of quality management, as related to evidence-based health care, as a way of organizational health development. In the last decade, when the concept of capacity-building was adapted from developmental aid and community development to health promotion, capacity building also became a buzz word for implementing HPH. This lecture will focus on organizational capacity-building, i.e. on organizational infra-structures and resources that are supportive for the successful implementation of health promotion measures in hospitals. It will clarify the concept of organizational capacity-building for hospitals and give an overview on models and results discussed in the published literature. And it will address two research questions with empirical data from the PRICES HPH evaluation study: 1st: Which specific health promotion capacities in HPH member hospitals are effective with regard to the implementation of specific measures related to patients, staff and community, as defined by the 18 HPH strategies and the 5 standards for health promotion in hospitals? For answering this question some kind of comparison of European vs. Taiwanese member hospitals will be offered. 2nd: What kind of structures and strategies of HPH networks, as a specific relevant environment of HPH member hospitals, have been demonstrated to be supportive for adequate health promoting capacity building in HPH member hospitals, and by that, did improve implementation of health promotion measures? Results will show that for successful implementation of health promotion in the hospital setting, it is necessary to adequately invest in building up capacities, i.e. infrastructures and resources on the level of networks and single hospitals to enable continuous and comprehensive health promotion action.

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## Using Information Technology to Facilitate Health Promotion in Hospitals

### HSU Min-Huei

Taiwan's health care institutions are eagerly pursuing new information technologies to improve quality and efficiency. Such innovations are mandated and managed by the National Health Insurance (NHI) system. Initiated in 1995, NHI is a single-payer mandatory system that covers the entire population. NHI's electronic claims system was the first step toward "e-health" in Taiwan. The Health Smart Card is a widely noted innovation of Taiwan's e-health system. In the NHI system's early days, each insured individual was issued a paper card with six coded spaces; health care institutions would stamp one space for each visit. While reimbursement claim fraud was prevented, this was a waste of paper and printing costs. Since 2004, the Health Smart Card has prevented fraud and stored patient information in a convenient form. Upon each patient visit, the doctor registers information regarding diagnosis and medication on the card. This card also records drugs that the holder is allergic to, as well as preferences on organ donation and hospice/palliative care. Taiwan also uses computerized provider order entry (CPOE) in outpatient and inpatient care and for preventive health screening. CPOE enables patient-specific data to be delivered at the time of provider order entry; this also can increase preventive health screening rates. Compared with physicians using the same clinical documentation and order system without CPOE intervention, CPOE-enabled physicians order more screening tests such as lipid profile, fasting blood glucose in non-diabetics, and hemoglobin A1c and urine microalbumin in diabetics. As up-to-date and frequent screening is associated with improved outcomes, this system improves outpatient care. Kiosks are another example of Taiwan's health information technology. Most health care institutions now make a kiosk available for patient registration, for appointments for all specialist clinics and for credit card payment of medical costs. Hospitals can provide other patient portal services through kiosk systems, since patients can collect health records such as laboratory test results and medication lists. Kiosks can improve health literacy and encourage better lifestyle choices by providing information on common diseases and conditions. Taiwan's case shows how information technology can facilitate health promotion, improve access to medical care and increase efficiency of services, allowing high-quality health care to be provided to more people at lower cost.

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## Session O1.1: Health promotion around pregnancy and birth

### Promoting the Kangaroo Mother Care in Indonesian Hospitals: Barriers and Progress to Date

**PRATOMO Hadi, UHUDIYAH Uut, POERNOMO Ieda, RUSTINA Yeni, BERGH Anne-Marie**

#### Introduction

KMC is an evidence-based intervention practiced for both preterm and low birth weight infants. KMC was introduced in Indonesia in the 1990s and has since then been practiced in several hospitals. Several studies were done on the safety and acceptability of KMC. However, the results of these research were not adopted as national policy. A need was therefore identified to strengthen KMC in already-practicing hospitals and expand to more hospitals.

#### Purpose/Methods

The aim was to introduce KMC where it was not practiced and to strengthen practices in those hospitals already implementing KMC. The progress of the KMC implementation was measured by means of a baseline and an end-line instrument eliciting different information such as newborn facilities, skin to skin practices, KMC education, patient records, etc. The 10 hospitals were scored out of 100 by means of a progress monitoring model with six steps adoption of an innovation.

#### Results

A total of 344 infants received KMC in the intervention period. Forty staff were trained besides the 91 already trained before. Six hospitals had a KMC decree signed by the end of intervention. The mean progress score of the ten hospitals was 62 out of 100 points. Nine of the ten hospitals scored on the level of evidence of KMC practice, two hospitals on routine and integration and the two training centres near to the level of sustainable practice.

#### Conclusions

All hospitals were practicing intermittent KMC, with three also providing continuous KMC services. Only four hospitals provided a written feeding policy. The most common challenges related to recording and data collection, human resources, discharge, follow-up and family issues. The implementation of KMC is a long-term process that requires dedication and support. The KMC standards could also be developed for inclusion in the hospital accreditation system. This is to ensure the adoption of KMC practice in the hospital care.

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## Protective and Risk Factors of Post Partum Depression among Mothers in Low Social Economic Area in West Java

**SARAGIH TURNIP Sherly**

#### Introduction

In contrary to social expectations, mothers who had just delivered a baby may feel deep sadness, fatigue, unworthiness and unhappiness with their conditions and their babies. This condition is called baby blues, and if the symptoms persist may continue to be post partum depression (PPD). Post partum depression was found to be quite prevalent in many parts of the world and known to have deleterious effect for the babies, families and mothers.

#### Purpose/Methods

This study is intended to investigate the PPD among mothers who live in a low socio-economic area in Indonesia, as well as to identify the protective and risk factors of PPD. Data collected from approximately 400 mothers who have just given birth in the past year who attended the primary health care. Postpartum condition was measured by Edinburgh Post-partum Depression Scale.

#### Results

The prevalent of PPD was quite high in the study area. Several factors were found to be protective and risk factors for the occurrence of PPD. Those factors include social, psychological, cultural and economical aspects.

#### Conclusions

In Indonesia, mothers are expected to take care of the children since the day they were born, manage domestic issues and serve their husbands. The condition of PPD is often denied and ignored by the mothers and their families. Therefore mothers who experience PPD often feel guilty to their babies and families, which in turn could worsened their mental health condition. Health promotion is badly needed and should use the findings of protective and risk factors in the plan.

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## Global health policy for breast feeding - Human milk bank in Taiwan

**CHANG Fang-Yuan, WU Tsung-Zu, FANG Li-Jung**



### Introduction

The benefits of feeding human milk to infants, even prematurity, have been well-documented. The well-organized donated milk processing had made the donated milk a good source of nutrition for prematurity or sick infants if their own mother's milk is not sufficient or suitable. The Taipei City Hospital Milk Bank (TCHMB) was established since 2005 and is the first human milk bank to operate in Taiwan.

### Purpose/Methods

The TCHMB adopts standards of practice laid down by the HMBANA (Human Milk Bank Association in North America) and UKAMB (United Kingdom Association for Milk Bank). The clinical characteristics of 816 eligible milk donors and 551 milk recipients were reviewed retrospectively.

### Results

816 eligible donors donated total 13900 liters (mean 17.03 liters/donor) of breast milk. The mean age of these donors was 31.3 years, and 68.9% of them were primipara. The pass rate of raw donated milk was 72.1%. The most common reasons to discard milk were Gram negative rods (72.8%) and  $\geq 10000$  CFU/ml of Coagulase-negative Staphylococcus (62.3%). Total 551 infants had received bank milk, with the indications: prematurity (65.4%), malabsorption (7.6%), feeding intolerance (7.2%), and infants of maternal illness (5.1%).

### Conclusions

Proper management and operation of a donor human milk bank can support breastfeeding and promote the health of prematurity or ill infants in Taiwan by providing the safe alternative to artificial formula.

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## Determinants of reproductive risk factors of low-weight baby occurrence among different ethnic women with pregnant experience

### LIAO Hung-En

#### Introduction

To eliminate health inequity and prolong national life expectancy, National Health Insurance program, launched in 1995 and with more than 99% coverage rate in Taiwan, offers 10 times of prenatal care exams to pregnant women to remove the access barriers to healthcare. But the Gap of Life expectancy of newborns between aboriginal groups and general population still reached 8.9 years in Year 2010. The aboriginal maternal and child health issue, published quite few in Taiwan, is addressed in this study.

### Purpose/Methods

The purposes are to compare prevalence of low-weight baby delivery experience between aboriginal and non-aboriginal women, and to analyze the reproductive risk factors of occurring low-weight babies. Both Laframboise's and Andersen's model were employed as theoretical structures. A case-control method, with random sampling design, was adopted to collect 1,258 valid questionnaires from women in child-bearing ages lodged in Ren-Ai and Pu-Li Townships of Nantou County. Furthermore, our primary data linked the official database containing new-born children information for statistical analyses.

### Results

Compared with non-aboriginal women (14.1%), aboriginal women (21.2%) have a significantly higher prevalence rate of experiencing low-weight baby deliveries. Geographic difference (OR=1.644), marriage status (OR=1.812), personal trait (OR=1.034), drinking habit during pregnancy period (OR=1.627), contribute the health disparity. Additionally, pregnant women, with baby girl (OR=1.567), no living companion (OR=1.845), insufficient prenatal care exams (OR=2.001), and health care needs due to pregnant risks (OR=3.405), are more likely to deliver a low-weight baby.

### Conclusions

It is geographic difference and drinking problem during pregnant period, but not the ethnic difference, lead to higher low-weight-baby prevalence rate of aboriginal women. Meanwhile, there is significant relationship between insufficient frequency of prenatal care exams and afterward low-weight baby occurrence. Therefore, a culturally sensitive health promotion program aiming at aboriginal women in child-bearing ages and a transportation fee subsidy pilot project targeting on pregnant women living in remote areas should be recommended.

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## Session O1.2: Addressing non-communicable diseases with health promotion: Cancer and diabetes

### One Session Psychological Consultation Service for Cancer Patients in NTUH

#### TSENG Chang-Chang, CHANG Chi-Yu

### Introduction

In June 2007, NTUH established the first independent Clinical Psychology Center (CPC) in Taiwan to integrate its bio-psycho-social medical care. Psychological consultation for cancer patients is a newly developed service provided by CPC for this purpose.

### Purpose/Methods

This presentation is to illustrate how to provide only one session psychological assessment service to cancer patients. As the psychotherapy payment of National Health Insurance is only available in psychiatric and rehabilitation wards, we started to consider the feasibility of providing only one session psychological assessment service in other wards. We thus designed a service model to interview the patients and their families one by one to formulate their problems, to answer the consultation questions, and to give suggestions.

### Results

From 2007/11 to 2011/11, CPC performed 471 consultations for cancer patients and their families. The core psychological problems were different at different stages. The psychological assessment is been done through listening, empathizing, and respecting for patients and their families to improve their adaptation to the disease, to promote patient-doctor communication, and to facilitate the emotional supports between the family members. A case of consultations would be presented and discussed.

### Conclusions

The number of psychological consultation for cancer patients significantly increases year by year. Wards of NTUH acknowledge that, one session psychological consultation indeed solve the most problems and help the medical team to continue their medical care in most of cases. However, some difficult situations need more than one session psychological interventions. In the future, we will establish a comprehensive psychological assessment and psychotherapy care model for cancer patients to improve the quality of their life.

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## Investigation on the Return to work of Oral Cancer Survivors: the Case of Patients in Taiwan

### HSIAO Hua-Ling

#### Introduction

According to figures from the Department of Health, oral cancer is the most common cancer among males aged between 30 to 49 years old, and the fourth leading cause of cancer death for males in Taiwan. High prevalence of the disease and higher remission rates make the issue of re-employment particularly

relevant when evaluating the quality of life of oral cancer survivors. However, data about return to work after oral cancer treatment is rare in Taiwan.

### Purpose/Methods

The present study examines the employment status of oral cancer survivors before and after cancer treatment, and explores factors leading to successful employment. Empirical results will set the basis for further investigation to reduce the unemployment rate of oral cancer patients after surgery in Taiwan. A questionnaire assessed the employment status of 57 oral cancer survivors recruited among clients of Sunshine Social Welfare Foundation. A focus group and two in-depth interviews were carried out with vocational counselors and employers.

### Results

After cancer treatment, 57% of subjects were unemployed, which is significantly higher than the rate before diagnosis, and 87% of them were over 45 years old. Subjects employed after treatment earned salaries significantly lower than before their diagnosis. Social factors such as employers' lack of awareness about the disease and prejudice about oral cancer survivors limited employment opportunities. But social responsibility of employers was one of the crucial aspects that helped oral cancer survivors return to work successfully.

### Conclusions

The majority of oral cancer survivors interviewed are ready and willing to return to work after remission. Hospitals can play a facilitating role during and after treatment by linking patients to outside resources such as social workers and vocational counselors. They in turn can prepare patients for work, develop employment projects adapted to the specific needs of oral cancer survivors, and work to enhance awareness and acceptance of employers.

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## The effectiveness of group physiotherapy upon shoulder function following breast cancer surgery

### SHIN Tsai-Ling, CHEN Shu-Ying, KAO Chung- Miaw, CHEN Huo-Mu, LIN Chie-Yi, CHEN Ran-Chou

#### Introduction

The group physiotherapy was suggested to be an integral part of health care after breast cancer surgery. However, there was no rigorous evaluation undertaken to confirm its effectiveness in Taiwan. The purpose of this study is to investigate the effectiveness of group physiotherapy intervention for shoulder function in patients who have undergone breast cancer surgery.





### Purpose/Methods

The study was prospective in design. We recruited patients diagnosed with breast cancer, undergone total mastectomy or partial mastectomy, no brachial plexus injury or shoulder movement problems, were consciously aware and willing to participate in the research. From June to October, 2010 20 participants (9 received total mastectomy and 11 partial mastectomy) received bedside and group physiotherapy for 3 weeks. We measured amount of pain, edema, shoulder mobility and muscle strength before and after intervention, and conduct questionnaires for satisfaction.

### Results

For those receiving partial mastectomy, intervention of group physiotherapy exercises statistically significantly reduced pain ( $P=0.014$ ). Performance of functional activities (combing hair, fixing the back button, touching shoulder on both sides with affected hand) significantly improved ( $P<0.05$ ). muscle strength improved significantly ( $P<0.05$ ). Those receiving total mastectomy had significant improvements in combing, fixing back button, lifting a 4-kg object and throwing a softball overhand. 89% of patients were satisfied and 11% very satisfied.

### Conclusions

Group physiotherapy treatment was proved to be effective in the post-operative treatment of patients with shoulder complaints such as pain, limited shoulder mobility and weak shoulder muscles, following breast cancer surgery. It also achieved high patient satisfaction.

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## Applications of Motivational Interviewing in Managing Type II Diabetes Mellitus: A Systematic Review

**HSU Su-Hsia, WANG You-Yin, FANG Yueh-Yen**

### Introduction

Motivational interviewing (MI) applies a patient-centered counseling protocol to guide patients towards the discovery of conflicts in their health behaviors and construct a health promotion pattern. MI was reported to enhance patients' knowledge and skills in disease control and prevention of complications. Its application in managing type II diabetes mellitus (DM) was investigated across literature. An integration of study results would assist in validating the effects of MI on health promotion of type II diabetes.

### Purpose/Methods

This systematic review aims to evaluate the effectiveness of MI in health promotion of type II diabetes. Electronic databases,

including CINHAL, Medline, PubMed, CEPS, Proquest, PsychInfo, and Cochrane library, and related diabetic journals were searched for articles that utilized 'motivational interviewing' in patients with type II DM. The search period was between 2001 and 2011. Data were abstracted independently by two reviewers. The Johns Hopkins Nursing Evidence Rating Scale was used to evaluate study quality.

### Results

Five relevant studies that met the inclusion criteria were located from a review of sixty articles. Most studies supported that MI decreased the HBA1C level. As for body weight, it was reduced at the 6th month of intervention, but increased after termination of the experiment. MI was also good for promoting self-efficacy and decreasing depression level as well as fatalism.

### Conclusions

MI may bring benefit in health promotion of DM patients. However, there is a need for further investigation to achieve a consistent result. Problems encountered among MI research include time limitation, intervention frequency and duration, consultation content, and varied MI definitions and its implementations.

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## Session O1.3: Professional education and lifestyle development for hospital staff

Specific health promotion education offered to medical undergraduate students - lessons to be learnt

**BOCSAN Ioan Stelian, BRUMBOIU Maria Irina**

### Introduction

Education stays one of the fundamental socio-economic determinants of health, one of the most sensitive professional endeavour. The clinically-oriented medical education allows few amounts of community-oriented approaches. The need of developing the community-oriented approach is a must within higher medical education in a country having more than 45% rural population and an increasing level of illiteracy. As an example, future medical doctors and general population have very few information on healthcare associated infections (HAIs) risks, prevention and control.

**Purpose/Methods**

Shifting from clinically-oriented prevalent approach in medical education towards community-oriented one is hard in a classical medical school, with limited human resources and experience. Health education and health promotion (HE/HP) must be tailored and offered by specifically educated healthcare workers (HCWs), answering community needs and buffering the confusing non-professional messages disseminated by media so often. We tried implementing modules of HE/HP as early as possible during the process of medical higher education, evaluating the results.

**Results**

Starting 1995, a Health Education module was addressed to freshmen in our Medical School, with enormous success. The scarcity of human resources led to a break (1996-2001), followed by developing a Health Education / Health Promotion division within the newly established School of Public Health; it worked for three years, because of limited interest of practitioners in such postgraduate training. The 2006-established module of Prevention of nosocomial infections is from far the most successful. Students' evaluations are highly encouraging.

**Conclusions**

Teaching undergraduate medical and dentistry students on socio-economic determinants of health helps them better understand personal and patients' socio-economic risks at community level. Knowledgeable HCWs could much more efficiently early detect, prevent and control socio-economic risk factors by HE/HP within community. Healthcare efficiency, attractiveness, and patients' satisfaction could improve, relying upon HCWs competence. This is a life-long efficient early medical educational investment, improving knowledge, and developing life skills which are conducive to better and safer individual and community health.

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## Effects of diet and exercise program on weight control among overweight and obesity hospital staffs

**LIN Hsiao-Shan, CHEN Hsiao-Lien, WU Dia-Sue, HSU Pei-Chen**

**Introduction**

The prevalence of overweight and obesity are growing up fast in the worldwide. Overweight and obesity are associated with increased risk for chronic diseases. There is high prevalence of obesity and many of the hospital staffs are overweight. Efforts to reduce the rates of overweight and obesity have largely focused on nutrition and regular exercise. The intervention addresses body weight, body fat, waist circumference and exercise duration.

**Purpose/Methods**

The aim of present study to evaluates the effects of lifestyle intervention on anthropometry and exercise duration among hospital staffs between 10 weeks weight control period. One hundred and thirty seven hospital staffs were recruited from a regional hospital. The intervention consisted of nutrition and exercise classes during working hours 1 hour/week. Body weight, BMI, body fat, waist circumference, and upper-arm circumference were measured, and the exercise duration were recorded before and after the intervention period.

**Results**

In an intention-to-treat analysis from pre to post tests, the group significantly reduced body weight with 3.3 kg ( $p<0.05$ ), BMI from 26.3 to 25.0 kg/m<sup>2</sup> ( $p<0.05$ ), body fat percentage from 33.4 to 31.0 ( $p<0.05$ ), waist circumference from 84.4 to 77.9 cm ( $p<0.05$ ), upper-arm circumference from 28.7 to 27.2 cm ( $p<0.05$ ), and significantly increased the exercise duration from 24.3 minute to 40.6 minute per week ( $p<0.05$ ).

**Conclusions**

The significantly reduced body weight, body fat, waist circumference and upper-arm circumference as well as increased the exercise duration after the lifestyle intervention in the hospital staffs among overweight and obesity staffs. Long-term effects of the intervention remain to be investigated.

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## Empowerment after intervention workplace health promotion programs in a hospital in Taiwan.

**TONG Szu-Chin, LIN Szu-Hai, LIN Yea-Wen, HUANG Hsiao-Ling, CHIU Po-Hao, LUNG Chih-Hsiung**

**Introduction**

Hospitals represent workplaces that have a number of considerable health risks for their staff. Research shows a considerable positive effect of participatory, empowering management and teamwork styles, including the participatory organization of work processes, on staff health. In addition to the traditional strategies of health protection, disease, and accident prevention (WHO, 2006).

**Purpose/Methods**

This study evaluated the effects of empowerment after the intervention of three promotional programs for hospital employees. We designed and implemented three worksite health promotion programs according with WHO health promotional hospitals core strategies from 2009 to 2010 in Dachian hospital in Taiwan. Total of 614 subjects were included in this study. We



compared the scores of empowerment for staff between 2009 and 2010 with a t-test and two-way ANOVA. The indicators were empowerment, job position, and job type.

#### Results

Standardized scores on empowerment scale: pre-test scores were 47.60, post-test scores 72.59; after the t-test trial  $p < 0.001$ , a significant increase was shown after 3 health promotion programs. Results have indicated that in ranks the empowerment of supervisors ( $p < 0.001$ ) and primary-level employees ( $p < 0.001$ ) were significantly increased. Empowerment of medical care personnel ( $p < 0.001$ ), medical technology personnel ( $p < 0.001$ ), and administrators ( $p < 0.001$ ) were increased.

#### Conclusions

The concept of "empowerment" is used in health promotional activities to facilitate participants to practice better health behavior with the aid of health professionals. The emphases of empowerment are to encourage employees to maintain their own health and empower employees with the belief that they have their own health decision-making power to facilitate health and implement a healthy lifestyle. Employee health promotional program results have indicated significant improvements and empowered employees.

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## Session O1.4: Creating organizational capacities for HPH

### HPH - A prescription for building institutional trust?

**CULLEN Andrea**

#### Introduction

Whilst comprehensive implementation of HPH can bring about a range of benefits, can its implementation also build institutional trust? This paper presents the results of research - The Role of Institutional Trust in the Successful Implementation of Organisational Change -A cross organisation case study of organisations implementing the WHO's Health Promoting Hospital Initiative (HPH) - that proposed a relationship between the degree of HPH implementation and institutional trust.

#### Purpose/Methods

On the basis that no other studies examining this relationship were known, this study was the first to examine the relationship between the degree of HPH implementation and institutional trust. The research used a mixed method approach with quantitative and qualitative data collected via an anonymous online questionnaire and in-depth interviews. Non-parametric and parametric correlational statistics were used to analyse the

questionnaire responses and a data analysis interpretative model was used to derive emergent themes from the in-depth interview responses. The findings were integrated at the data interpretation and discussion stages.

#### Results

Notwithstanding a number of limitations, the research findings indicate empirical support for a positive relationship between the degree of HPH implementation and institutional trust. Whilst the research contributes to a greater understanding about this relationship and provides the basis for further research, it also contributes to the knowledge base regarding the effectiveness of HPH, in particular, evaluation of HPH.

#### Conclusions

The research findings also: (i) contribute to the legitimacy of HPH, with potential to engender health system support for HPH, and may lend further support to encouraging its uptake and implementation; and (ii) support the potential of HPH to make practical contributions to trust building initiatives and reform programs in the public sector.

#### Comments

Drawing on prior work from separate disciplines, the research proposed a conceptual framework for how the degree of HPH implementation may have a positive relationship with institutional trust. Its objective was to better understand the nature and measurement of this relationship.

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### Health Promotion Practice Guidelines: a tool for clinical staff

**MORRIS Christine, NELSON Cathy, THOMAS Rachael**

#### Introduction

An audit of the South Australian Dental Service in 2008 identified a number of areas where the health promotion knowledge/capacity of clinical staff could be increased. These included integrating health promotion theory into clinical practice and the role of prevention and intervention in improving oral health outcomes. This presentation will discuss the development and implementation of tools to increase the capacity of staff to understand the principles of health promotion and to integrate effective strategies into daily practice.

#### Purpose/Methods

After the Dental Service was audited as a health promoting health service health promotion practice guidelines were drafted as a response to increase staff participation in effective practice. An action learning approach was used with staff to determine the next steps for implementing these guidelines. A capacity building approach and the concepts of community participation and development were used to ensure staff had

input into the guidelines leading to more effective oral health outcomes.

### Results

Focus groups were held with selected clinical staff groups. Presentations were delivered to various management teams to ensure acceptance and endorsement. As a result the project developed a set of Health Promotion Practice Guidelines to utilise in daily practice, there is a greater focus on the role of prevention and there is a continuing partnership with Health Promotion Divisional Staff. The organisation has committed to health promotion practice training which will result in effective, sustainable health promotion activities and programs.

### Conclusions

Staff embraced the consultation process resulting in more acceptance of the practice guidelines. Evidence-based practice has been used to determine the strategies included in the guidelines and a training package has been developed and is currently rolling out for clinical staff. This Action Learning process has encouraged input from staff and ownership of the final product leading to better acceptance and uptake of effective health promotion practice.

### Comments

This action learning program has built on the current quality cycles that are part of contemporary business practice.

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## Implementation of Empowerment Concept in a Health Promoting Hospitals (HPH) Project in Thailand

### TASSNIYOM Nit, TASSNIYOM Sompon

#### Introduction

Introduction: Rather than promoting of healthy workplaces or making health personnel role models with healthy behaviors, this qualitative study aimed to apply the concept of empowerment in health promoting hospitals (HPH) project in Thailand. Empowerment is defined as a process of recognizing, promoting and enhancing people's abilities to meet their own needs and solve their own problems.

#### Purpose/Methods

Methods: Participatory action research (PAR) by which subjects of the study were encouraged to improve their situations through a problem solving process was applied at three selected community hospitals. The following questions were posed: 1) How would you define HPH? 2) What would you do to accomplish this? 3) How would you evaluate the result(s)? and, 4) Are you satisfied with the result, and if so, why? Monthly meetings were regularly arranged for reflection and sharing.

### Results

Result: The PAR process enabled the participants to understand the concept of empowerment as well as how to put it to practice. They were aware that to promote health was to empower people to take responsibility for their health rather than depend on hospital-provided preventive services as previously understood. However, some groups were unable to accomplish the tasks due to unsupported infrastructures and inappropriate site selection that caused them with over workload.

### Conclusions

Conclusion: This study presented an approach to the HPH project, which is based on the concept of empowerment. This process changed the healthcare personnel's perception of health promotion from disease-oriented activities to capacity building ones: it is a re-orientation process. Simultaneously, it is the process of human resource development which was pivotal to service quality improvement and sustainable development.

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## Evaluation of Effectiveness of training programmes on Health Promoting Hospital in a tertiary care, teaching and research hospital in India

### DEVNANI Mahesh, GUPTA Anil K, GOEL Sonu, THAKUR Jarnail S, BHATIA Anju, VERMA Prachi

#### Introduction

Three seminars on Health Promoting Hospital (HPH) and two workshops on Biomedical waste management (BMW) were conducted under the World Health Organisation sponsored project on HPH at Nehru Hospital, PGIMER, Chandigarh from April to October 2011. This study was conducted to evaluate the effectiveness of programmes in terms of improvement in knowledge and awareness of HPH.

#### Purpose/Methods

Separate questionnaires containing 25 questions on HPH and BMW were distributed to participants before and after HPH seminars and BMW workshops respectively. Descriptive statistical analysis was done. Paired t test was used to determine significance.

### Results

Out of 225 participants who attended three HPH seminars, 191 (Females=171) responded to pre-post questionnaire (RR=84.89). Mean age of participants was 46.01 years (SD=10.37) with range of 22-60. The pre-post scores were



16.93(1.97) - 20.51(1.69), 18.20(2.0) - 20.67(2.04) and 16.94(3.39) - 19.78(2051). The increase in scores of all 3 HPH seminars was significant ( $p < 0.001$ ). Out of 80 participants who attended two BMW workshops, 77 (Females=71) responded to pre-post questionnaire (RR=96.25). Mean age of participants was 43.95 years (SD=10.54) with range of 24-59. The pre-post scores were 12.49(3.03) - 18.89(3.99) and 15.72(2.59) - 20.75(3.05). The increase in scores of both BMW workshops was significant ( $p < 0.001$ ).

### Conclusions

The training programmes resulted in significant improvement in knowledge and awareness of hospital employees on HPH and BMWM.

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## Audit of an in-hospital lifestyles change programme

**KNUCKEY Steven, COOK Dr Gary, BROWN Helen**

### Introduction

Stockport NHS Foundation Trust has run a health promotion service since October 2009, to provide access to services for patients with lifestyle issues linked to smoking, alcohol use and obesity. A health professional interviews patients in hospital, with a series of questions about their smoking status, weight and alcohol use. If the patient is at risk for any of the factors, they are offered a referral to local primary care services that spend some time in hospital.

### Purpose/Methods

The key aims were to assess: \*whether hospital staff are using the lifestyles assessment form, and how much of it is completed; \*referral rates and the influencing factors; \*satisfaction with the lifestyle service from patients referred to a key worker; and \*satisfaction of staff attending training. Over 1000 case notes audited of patients using the wards with the service across 6 months, surveys to patients going through the referral process and surveys of trained staff.

### Results

\*Significant increases in use of the assessment forms in wards using service, (58% in 2009 increasing to 78% in 2010/11). Referral levels have also increased. \*Assessment rates for BMI appear to have fallen. \*Male patients are more than twice as likely to score highly on alcohol assessment (23% vs 9%). Younger patients are much more likely to smoke. \*Some strong results from surveys of referred patients.

### Conclusions

Increasing assessment levels show the embedding of the service within the hospital. Referral levels are related to activities of service co-ordinator, showing how vital it is to ensure continual promotion of health improvement services. Variation in smoking rates vary by age and ward, and variation in alcohol use by gender suggest the possibility of using scarce resources more effectively by giving some groups extra targeting. Future assessment of the service needs to be done electronically to remain sustainable.

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## Session O1.5: Supporting health literacy

The process of media production and health educational intervention, is it standard?

**RAKSHANI fateme, TEHRANI hadi, ZAREIE fatme, NASIRI amir, SEPEHRI zahra, ASADI amiehossain**

### Introduction

It is important to know media and educational intervention and produce them according to standards. Thus, media and health educational interventions should be evaluated to improve education quality.

### Purpose/Methods

The study samples were whole produced media and interventions in all Iran medical universities, departments, offices, and centers affiliated to ministry of health in 2008 and in the first half of 2009. Sampling took a census. The evaluating tool was a checklist based on IEC cycle (Information, Education, and Communication) which made in four sections including pre-media, media and intervention specifications, production and implementation, evaluation

### Results

The pre-media section of 7.1 percent from all media and intervention were acceptable (mean=50%). This figure was 63.7% as in media specification section, in implementation and production 15.7 percent, and in evaluation 2.9 percent. Due to this study was a retrospective, in interventions only Prior production was evaluated.

### Conclusions

The results of the evaluation in health education media show that the IEC cycle in Iran health care system is an incomplete

process. Thus, to improve the health education quality, and to prevent budget waste, it is recommended to implement media and intervention according to complete IEC cycle.

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## Where we stand in production of health education media and educational intervention?

**SEPEHRI zahra, RAKHSHANI fatemeh,  
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dooz, KESHAVARZ kambiz**

### Introduction

To systematically analyze health education media and educational interventions produced in different areas of specialty such as health assistant of universities, faculties of medicine, offices and subsidiaries of Health assistant of our ministry of health focusing on the types of educational media and the process of making educational health materials and educational interventions.

### Purpose/Methods

Systematic review of all health education materials and educational interventions was done. After announcement about gathering all products about health education, 2926 media were selected from the posted materials that met the following criteria: described health, provided information to educate something, and published between 2008 and 2009. The review focused on four main criteria and 70-90 alternative criteria (based on the type of media). Sixteen specialists calculated the score of products based on designed checklists. Then, data entered in special software.

### Results

In the section of health education media, the mean scores were under 50 (from 100) in all different media. The overall scores were: poster (39.03), pamphlet (43.03), film (43.03), radio teaser (41.03), television teaser (25.03), journal and bulletin (33.03), book (46.03), multimedia (37.03), website (42.91), television program (39.03). in the section of educational interventions, the mean of the scores were 29.03, 31.03, 28.03, 20, 37.99 for workshop, classes, conferences, exhibitions and campaign, respectively.

### Conclusions

Considering a global view on the results, despite our great educational potential, it seems that all of our health educators need to meet again health education principles and its process.

Indeed empowerment should consider health educators at the first step.

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## National Initiative for Innovative Methods to improve Effective Communication on Health Lifestyle and Early Detection Among Primary Care Staff in Community

### LEVIN-ZAMIR Diane

#### Introduction

Along with the growing incidence of chronic disease, new and innovative ways of preventing and early detecting of these symptoms are required. Primary care staff have been recognized as those with the greatest potential to influence the population, yet many have not been trained to do so. Likewise it has been shown that the extent to which staff (physicians, nurses and others) themselves adopt a healthy lifestyle influences the action taken among their treatment population.

#### Purpose/Methods

The purpose was to: -Develop an innovative, acceptable and evidence based, computer based-interactive tool for teaching community inter-disciplinary primary care staff on a national basis focussing on effective methods of communicating (motivational interview and 5A's) with the population: physical activity, nutrition, smoking cessation, mammography and early detection of colorectal cancer; -Promote healthy lifestyle among primary care staff. -Improve awareness of healthcare teams regarding facilities/services available to which they can refer the population. -Evaluate the program on all levels.

#### Results

The training of facilitators was conducted among 95 primary care staff, who implemented the program in more than 80 large community clinics nation-wide and among nearly 1000 inter-disciplinary healthcare staff. Along with high satisfaction, significantly higher self efficacy regarding their ability to implement the program with peer staff, the participants identified with the program objectives and they themselves improved their own performance with regard to healthy lifestyles and early detection as well as that of their patients.

#### Conclusions

The use of innovative methodology is a promising new direction enabling both exciting tools to be presented, but then used to implement programs on a population-wide basis. Commitment of management is extremely important to support the implementation by the trained facilitators. Positive comments were received such as "this program give us an op-



portunity to learn and speak about 'health' and not only about "disease".The methodology is flexible allowing for periodic content updates

#### Comments

The program will continue to be implemented in 2012 as part of the national workplan for the institution. In addition it will be implemented among occupational healthcare staff. (This presentation is appropriate both for the sessions on Health Literacy in Health Care as well as Health promotion for Non-Communicable Diseases)

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## Obesity related awareness and practices of health workers at the ministry of health headquarters in Nairobi

**SHISIA BELINA, NTHUMBI MONICA, OIYE SHADRACK, MANYA AYUB**

#### Introduction

Obesity is an issue of concern among urban populations in Kenya. However, there is paucity of data on health workers' capacity to guard their own health against lifestyle disease risk factors. A study was undertaken to establish obesity related awareness and practices among health workers based at the ministry of health headquarters situated within Nairobi city. These workers are primarily charged with providing policy and strategic direction on public health and medical services.

#### Purpose/Methods

This was a cross-sectional study in which a representative sample of 217 male and female health workers was drawn proportionately from the two ministries of health, through random selection. A structured questionnaire with knowledge, perception and practice questions was administered. Height and weight were measured to compute the respondent's BMI, while waist circumference was measured to determine central obesity (WC  $\geq$  88cm for females and WC  $\geq$  102cm for Males). Variables were cross tabulated with weight categories where  $P \leq 0.05$  was considered significant.

#### Results

Nearly 61% had a BMI  $\geq$  25. About 63% of females and 27% of males had central obesity. Only 34% and 21% of respondents knew physical activity and dietary recommendations respectively. Majority (84%) knew BMI as a measure of obesity but only 24% had measured their own BMI. The overweight respondents perceived their lifestyles as unhealthy ( $P < 0.05$ ). More than 1/3 of those with central obesity was satisfied with own weight. Respondents' mean fruit and vegetable consumption was 3 servings per day.

#### Conclusions

There is low awareness on obesity and NCD related risk factors among health workers who are important decision makers in the ministries of health. Dietary practices and physical activity levels for a significant proportion of workers were below the recommended levels to sustain healthy body weight. Workplace program to increase awareness, risk perception of NCDs and to support healthy lifestyles among health staff is recommended.

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## Recruitment strategies and Issues on the study of health literacy among four-ethnic women

**TSAI Hsiu-Min, LIU Yi-Lian, CHU Tsung-Lan**

#### Introduction

To promote health literacy among these ethnic women who may be living with culturally different and inappropriate health learning circumstances, it is very important to explore the health literacy and related predictive factors among multi-ethnic females in Taiwan. In order to conduct a feasible and effective study on health literacy, it is critical for understanding the recruitment strategies and issues among underserved ethnic women.

#### Purpose/Methods

The purpose of this presentation is to discuss the issues of recruitment process and to compare the effectiveness of four recruitment strategies. The design of the study utilizes a cross-sectional questionnaire survey. A total of 322 multi-ethnic women including Ho-Lo, Aborigines, Chinese mainlanders, and Vietnamese were recruited using a convenience and snowball sampling. Four instruments were used in the quantitative survey including the Demographic Inventory, Short Form-36 Health Survey, Adults' Health-Promoting Behavior scale, and Taiwan Health Literacy questionnaire.

#### Results

Four recruitment strategies were used: (a) recruitment through local health departments; (b) recruitment through communities of ethnic minorities; (c) recruitment through an informal ethnic recruiter, (d) recruitment with monetary incentives. During the recruitment process, memos related to each method were written. The memos were analyzed by using descriptive statistics.

#### Conclusions

First, local health departments were the most useful for obtaining information to reach ethnic minorities particularly in providing the names of key recruiters. Second, in recruitment of aboriginal, Chinese mainlanders and Vietnamese women, snowball sampling worked better than a convenience sampling. A local church was a useful place for the recruitment of aborigi-

nals. Third, Ho-Lo women were more likely to participate in the research compared to others. Finally, gifts with supplies of daily life worked better than the gift cards.

#### Comments

Cultural competent strategies are considerable for recruitment of ethnic minorities.

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## Session O1.6: Using new technologies for health professionals and caregivers

### Health promoting encounters - An on-line educational material for Swedish health care professionals

**HERMANSEN Anna, KRISTENSON Margareta**

#### Introduction

Health promoting encounters in health care are intended to enable patients to become more involved in their care and own health, to improve self-efficacy, and also to feel respected and listened to. This view of interacting with patients goes beyond the work with healthy lifestyle, and is accomplished by emphasizing social and personal resources. In 2009, the Swedish network of Health Promoting Hospitals and health services together with the County Council of Östergötland started the project: Health promoting encounters in Health Care.

#### Purpose/Methods

The aim of the project was to inspire health care professionals in developing a health promoting and encouraging approach when interacting with patients, relatives, and co-workers. The project resulted in an on-line educational material for the Swedish member organizations to use. To evaluate the material, a pilot study including nine clinics was performed during 2010. The included participants completed questionnaires before and after working with the material. A qualitative interview study was also performed to add to the evaluation.

#### Results

The results of the study show that the participants were satisfied with the material. To structurally reflect over the approach toward patients and colleagues used at the clinic stimulates to valuable discussions. The participants believe that the material has inspired to develop more health promoting encounters with patients and co-workers (92% and 94% respectively). On-line

education creates certain technical challenges. For the most part, this technique worked out well with all pilot study groups.

#### Conclusions

In Swedish Health care, a gradual shift in the role and rights of the patient over the past decades has occurred. A number of governmental regulations describe the relation between patient and professional to be based on mutual respect, enabling patients to become involved in their own care. This material seems to help health care professionals to develop their approach and attitudes to meet these demands and is currently being spread throughout the Swedish HPH network.

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### Implementation of integrating telecare into quality of long-term care and health promotion in nursing homes

**HSIAO Jack, HSIAO Chung-Cheng, TSAI Maggie, CHANG Rich, WU Fuping, LIU Stacy, TASI Hui-Chan, LIAO Helena, CHEN Jim**

#### Introduction

Population aging is pervasive, and it is a global phenomenon affecting almost every country in the world. Rising of healthcare costs and shortage of healthcare providers have become a crucial issue in many societies. HCCH Hospital teamed up with regional hospitals to address the problems, by utilizing healthcare IT, "telecare", tele-consultation, tele-physiological monitoring, tele-visit, tele-health education, and tele-medication safety review, to assist the elderly in nursing homes in pursuit of better healthcare and to improve quality of life.

#### Purpose/Methods

Study subjects were 600+ elderly residing in twelve nursing homes located in five different counties in Taiwan. Many of them are in remote areas or have been isolated in the mountains. Tele-monitoring and tele-consultation devices were distributed and installed in the nursing homes. Health-related data were collected from 2007 to 2011, pre- and post- intervention effects were examined monthly, including vital signs, BMI, ADR, nosocomial infection rates, hospital/ER visit rates, tele-visit rates, CME among care providers, etc.

#### Results

After 4 years of telecare implementation and data analysis, significant results were achieved, including reduced rates of re-admission to hospital/ER, nursing homes' nosocomial infection rates were down, as were adverse drug events and duplication of prescriptions. On the other hand, the health awareness for





the elderly and nursing homes' care providers was increased, nutrition conditions and chronic disease managements were improved. And the regularly-held morbidity and mortality conferences were greatly appreciated by nursing home staff.

#### Conclusions

Telecare enhanced a closer linkage between hospitals and nursing homes, the well-defined and practiced tele-consultations and tele-physiological monitoring provided a much better communication channel among healthcare providers, to adopt a B-to-B-to-C model to assist the elderly residing in the remote nursing homes. Health awareness and CME could both be promoted, overcoming geographical barriers, or some would say, the barriers to health care access.

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## Effectiveness of Applying Telematics Management Systems to Manage Psychosocial Hazards at Work

**YU Li-Hui, CHANG Chih-Chieh, HUANG Ean-Wen, SU Yi-Lin, CHIEN Chih-Cheng**

#### Introduction

Occupational violence is one kind of threat to employees that also produces serious health, safety, and legal problems. Psychosocial hazards have negative impacts at workplace that include increase of worker's absenteeism, staff turnover, customer complaints, and decrease the job commitments, worker's performance and productivity and so on. Therefore, our hospital developed a systematic management to prevent psychosocial hazards via the information technology management so that increases both the quality of patients' care and the efficacy of hospital management.

#### Purpose/Methods

The aim is to explore the effectiveness of applying information management system to manage psychosocial risks in the workplace Using automated short message service (SMS) to deliver messages via Health Information System (HIS). The messages contain patients who are likely to harass our workers and patients' locations when they visit our hospital. Effective staffs' communication is carried out after they get the messages. Meanwhile, workers provide the best care to the patients and assist their needs that can improve the quality of patients' care and decrease workers' mental stress.

#### Results

After implementation, we found staffs' turnover has been decreased and workplace-related psychological stress has been relieved as mentioned by the staffs. The management decisions made to provide a safety working environment have been appraised by employees.

#### Conclusions

Nowadays, the shortage of manpower is due to cost-control in the health care system in Taiwan. The work stress has changed since our work environment emphasize on patients' safety and customer-oriented. Thus, the hospital policy must against violence that can improve the quality of health care, the cohesion of employees, and provide a violence-free working environment. It is a good way by computer program when notify staffs about violent patients' visits and built risk management between team members.

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## Session O1.7: Workshop "Tobacco Free United"

### Good Practice in Tobacco Free Policy Implementation

**FERNANDEZ Esteve**

This symposium will present standards and processes that support the successful implementation of comprehensive tobacco free policies within healthcare services. Round table discussion with experts from the ENSH-Global Gold Forum will present good practice examples achieved in various settings such as University Hospitals, Mental Health and Oncology Services and across different cultures. The symposium will conclude with a facilitated open discussion on indicators that can assist the implementation and monitoring of tobacco free policy in healthcare services.

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## Session O1.8: Workshop "International standards for assessing equity in health care: The project of the HPH Taskforce MFCCH"

### International standards for assessing equity in health care: The project of the HPH-Task Force MFCCH

#### CHIARENZA Antonio

Recent experiences have shown that migrant patients, ethnic minority populations and other vulnerable groups do not receive the same quality or standard of health care compared to the majority population. This might be attributed to the lack of knowledge and awareness regarding the availability of services, limited access to services and inappropriate attitudes or levels of competence among health care providers. Workshop Aim: The aim of this workshop is to present and discuss effective interventions to reduce formal and informal barriers to improve equity in health care for migrants and ethnic minorities. In order to assist health care organizations and institutions to tackle these issues, the HPH-Task Force on Migrant-Friendly and Culturally Competent Healthcare has developed a set of standards aimed at providing healthcare organizations a comprehensive strategy for measuring and monitoring accessibility, utilization and quality of health care for all. The final goal of the standards is to provide hospitals and health services with a framework for evaluating their practices and to stimulate development of better practices. The standards will provide a real opportunity for health professionals and managers to question what they do, why they do it and whether it can be done better. These preliminary standards have been developed by a group of experts and professionals belonging to various HPH networks and other institutions, from Canada, Italy, Norway, Scotland, Spain, Sweden, Switzerland and The Netherlands. In order to facilitate the implementation, the structure and content of the equity standards are similar to those adopted for the well known HPH standards. These standards need now to be shared and discussed with the wider group of HPH members in order to assess whether they meet the requirements and comply with to the needs of the people and services'. Workshop Target Group: This workshop will target primarily hospital/ health care management and professionals with management responsibilities Workshop Organisers: Representatives of the HPH Task Force Workshop Format/ Presentations: 1. Introduction: The relevance of Equity in Health Care issue for different stakeholders (Bernadette Kumar, Norway); 2. From theory to practise: Overall strategy on how to put equity on the agenda of healthcare organizations (James Glover, Scotland); 3. The Standards: Presentation of the Preliminary Standards for Equity developed by the Task Force MFCCH (Antonio Chiarenza, Italy). After these three short presentations small groups will discuss the presentations in particular the standards, sharing their perspectives including challenges, experiences and recommendations thereby contributing to

further refinement of the standards for the Task Force. The workshop will conclude with a plenary where group work findings will be exchanged and recommendation for further development of the standards made.

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## Session O1.9: Symposium on health promotion and environment

### HPH and Environment Symposium

#### CHIOU Shu-Ti

Agenda 1. Review and perspective of the TF on HPH and Environment - Dr. Shu-Ti Chiou (10min) 2. Role of the health care in addressing climate change, given the current science and political agreement - Merci Ferrer, Executive Director of Health Care Without Harm, Southeast Asia (15 min) 3. Business perspective of making environmental improvements in healthcare Dr. Peter Orris, Director of Occupational Health Service Institute, University of Illinois, Chicago, USA (15 min) 4. Best Practice Examples - (12 min presentation & 3 min discussion for each hospital) a. Swedish Hospital-- Daniel Eriksson, Director, Stiftelsen TEM b. Taiwanese Hospital I: Changhua Christian Hospital c. Taiwanese Hospital II: Taipei Medical University Hospital d. Discussion (5 min) Abstract The effects of climate change on human health is a topic of great concern by the international health communities, including the World Health Organization, whose officials had voiced their support and commitment to develop mitigation/adaptation strategies of the impacts of climate change on human health during the UNFCCC Conference of Parties 17 in 2011. At this year's HPH and Environment Symposium, the efforts of the Task Force on HPH and Environment in this UN event will be presented, such as the Global Green and Healthy Hospitals by HCWH and the Durban Declaration. In addition, the symposium will feature officials and members from HCWH to share their experience on green health care policy and finances, as well as showcase best practice examples from Taiwanese and foreign hospitals.

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## **Session O1.10: Round Table Discussion on Health Promoting Physical Activity**

### **Health Promoting Physical Activity in Hospitals and Health Services (HEPA HPH)**

#### **SVANE Jeff Kirk**

Program: \*Welcome & Introduction; \*Presentation of the New HPH Task Force: Scope, purpose and framework; \*Discussion, Input and reflections on the new Task Force, regarding: Visibility, Education, Implementation, Collaboration (w. WHO, HEPA etc.), Others; \*Task Force Members; \*Closing statements

Description: Physical activity is a natural part of the HPH Network to improve health gain. It has an immediate effect on treatment results for a wide range of patient groups, including surgical patients, patients with non-communicable diseases, mentally ill patients etc. In addition, physical activity also has many positive effects in preventing a wide range of diseases and conditions. For this reason, the HPH General Assembly established a Working Group in 2011 in order to increase HEPA promotion in health care settings, with the goal of providing examples of systematic procedures, approaches, tools, dissemination strategies and implementation strategies. This round table discussion has been arranged to provide the Task Force members, prospective members and others interested to address the developments in the area. The session will feature presentations on the Task Force's scope, purpose and framework. There will also be ample time and room for discussions on the Task Force's way forward and on health promoting physical activity from many perspectives and angles.

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## Session O2.1: Health promotion for children and adolescents I

### The adolescent friendly health services - Teens' happiness No.9 clinic

**CHIANG chien-dai**

#### Introduction

The knowledge, attitude and behavior about safer sex among teenagers are insufficient. In consequence, health issues like unexpected pregnancy/delivery, sexual transmitted diseases and HIV/AIDS, sexual violence/abuse, substance abuse, etc. in teenagers is the priority of health tasks now, worldwide. In Taiwan, we need to initiate some "Adolescent friendly health services" to meet the health needs in teenagers.

#### Purpose/Methods

To establish some settings which have characteristics as the guideline of WHO provided in 2002 such as having 1. Adolescent friendly policies and procedures to facilitate easy, convenient and confidential procedures. 2. Adolescent friendly health care providers. support staff and health facilities. 3. Adolescent involvement ; Community involvement and dialogue. 4. Community based, outreach and peer-to-peer Services. 5. Appropriate and comprehensive services. 6. Effective and Efficient services, in order to be accessible, equitable, acceptable, appropriate, comprehensive, effective and efficient for individual teenager's need.

#### Results

We have been established "Adolescent friendly health services" from 4 hospitals/clinics in 2005 to 31 now, after initiating an expert advisory group in 2004 to establish the model of service, SOP, check list form and Logo. We have planned workshop and training program for the related medical personnel; innovated IEC strategies, including set up website, integrated the related community resources and analyzed the data for evaluation. These will be presented in detail.

#### Conclusions

This is an unique, innovated health care service for teenagers, to provide a multidisciplinary, comprehensive health service. They visited the adolescent friendly health services - Teens' happiness No.9 clinic after referral by parents, teachers, communities or website ect. then interview through a health check-list to identified their problems more comprehensive and efficient. We hope these services is fitted to the teenagers' need, and recognized by the communities.

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## Networking for youth health promotion: hospitals, schools and communities

**CHENG Chih-Ling, CHOU Tzu-Yun, KUO Ying-Ling, CHANG Pei-Li, HUNG Ling-yu, TSOU Jhi-Chyun, MA Hon-Kwong**

#### Introduction

The youth experiences physical and mental change, and the youth period is an important stage of the development of healthy lifestyle. The youth spends lots of time at school and communities, and youth health promotion should be linked to school and community settings. Therefore, we did not only develop the youth health promoting clinic but also cooperated with nearby schools and communities to build youth health promoting environments.

#### Purpose/Methods

We developed the integrated youth health promoting clinics and further cooperated with health promoting schools and the community so as to provide the youth with comprehensive health promoting environments. The cooperation included the development of an intersectoral youth health promoting clinic, health seminars in schools, telephone counseling and the development of the youth music library.

#### Results

More than 700 youth people used youth health promoting clinics; 45 youth people received visit services, 5, 531 youth people attended campus health seminar; 100 used telephone counseling; 12 health-related column and 152 borrowing times of the youth music library.

#### Conclusions

Networking improved effectiveness and efficiency of the implementation of the youth health promotion as the result of increased access, integrated resources and the adoption of multistrategies.

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## Nutritional Health Needs of Out-of-School Children in Urban Slums of Delhi, India

**SRIVASTAVA R.K., KUMAR ANIL**



### Introduction

Out-of-school children belong to the marginalized section of society. They live in unhygienic environment usually in slums, have poor family support, work as child labourer, face abuse, indulge in risky behaviours, have poor health awareness and poor access to health services. All these factors affect their nutritional health status adversely. The study was about the nutritional health needs of the out-of-school children residing in urban slums and the effect of different associated factors on their nutritional health status.

### Purpose/Methods

The purpose was to ascertain quantity of food being consumed, nutrition related awareness and nutritional health status of out-of-school children residing in urban slums in order to suggest measures for improving their nutritional status. It was a community based cross-sectional study of 400 out-of-school children in age group of 6 to 14 years conducted in five slums of city of Delhi. Data was collected through interview and physical examination of 80 children from each slum, selected randomly through multistage sampling.

### Results

54.3% of children were taking three meals, 44% two meals and 1.5% one meal per day. 60.3% had no nutrition related awareness and 38.3% had poor awareness. Pallor, hair and skin changes of malnutrition were present in 81%, 14% and 29% respectively. Deficiency signs of vitamin A, B, C and D were present in 6%, 71.8%, 23.8% and 4.3% respectively. Moderate to severe under-nutrition, moderate to severe stunting and chronic under-nutrition were present in 43.5%, 45.8% and 92.5% respectively.

### Conclusions

Out-of-school children have poor nutritional health status and poor nutritional awareness. There is an urgent need of community based health promotional interventions in the form of supplementary nutrition including iron and vitamin B supplementation and educational programs for improving nutrition related awareness of these children.

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## Animal Assisted Therapy for children with problems in social competence and anger management

### KACIC Viktor

#### Introduction

Animal assisted therapy in the treatment of psychiatric disorders in children and adolescents is a new approach with rare data of evidence. The advantage of examining the effects of this therapy for health promotion could be the cost effectiveness.

This hypothesis implies that the use of therapy dogs is able to decrease the costs for therapists and medication. Some evidence show that hyperactive and socially desintegrated children with impulsivity significantly benefit from interaction with therapy dogs.

### Purpose/Methods

Children aged 9 to 12 years with a diagnosed Attention Deficit Disorder with Hyperactivity (ICD 10: F90.0) or a comorbid Conduct Disorder (ICD 10: F90.1) were integrated in the study. In a group setting 4 to 6 children with two therapists a trained therapy dog was introduced in the therapy for the first time in order to increase the motivation for treatment, to provide a better child therapist interaction and finally, to accelerate and improve the therapeutic outcome.

### Results

The contents of each therapy session were described in a standardized therapy manual. This manual contains evaluation questionnaires for both children and parents. Furthermore, a videographic analysis enabled the rating of each therapy session by the therapists involved. Children as well as their parents reported a significantly improved anger management and increased self esteem. Children were particularly looking forward to the dog therapy showing far more motivation in this than in any other psychotherapy offered.

### Conclusions

In our study animal assisted therapy proved to be an important factor in improving social skills and anger management in children with psychiatric disorders. Trained therapy dogs particularly increase motivational factors in children and help to improve self esteem. On the basis of their cost effectiveness animal assisted therapy should therefore be implemented in child mental health services. More studies concerning specific psychiatric disorders are necessary in order to optimize the positive therapeutic effects of trained therapy animals.

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## Session O2.2: Supporting patients' mental health

### Mindfulness-based cognitive group therapy for patients with depression: Taiwan experience

**CHENG Yih-Ru, CHEN Hsiu-Jung, CHANG Chi-Yu, LIN Yi-Chun, HUANG Huey-Shiuan, LUE Bee-Horng, CHANG Yu-Chang, HSU Cheng-Dien**

## Introduction

Depression patients' cognitive characters were negative self-thinking and ruminative thinking strategy. Besides, they usually lacked of meta-cognitive awareness and reflection. These factors contributed to the development, deterioration and improvement of depression. Treatment effect for depression was hypothesized to show not only on symptom release, but also on modification of these cognitive biases. In recent years, Mindfulness-based cognitive group therapy (MBCGT) had been well-established for regulating these cognitive biases and was helpful for improving and preventing depression.

## Purpose/Methods

This research was designed to test whether MBCGT modified cognitive biases and improved depression. Eight-sessions MBCGT leaded by clinical psychologists were conducted in two hospitals in Taiwan. The participants were patients with depression in the remission stage. The instruments used for pre- and post-treatment evaluation included: Beck Depression Inventory-II (BDI-II), Negative Self-Thinking Scale (NSTS), Mindfulness Meta-Awareness Scale (MMAS), and Self-Monitoring Scale (SMS). Data was analyzed with the Wilcoxon test.

## Results

This research totally recruited 10 participants. According to pre-MBCGT evaluation, Mean  $\pm$  SD of BDI-II, NSTS, MMAS, and SMS were 22.70  $\pm$  13.14, 47.70  $\pm$  12.49, 41.20  $\pm$  10.30, 20.00  $\pm$  3.86; post-MBCGT evaluation, 8.70  $\pm$  11.56, 39.50  $\pm$  18.14, 48.20  $\pm$  11.42, 24.20  $\pm$  4.05. Results with Wilcoxon test showed significant difference on all measurements. The z value and significance level of BDI-II, NSTS, MMAS, and SMS were:  $z = -2.81$  ( $p < .005$ ),  $z = -2.04$  ( $p < .05$ ),  $z = -2.49$  ( $p < .05$ ),  $z = -2.25$  ( $p < .05$ ).

## Conclusions

In this research, MBCGT showed significant treatment effect on depression. We suggested applying MBCGT on depression patients could enhance their cognitive capacities and prevent the exacerbation of depression.

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## Perception of stigma and discrimination by Lithuanian mental patients compared to international data

**SURVILAITE Danguole Regina**

## Introduction

In 2010 Club 13&Co. (National Organization of Persons with Mental Disorders and Their Friends), as a member of GAMIAN-Europe (Global Alliance of Mental Illnesses Advocacy Networks-Europe), has participated in the international Stigma Survey for

the second time. The first Survey was conducted in 2006 and presented at XVI HPH Conference in Berlin.

## Purpose/Methods

**Aim.** To investigate the level of self-reported stigma and discrimination of mental patients, to compare the stigma levels in 2006 and 2010 in Lithuania and in comparison to other countries. **Method.** In Lithuania 200 questionnaires were sent to randomly selected 200 mentally ill patients and later analyzed. 23 countries have participated in this international survey. Questionnaire consisted of several groups of questions, regarding the perceived attitude of society towards them, perceived dangerousness of mentally ill persons in society, etc. Responses were grouped into 4 categories.

## Results

**Results.** In this presentation demographic data, such as: age, gender, education, occupation and employment, housing of respondents, years since first contact with mental health services, main type of mental health care received, as well as questions about diagnosis and social networks were analyzed. Total of 1223 questionnaires were collected in 2010, the Lithuanian sample was 16,35 % of the total responder population.

## Conclusions

20,85 % of respondents were diagnosed with schizophrenia (in Lithuania - 34 %), 19,13 % - bipolar disorder, 19,38 % depression, and 19,87 % are not sure of their diagnosis (accordingly in Lithuania : 3 %; 22,5 %; 18 %).; Data from 11 countries is compared in this presentation. In some cases responses of the Lithuanian group are not different from patients from other countries, some were more pessimistic or more optimistic than average.; More than 34 % of all respondents reported that mentally ill people tend to be violent (in Lithuania - only 20 %, while in 2006 m. it were 25% for this category).; Comparisons between 2006 and 2010 data are provided in the tables.

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## Experts by knowledge or experts by experience? Alliance between patients and professionals for the co-production of mental health services in Trento (Italy)

**DESTEFANI R., CUNI R., BONFIENI Mara, TORRI Emanuele**

## Introduction

The mental health service of Trento (MHS) is a public community psychiatry system with nearly 2.000 patients in charge. In the last 12 years, it has promoted an empowerment-based ap-



proach called "doing together", valuing active involvement and experiential knowledge of users and families.

#### Purpose/Methods

Among "doing together" practices, the most significant and unique achievement is certainly the experience of expert users and family members ("UFE"): people with a personal history of disease that have acquired an experiential knowledge enabling them deliver "peer to peer" services side by side with mental health professionals. UFE have grown bottom-up and led a whole system transformation process. UFE are recruited on a voluntary basis and have special job contracts.

#### Results

Since 2008, around 45 UFE are operating in all the areas of activity the MHS: governance bodies (membership), community centre (front office, call center, accompaniment), outreach community teams, hospital ward (accompaniment), high protection residential facility (daily and night activity), shared care pathways ("guarantors" of the level of sharing), family groups (facilitators), mutuality apartments (daily activities), awareness-raising in schools and community place (testimonials in campaigns against stigma and discrimination), Q group (quality work), extraordinary events (transoceanic boat, Siberian train travel with patients, building a school in Africa, coast to coast travel of the United States), education and practice exchange. UFE have improved their quality of life and social capital while patients have increased trust in the MHS and compliance to treatments. The general climate in the MHS changed positively as well as attention and awareness of local citizens. Performance indicators of the MHS are trending the right direction.

#### Conclusions

UFE achieved external best practice awards, and aroused interest all around Italy and also abroad. In Asia, China has opened in 2009 in Beijing the first community centre operating according the principles of Trento "doing together". Local expert users and families have started to operate in the centres joining the project, including the psychiatric hospital of the Institute of Mental Health of the Beijing University.

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## Policies to support mental health promotion in practice

### HÄTÖNEN Heli, NORDLING Esa

#### Introduction

Policies to support the realization of mental health promotion at different levels have been developed and implemented during last decade. They have an important role to guide development and realization of the public services. The mental health promotion is situated within the larger field of health promotion. Despite the growing interest towards mental health promotion, there are deficiencies in its realization in different

settings. Therefore, there is a need to investigate how existing policies support the mental health promotion in practice from employees' viewpoint.

#### Purpose/Methods

The internet survey was conducted in the area of five municipalities. The www-link to the survey was sent to the managers of public organizations representing different sectors. Managers sent the link to the employees. The survey included questions about policy making support (5 items) and organizational decision making support (5 items) to mental health promotion in employees' daily work (graphic scale 1=poor - 100=excellent). Data was analyzed by descriptive statistical methods.

#### Results

All together 480 employees participated in the survey. In general, policies at municipal and organizational level were perceived to support the mental health promotion in practice poorly (Mean 34.4, SD 20.2). Organizational decision making was considered giving more support (Mean 40.2, SD 21.0) than policy making (Mean 28.6, SD 19.3).

#### Conclusions

Municipal policies and organizational decision making do not give enough guidance to employees to carry out mental health promotion in every day practice. Therefore, there is a need to develop the methods for implementing existing policies and create concrete guidance how mental health promotion can be provided. Moreover, it seems that there is a need to involve employees more comprehensively as active stakeholders when policies are created and implemented.

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## Session O2.3: Supporting healthy ageing in community settings

### A study of the relationships among interpersonal intimacy, social participation, and mental health for the elderly in Taiwan

### HSIEH Molly, FANG Wen-Hui, WU Ping-Wei

#### Introduction

The population of ageing person has increased tremendously. Their weakening physical function and lack of social support network have amplified the susceptibility for mental illness and chronic illness. Social networks play important roles for buffering effect. With good interpersonal interactions, individuals

fulfill their needs of being respected and loved. Moreover, they get to have an emotional outlet after retirement and improve their quality of lives. Interpersonal relationship and social participation are both essential for the elderly's mental health.

#### Purpose/Methods

The purpose of this study was to explore the relationships among interpersonal intimacy, social participation, and mental health in the elderly in Taiwan. The survey data were collected from one hospital in Taipei. 305 elderly completed a survey packet consisting of three standardized instruments: the Interpersonal Intimacy Scale, the Social Participation Questionnaire, and the 5-item Brief Symptom Rating Scale (BSRS-5).

#### Results

Female elderly had significantly higher scores on interpersonal intimacy, social participation than male counterparts. Male elderly had significantly higher scores on mental health than female elderly. The younger elderly had significantly higher scores on social participation than the older ones. The elderly with higher level of education had significantly higher average rating of social participation than the lower level of education. Interpersonal intimacy was positively correlated with social participation and negatively correlated with depression and inferiority.

#### Conclusions

This study found that interpersonal intimacy and social participation had impact on mental health. Therefore, it is important for to encourage and help the elderly to create their own social networks and stay in touch with various group activities. Implications based on the findings are provided for the elderly, senior education, and counselor. Limitations of this study and suggestions for future study were discussed.

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## Improve Compliance to Medical Advice among Middle-Aged and Elderly People with Hypercholesterolemia by Aggressive Case Management

**WANG Yi-Hsin, HSIEH Chuan-Fa, SHU Shin-Tien, CHANG Hung-Cheng, WANG Mei-Chin, HSIAO Tien-Mu, CHEN Yu-Wei**

#### Introduction

The association between hypercholesterolemia and cerebrovascular disease has been reported. Therefore, the incidence of related morbidity and the following healthcare expenditure can be reduced by appropriate management of hypercholesterolemia. Poor control of hypercholesterolemia

among middle-aged and elderly people had been indicated in previous studies. The aim of this program was to use aggressive case management to improve compliance to medical advice among these people with hypercholesterolemia.

#### Purpose/Methods

Subjects older than 45 years with hypercholesterolemia, defined as serum total cholesterol levels  $\geq 240$  mg/dL, being enrolled in the study of Li-Shin Outreaching Neighboring Screening program between 1st, April 2007 and 31st, March 2008 were followed up. We used phone call to remind these subjects to seek for medical advice every month and repeat above step for 3 times. We also cooperated with related nearby clinics and hospitals to obtain the follow up outcome of these subjects.

#### Results

A total of 635 subjects were recruited in this program with a mean age of  $59.4 \pm 9.4$  years old (range from 45 to 89 years). There were 27.9% among them visited the clinics and hospitals during the follow-up period. The significant factors associated with compliance in multivariate analysis were illiteracy (Odds Ratio (OR)=2.4, 95% confidence intervals (CI)=1.4-4.3), history of hypertension (OR=1.6, 95%CI=1.1-2.4), diabetes mellitus (OR=4.6, 95% CI=2.6-8.0) and cardiovascular disease (OR=3.3, 95% CI=1.4-7.8).

#### Conclusions

Compare with other cholesterol control programs in Taiwan, we improved compliance to medical advice among these subjects by a relative simple but effective method, especially in subjects with illiteracy.

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## Comprehension and Satisfaction of Fall-Prevention Education by Using Volunteers for Community Elderly.

**SU Yu-Mei**

#### Introduction

Fall-prevention education program is part of strategies to prevent older adults from falls. The purpose of this study was to evaluate comprehension and satisfaction of fall prevention education program by using volunteers for the community elderly populations.

#### Purpose/Methods

The subjects of this study were 100 community elderly who were selected through the purposive sampling in 3 communities of New Taipei City. The intervention program for falls prevention contains 18-week sections. To assess the knowledge of preventing falls, health beliefs, self efficacy, and physical func-





tions after the intervention, all subjects were asked to answer a follow-up questionnaire 18 weeks after the intervention program.

#### Results

Forty community elderly completed the basic information questionnaire. All of them finished twice knowledge tests, and responded the satisfaction questionnaire. The results indicated that the knowledge ( $p < .01$ ), health belief ( $p < .01$ ), self-efficacy ( $p < .01$ ) were significantly increased after intervention.

#### Conclusions

Fall-prevention education program, led by Similar background volunteers, is a better model to the community elderly populations in terms of knowledge improvement or course satisfaction. Volunteers should give more fall prevention education classes in community.

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## Session O2.4: Supporting healthy ageing at home

### Promoting Independence and Providing Social Support for Aging Populations in rural areas

**MCCRORY Bernie, TRAVERS Joe**

#### Introduction

This project aims to enhance co-operation between health services & community based agencies to reduce hospital admissions for older people. It aims to improve social integration & promote accessibility to social care services by using assistive technologies and social networks.

#### Purpose/Methods

- Establish multi-agency, multi-strategy framework to enable Older People to have a comprehensive response to their needs using Health Promotion principles: empowerment, partnerships, ecological sustainability. - Methods; telecare including remote surveillance, telehealth, social support networks/clubs, respite, dedicated peripatetic support staff.

#### Results

- Maintain older people at home for longer, - Reduce numbers of older People being admitted to institutional care. - Empowerment for carers; - 160 opportunities per year for telecare - Establish a person centered holistic approach.

#### Conclusions

Enhance partnerships between hospitals/agencies to maintain the health status of older people empowering them to live at home for longer. Build capacity within community/voluntary sector partners and enhance their role in local service provision supported by assistive technologies.

#### Comments

This is a highly innovative approach to managing the care of elderly people and promoting a longer period of time spent in their own homes, minimising their requirement for institutionalised care thereby enhancing their quality of life for longer.

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## Diary of Health: Cure home safely

**URDA Adriana, ANTONIOLI Paola M.,  
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#### Introduction

The hospitalization puts the elderly at risk of developing delirium, functional decline, falls, malnutrition and dehydration, immobilization, incontinence, pressure ulcers and nosocomial infections. The existence of chronic diseases and polypharmacy are added to these situations. All these elements together lead to complications, loss of autonomy, difficulty or impossibility of returning home, longer hospital stays, inappropriate repeated admissions, higher costs and use of resources.

#### Purpose/Methods

Implementation of a therapeutical education program for the elderly and their caregivers during an acute event and/or a chronic condition. The educational process includes all patients over 65 years old, affected by multipathologies, which require informational needs, and their caregivers. An informative booklet will be handed over to the patients/caregivers, while a safety agreement will be made. The educational interventions will be registered in the patient's own therapeutical nursing record.

## Results

These educational programs can contribute towards: encouraging the weak elderly to remain in their own family environment, reducing the use of inappropriate admissions, improving the quality of their lives, providing security, enabling optimal integration between technical and social support, serving as a unique tool of connection between health and social services, public and private, minimizing the damage of chronic diseases and optimizing the utilization of residual functions.

## Conclusions

The realization of a therapeutical education program should allow the family/caregiver to acquire and maintain the capabilities and skills that help the patient to live optimally with the illness. Its aim is to help the patient and his family to better understand the nature of the disease and its treatments, to cooperate actively in the implementation of the therapy and to maintain and improve the quality of their life. The direct transmission of information from medical-nursing staff to relatives, caregivers and general practitioners is of fundamental importance.

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## Seniors improve the effectiveness of self-health management

**HSU Ying-Chuan, KUO Chien-Ling**

### Introduction

With the growing elderly population, Taiwan is gradually moving towards an aging society, accompanied by the elderly population increases brought about by the degradation of organ and tissue function, health care and health care and other health problems, medical expenses will cost increased, thus enhancing self-health management of senior citizens is more important.

### Purpose/Methods

To enhance the effectiveness of health care senior citizens. Research design used purposive sampling approach, the average age was 70 years old. A total of 117 courses involved 16 weeks, a week to promote physical fitness 2 hours Intensive combination of lower extremity muscle strength exercise, strength training and health education campaign, were in the course before and after the measurement of blood pressure, body fat, body weight effects. SPSS for analysis. Statistical test of significance level  $\alpha$  is 0.05

### Results

After the training course to promote physical fitness, the student can effectively enhance the motivation of self-health management. Exercise and health education programs assess physical function after the intervention, knees stand up in 20 seconds, muscle testing, etc., up to a positive significant difference. Weight loss 1.4 kg, systolic blood pressure decreased 10.3

mmHg, diastolic blood pressure decreased 3.2 mmHg. Are to achieve significant improvement on the statistical significance ( $P < 0.05$ )

### Conclusions

Senior citizens motivation for self-health management health promotion, disease prevention, children do not become a burden, and health knowledge to help others learn. For personal health behavior strategy to remind individuals to enhance physical fitness and calorie control, and maintain the performance self-efficacy and health management, to achieve health promotion purposes.

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## Session O2.5: Health promotion for hospital staff I

### Staff of health promoting hospitals perceived healthier hospital environment: a national survey on hospital staff in Taiwan

**CHIOU Shu-Ti, WU Chih-Hsun, CHEN Mi-auh-Shin, OU Liang-Jong, CHUNG Chi-Hsiang, TSAI Yi-Tsen, CHEN Yen-Fang**

### Introduction

Creating a healthier workplace is one of the priority areas in health promoting hospitals (HPHs). This analysis compared staff-perceived provision of health promoting environment between HPHs and non-HPHs, and examined factors associated with staff perception.

### Purpose/Methods

A nationwide survey on health and safety needs among hospital staff was done with participation of 83.3% (55/66) of all HPHs and 81.8% (45/61) of randomly sampled non-HPHs in Taiwan in 2011. Self-administered anonymous questionnaire was distributed to all full-time employees in the 100 hospitals with 74.3% (70,622 copies) returned. Data on perceived provision of support on physical activity, healthy eating, stress management and organizational healthiness were collected. Logistic regressions were used to examine the factors associated with staff's feeling of having a healthier hospital environment than before.

### Results

Staff of HPHs reported higher environmental support on physical activity, healthy eating and stress management, perceived higher organizational healthiness, and agreed more on having a healthier environment than before. Multivariate logistic regres-



sion showed that working in an HPH, female, non-medical staff, and having higher satisfaction of hospital support on physical activity, healthy eating and stress management are associated with higher agreement that hospital environment is healthier than before.

### Conclusions

This study showed that from the staff's perspective, HPHs have improved themselves and offered better environmental support than non-HPHs in terms of physical activity, healthy eating, stress management and organizational healthiness.

### Comments

Creating a healthier workplace with provision of supportive environment is a priority area in health promoting hospitals (HPHs) and is crucial for improving staff health. However, there is sparse evidence to support the effectiveness of HPH initiative in improving environmental support for staff. This analysis of nationally representative data provided valuable and encouraging evidence that HPHs have improved themselves and offered better environmental support than non-HPHs.

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## Promoting healthy employees in health promoting workplaces: The MUHC wellness challenge program

**SOUNAN Charles, LAVOIE-TREMBLAY  
Melanie, MARTIN Kara**

### Introduction

Promoting employees' health and wellbeing in the workplace is vital for improving employee retention, performance and quality of services provided. In September 2011, the MUHC Wellness Challenge Program (a fun, motivating & engaging way to help employees make positive lifestyle changes for better health and well-being) was launched.

### Purpose/Methods

The Program which registered 310 participants (100% response rate) consisted of wearing a pedometer for 8 weeks, tracking physical activity behaviour (through uploading pedometer step counts daily and recording other daily physical activity on line) and tracking fruit and vegetable consumption (daily). Follow-up emails, as well as weekly health tips & challenge updates were sent to participants on a regular basis. Technical support, individual advice and consulting were provided where requested. Before starting the program (pre-intervention), participants were screened for baseline data (blood test and cardio-metabolic risk assessment) and for risks associated with physical activity (PAR-Q). Participants also attended a 1 hour lecture explaining the wellness program, how to use a pedometer correctly, the benefits associated with increased physical activity

(including weight loss and improved health & wellbeing), and advice for setting appropriate physical activity goals and increasing physical activity. Lastly participants were asked to fill out a questionnaire comprised of 7 scales (general health status, weight, food habits, physical activity, tobacco use, the workplace psychosocial environment, stress, demographics).

### Results

Six weeks into the challenge, participants are actively involved in the program and report being more happy, healthy and highly motivated. At the end of the 8 week intervention, a post-test will be conducted (blood test and cardio-metabolic risk assessment & questionnaire). Individual interviews regarding program implementation, effectiveness and overall program satisfaction will also be conducted (n=30). The data gathered will be used for both quantitative and qualitative analysis. The results of the impact of the pedometer challenge on employee health and organizational outcomes will be presented at the conference.

### Conclusions

This comprehensive and well designed health promotion program is not only innovative; it reinforces the notion that workplace health promotion programs are effective.

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## Creating happy working environment

**HÜLLEMANN Klaus, HÜLLEMANN Brigitte**

### Introduction

"People who feel good about themselves produce good results" (K.Blanchard & S.Johnson 2004). The US Declaration of Independence stated on the 4th of July 1776 among others: "... unalienable Rights, that these are Life, Liberty and the pursuit of Happiness." Human beings spend most lifetime at work. There is only few time left for families and friends.

### Purpose/Methods

As the medical field mirrors the grade of humanity in society - the hospital is a cultural good - the culture of the medical workplace must have a humane background. The question is: Can a hospital survive economically in a capitalistic society when the in-house philosophy is characterized by a humane work climate, which favors the pursuit of happiness? A hospital benchmarks against competitors when it is health promoting and puts the Ottawa Charter into action.

### Results

Some guidelines are presented to create a humane solution-focused workplace culture, which depends more or less from happy working environments. The following statements are based on the work of Ben Furman and Tapani Ahola of the

Helsinki Brief Therapy Institute, a training and consulting company.

### Conclusions

Abridged version of the topics: - Success: A reliable source of motivation; buffers stress and burnout.; - Criticism: The offering and the responding position.; - Hurts: Dealing constructively with hurts. The quality of communication is of critical importance for the quality of the hospital.

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## Session O2.6: Creating environment-friendly hospitals and health services I

### A strategy for building a green hospital

**CHIN Chung-Chiu, LEE Szu-Chih**

#### Introduction

Long-term and massive utilization of fossil fuel leads to high carbon dioxide emissions, an increase in earth's temperature and climate change. Hospitals are high energy consumers so that they have corporate social responsibility of reducing carbon emissions.

#### Purpose/Methods

The ratio of electricity, oil to water is 80: 15:5. Energy saving focuses on per chance of high effective air-conditioning, use of frequency converter and improvement in hardware, supplemented with outlet temperature control and air conditioning control. We used heat pump and increased temperature of water supply to achieve petroleum saving. We used water saving devices, recycled raindrops and reused RO waste water for sanitary purpose to save water.

#### Results

We set 5% reduction as a goal in energy saving based on the total amount of electricity consumption in 2007. In 2008, we reduced 742 tons of CO<sub>2</sub>e and saved 7.54% of energy. In 2009, we reduced 504 tons of CO<sub>2</sub>e and saved 4.25% of energy. In 2010, we saved 1390 tons of CO<sub>2</sub>e and saved 13.91 % of energy. We stood in the second place for the best electricity saver among the 20 green hospitals.

#### Conclusions

We demonstrated an effective strategy for building a green hospital. As a HPH, we shall fulfill the corporate social responsibility and reduce harm to the environments.

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## Health Sector Leading the Action to Reduce CO<sub>2</sub> Emissions

**HSIEH Ying-Shih, CHENG I-Chan, HUANG Li-Wei, LIANG Wei-Yen**

#### Introduction

The adverse impact by climate change on the human health is well recognized by the health professionals. In 2010, the Bureau of Health Promotion, Department of Health, R.O.C. (Taiwan) jointed with 128 local hospitals have committed to take action toward Environment-Friendly Hospitals by reducing 13% of annual CO<sub>2</sub> emissions by 2020 compared to the level in 2007 as an obligation of "Health Sector Leading the Action to Reduce CO<sub>2</sub> Emissions" Herein, we report our efforts and achievements towards this end.

#### Purpose/Methods

The working program started with organizing an expert team for steer and consult the project.. We collected and studied successful cases of CO<sub>2</sub> emissions from health care organizations. The knowledge and lesson gained was added into "HPH and Environment Manual", formulating a policy guidance and operational procedure for reference by participating hospitals. Metric tools for monitoring progress of environment-friendly intervention were constructed. We organized environment-friendly hospital workshops and hospital visits to diagnose their difficulties and provide expertise suggestions.

#### Results

The systematic approach of integrating international pioneered expertise and local practical experience, professional on-site consulting, and web self-education really overcome the anxiety by most hospital general affair staff. Annual CO<sub>2</sub> emissions from electricity, water, fuel, gas, and waste category were collected and compared, providing useful indicator for monitoring improvement. Competition, label, accreditation, and awards are among the tools considered to accelerate the progress. Preliminary results and lessons were reported in international meeting to share with international colleagues.

#### Conclusions

The practice of reducing CO<sub>2</sub> emission is difficult to be accepted by the health professionals at first. After gradual knowing the climate change fact, most hospitals start taking action to reduce CO<sub>2</sub> emissions. Our experience shows that communication using plan words via peers and experts is important. Of course, the provision of necessary tools, resources, and initiatives also helps. Indirect CO<sub>2</sub> emission sources such as management efficiency, transportation, and alternative energy sources are to be considered in the next phase.



**Comments**

The financial support by the Bureau of Health Promotion, Department of Health, R.O.C. (Taiwan) under grant No. 1000101V is gratefully appreciated.

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## Reducing Carbon Footprint in Medical Service

**CHANG Yuh-Lin, TNAG Chang-Tze, CHEN Shih-Iuan, LIN Ko-Jcn**

**Introduction**

Climate change is one of the three crises in the world; and the carbon dioxide that medical services have produced is no less than the high energy cost industries. To actuate carbon dioxide reduction and environmental protection is essential for a member that is part of WHO's Collaborating Centre for Health Promotion in Hospitals program. By modifying ways in promoting flu shots, Yuli Tzu Chi Hospital was able to implement the carbon reduction plan.

**Purpose/Methods**

Yuli Tzu Chi Hospital is a community hospital with a low population of 36.8 persons / km<sup>2</sup>. People need to drive long distances or spent over \$1000 NT (over \$35 US) by taxi to receive flu shots. This phenomenon not only creates a burden, it even produces much CO<sub>2</sub>. Thus, the medical staff came up to travel to community squares to provide flu shots for the residents. In having the staff going through villages, carbon footprint is greatly reduced.

**Results**

Since October 2001 to November 2011, there are 11,183 people who have received flu shots through this process; in total, carbon dioxide is reduced by 103, 801kg accumulatively. Residents that live in aboriginal tribes have saved \$12, 301, 300 NT (\$410,043US) of the transportation costs. Through the improvement of medical service, medical staff could also promote flu shots and prevent outbreaks.

**Conclusions**

Receiving a flu shot is an effective method in combating the flu. Distant area residents are often left out. In watching over the people's health and reducing carbon emission, our staff wove into the community to provide flu shots; the service was done by the hospital vehicle, solved the residents' traffic problem and short of money. Moreover, making good use of morning time has increased the shot rate. All actions are practical measures in building an environmentally-friendly hospital.

**Comments**

Reducing carbon foot prints and taking environmentally-friendly actions can be achieved by building the infrastructure with eco-friendly materials. Yuli Tzu Chi Hospital's improvement of the flu shots procedure not only has reduced carbon emission, but also has minimized people's economic burden.

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## Creating an environment friendly health care: a case of bus pooling services

**YANG PO-HSUN, LAI YI-LING, CHEN CHING-YUAN, CHEN TZU-YUNG**

**Introduction**

Recently, the intensity and frequency of extreme weather events increased globally, which resulted in huge loss of life and property. The WHO suggested that reducing emissions of greenhouse gases through transport can improve human health. Furthermore, transportation is one of the seven key elements of achieving health care without harm. Therefore, we implemented bus pooling services through the inter-sectoral integration and use of community resources to build a buspool friendly environment with the aim of reducing carbon emission.

**Purpose/Methods**

We arranged the routes for the areas within 30 kilometers away from our hospital and where more elderly live. 3 routes have been in operation since 1 December 2010 and additional 2 routes since 1 June 2011. Community volunteers served as attendants on the bus and assistants in health services delivery. Inter-sectoral cooperation was established to provide bus pool, incentives for using the service such as transportation pass and courteous reception, health education, and advocacy about carbon reduction.

**Results**

During from 1 December 2010 to 30 November 2011, we saved 211,956 kilograms of carbon emission equivalent to 333,265 kilowatt-hour saved. Moreover, 2 volunteers per route per day were successfully recruited to assist patients in the process of the health service delivery. 80 community health seminars were held through multidisciplinary medical departments.

**Conclusions**

This study demonstrated that bus pooling services, particularly for rural areas, were effective against carbon emission. Leadership support, inter-sectoral cooperation and use of community resources were key successful factors in the program. This program also strengthened the friendly link between the hospital and communities, and accordingly community health pro-

motion was provided by the hospital to meet their health needs.

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## A New Goal for Healthy Environment in the 21st Century

**CHENG Yang-Chiang, CHU Mei-Feng, WU Jing - Hui**

### Introduction

Much data reported persistent rise in global temperature and increase in production of carbon dioxide, methane and nitrous oxide, the greenhouse gases that causes global warming, leading to climate changes and natural disasters. Raising animals for food is one of the largest sources of these problem. According to a report from the American Society for Nutritional Sciences in 2003, when facing global diet problems, advocating vegetarianism not only brings good health to people, also contributes to protection of our environment.

### Purpose/Methods

As a health promoting hospital, our hospital advocated a healthy vegetarian lunch program to all hospital staff since 2011.01.01. The menu was designed by the hospital chef and dietician to meet the daily food requirements proposed by the Department of Health Taiwan. The average calories per meal is about 660kcal. The hospital lowered the price of each meal to only \$35NTD (\$1USD) to further encourage hospital staff participation in vegan diet and hence stop global warming.

### Results

From 2011.01.01 to date, our hospital's healthy vegetarian lunch program for hospital staff has already provided 47,165 meals. We have increased the number of hospital staff to consume vegetarian diet from 20,833 to 25,170 (17.2% increase). If each kilogram of meat produces an average of 13 kilograms of carbon dioxide emission, our hospital has successfully reduced monthly carbon dioxide emission to the environment by 22,905kilograms, equivalent to saving 2,202 trees from being cut-down.

### Conclusions

In this new millennium of health promotion, not only is human health a main focus, healthy environment is also being enforced and emphasized. Based on Tzu-Chi Hospital continue to promote and encourage patients, hospital visitors and staffs through vegetarian diet consumption. Vegetarianism is not only beneficial to the human body but also to the environment. The people of the 21st century need to recognize the threats of global warming and take actions to make our planet a healthier place.

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## Session O2.7: Developing and sustaining HPH networks

**IN-Network Project: the construction of the Hospital Network of Health Promoters in Ferrara University Hospital (Emilia-Romagna Region, Italy)**

**ANTONIOLI Paola M., BOMBARDI Sandra, MATARAZZO Teresa, MORGHEN Ilaria, BORCHI Chiara, CAPONCELLI Paola, CARLINI Ermes, DONNOLI Tiziana, FABBRI Patrizia, FERRARESI Annamaria, GARDINI Andrea, GUARDIGLI Gabriele, LOLLI Roberto, MANZALINI M.Chiera, MESSINA Silvana, RINALDI Gabriele, ROVIGATTI Micol, SALANI Manuela, SOAVE Ilaria, URDA Adriana, VERZOLA Adriano, WIENAND Ulrich**

### Introduction

Since 1999, Ferrara Hospital has chosen to promote health by joining the WHO HPH-Network. Over time, several Groups have developed some Projects: Tobacco-free Hospital, Pain-free Hospital, Migrant-Friendly Hospital, Safely on the road, Hand Hygiene, Environmental Management, Gender Health. However, that philosophy is scarcely known and interventions were fragmentary. The approaching date of opening of our new Hospital indicates the importance to consolidate existing Projects and to implement new models for approaching problems, to refocus and support changes and promote participations.

### Purpose/Methods

It was designed a specific Training Course to prepare a group of "Health-PROMOTERS" , to spread this culture among hospital staff, belonging to all Hospital Stakeholders, with the active participation of Patient Organizations. All this, contained in a solid system of corporate co-ordination and closer integration with the rest of company vision, to which the dimension of health promotion must be a strategic complement, not an "alternative route". Methodology: Lectures, small workgroup, psycho-social exercises, simulations with role playing.



## Results

Inform about themes of Health Promotion and related design experiences gained at international, national, regional and local. Develop communication and interpersonal skills that will improve the ability of operators in listening to the inconvenience / problems / excellence in the company. Develop design skills and working in multidisciplinary teams in accordance with the philosophy of HPH & HS. So we have built our Network of Health Promoters by sharing a common identity on the values and purposes.

## Conclusions

Sustaining motivation, promote good practices and human resources in hospital, directing attention to the 3-dimensional approach "operator - user - community". The commitment of health workers will cover the health value; the engagement between operators - users will be guided by common objectives; commitment between operators - community will address the transparency to the stakeholders. The principle is to experience with participatory training, highlighting the methodological aspects and relationships by focusing on the concept of cooperation in contrast to competition.

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## The Swedish HPH network - an active partner in the implementation of Swedish National Guidelines for Evidence Based Lifestyle Intervention in Clinical Practice.

**KRISTENSON Margareta**

### Introduction

A central part in the HPH movement is disease prevention in terms of helping patients to change lifestyle habits. The Swedish National Board of Health and Welfare has developed National Guidelines for Evidence Based Lifestyle Intervention in Clinical Practice, published in November 2011. Beyond information on which interventions to choose they also include indicators as basis for monitoring processes and outcomes. While these guidelines are very important for the development of preventive actions within the health service there is a risk they are not implemented.

### Purpose/Methods

The Swedish HPG network has been actively involved in the process of the development of these guidelines and is now preparing for the implementing of these guidelines.

### Results

A series of implementation tools have been developed by the HPH. These include information at the HPH s website e.g. leaflets for patients; information for personnel on the scientific

basis for advice for lifestyle especially evidence for food choices; inspiration films with examples of how the recommendations can be operationalized with scenes illustrating brief counseling and advanced counseling. The work also package includes practical solutions for registration of lifestyle in computerized systems and examples for how this can be defined and purchased by the purchasers.

## Conclusions

The implementation is at its start in spring 2012. The presentation shall present experiences from the first period of implementation, which shall be done in collaboration with professional organizations e.g. physicians, nurses and physiotherapists.

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## How do HPH networks support their member hospitals in implementing health promotion structures? Selected findings from the PRICES-HPH study

**DIETSCHER Christina, PELIKAN Jürgen M.**

### Introduction

Networks have been used as a strategy to disseminate and support the implementation of health promotion in settings since the late 1980s, starting from the WHO Healthy City Network (founded in 1989). Although numerous evaluations of networks have taken place since then, hardly any have combined data from networks and member organizations on an internationally comparative level in order to identify effective network activities and structures. This identification was one of the major research aims of the "Project on a retrospective comparative evaluation study of HPH" (PRICES-HPH), conducted between 2008 and 2011. In this sense, PRICES-HPH is a unique project.

### Purpose/Methods

The presentation will focus on the impact of the structures and support activities of HPH networks on HP structures in member hospitals, which in turn have proven to impact on hospitals' HP performance in other analyses of PRICES-HPH data. In line with the PRICES-HPH evaluation model which was developed specifically for the purpose of this study, and based on a literature search, 5 potential network strategies for impacting on member organizations were identified. 1) Education and training; 2) Supporting organizational development in hospitals; 3) External information about the network; 4) Creating partnerships and alliances for the network; 5) Research. Data on the implementation of these strategies were collected in the PRICES-HPH network survey (28 networks of the 35 that existed at the time of

the survey in 2009). T-tests, correlations and path analyses on relations between the network interventions and 3 types of hospital structures that can plausibly be argued to be impacted by networks - an established health promotion quality assessment routine, the hospitals' HPH implementation approach (systematic or occasional) and the degree of fulfillment of HPH policies - were then performed to identify effective network interventions and structures.

### Results

According to the analyses, a clear and significant impact of network interventions on HP structures in member hospitals can be argued. Especially the existence of a HP quality assessment routine and of a systematic HP implementation approach were significantly related to network interventions. According to the analysis, it is not the total level of network activity but a specific mix of network strategies that make the difference. These include support in organizational development, the existence of network media and publications. With regard to network structures and resources, the amount of network budgets, the involvement of network members in network decisions and a high level of exchange between members are also beneficial for the implementation of HP structures in member organizations.

### Conclusions

The presentation will close by proposing recommendations for HPH networks on how best to support their member hospitals.

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## Does a WHO HPH Recognition Process Improve Health Service Delivery and Outcome?

**KIRK SVANE Jeff, TØNNESEN Hanne**

### Introduction

Clinical Health Promotion (HP) significantly improves treatment results and patient safety. For example, introducing HP interventions before surgery reduces complications. For this reason, HP represents a key dimension of quality in hospitals, and should be included as a core part of quality management, accreditation, certification and recognition. Today, however, these most often only include HP implicitly, and assessing hospital departments' HP performance is still a novel area.

### Purpose/Methods

The study is conducted as an International RCT with 2x44 hospital departments from National/Regional HPH Networks (after informed agreement). Departments are allocated to intervention group which undergoes the process immediately, or control group which continues usual clinical routine. For data collection, we use validated WHO HPH tools and standards. At follow up after one year, we will evaluate if intervention group

departments display improved health gain for patients and staff and higher number of HP activities, compared to control group.

### Results

The study commenced in 2011, and results will show whether the Recognition Process generates significantly better health gain for patients and staff. This will be measured by number of HP activities delivered, the HPH DATA Model, the HPH Documentation Model, medical record audits, organizational data forms (WHO Standards on HP), and health surveys (incl. SF36v2) for patients and staff.

### Conclusions

High-level evidence (RCTs) on recognition and accreditation regarding clinical HP is very rare, so this study will bring about new knowledge concerning the effect of HP for patients, staff and organizations.

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## Session O2.9: Symposium on smoking cessation

### Smoking Cessation Intervention

**TØNNESEN Hanne**

In this symposium we will be dealing with smoking cessation intervention in specific groups. One such group are the heavy smokers, another is abusers of drugs and alcohol, and a third is the patients undergoing surgery. We will also look at the influence of the Danish Healthcare Reform in relation to smoking cessation interventions and outcomes. General standards and indicators, documentation and follow-up related to the Smoking Cessation Database in Denmark will be addressed throughout the symposium. The symposium will conclude with a discussion among the participants and speakers.

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## VIP (Very Important Patient) project: Need for additional health promotion activities among alcohol and drug abusers

**HOVHANNISYAN K, SKAGERT E,  
THORNQVIST K, OHLSSON M, TØNNESEN  
Hanne**

### Introduction

Drug and alcohol abuse are often accompanied by other risk factors such as heavy smoking, poor nutrition and physical inactivity. In Sweden, less than 20% of the general population are smokers. Recently, a pilot study found that among alcohol and drug abusers, the prevalence of smoking was about 50%. In addition, co-morbidity may also be increased compared to the background population.

### Purpose/Methods

To identify the prevalence of additional risk factors, co-morbidity, and need for health promotion activities. Four-hundred consecutive patients from the Addiction Centre Malmö, Sweden, would be screened for other risk factors and co-morbidity. The inclusion criteria are alcohol or drug dependence. The exclusion criteria are withdrawal of informed consent or missing competence to give informed consent (such as active psychoses, delirium, seizures, dementia, heavy influence of alcohol/drugs, loss of consciences, age < 18 years, language barriers), pregnant or lactating women. Outcomes are smoking, snuff use, physical inactivity, malnutrition, overweight, chronic medical illness, as well as quality of life.

### Results

The results presented are preliminary results (detailed results will be presented at the conference). After screening of 54 patients we found that 37% were alcohol dependent, 54% drug dependent, and 9% were both alcohol-and drug dependent. At the present analyses, 34/54 patients were men (63%) and 19/54 were women (37%); the median age was 51 years (range 27-75). 72% of the patients were smokers (19% snuff users), 70% overweight, 6% malnourished, and 54% of the patients were physical inactive. We found that 98% of the patients had at least one risk factor, 72% two, 37% had three or more risk factors. Liver disease was found in 28% of the patients; cardiac disorder in 37%, lung disease in 37%, and 7% had diabetes. Half of the patients had at least one chronic disease or more, 19% had two, and 2% had three or more.

### Conclusions

The preliminary conclusion is that there seems to be a major need for additional health promotion activities among substance abusers.

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## The Danish Healthcare Reform and Smoking Cessation Interventions

**RASMUSSEN Mette, AMMARI Anne Bir-  
gitte Hjuler, PEDERSEN Bolette,  
TØNNESEN Hanne**

### Introduction

Many countries and regions undergo structural changes that intent to improve the effectiveness and quality of care. Amongst others, the Danish Healthcare Reform 2007 intended to move the responsibility for smoking cessation intervention from county level to the municipalities. New regions should run the hospital services; exclusively. Until 2007 the municipalities, counties, hospitals and pharmacies shared the smoking cessation activities almost equally.

### Purpose/Methods

**Aim:** To evaluate the influence of the Danish Healthcare Reform 2007 on national smoking cessation interventions. **Methods:** From 2006 to 2011 35,087 smokers were registered in the Danish Smoking Cessation Database. The large majority underwent the 6-week gold standard program; a manual based patient education, motivational counseling and nicotine replacement therapy. The data collection included the setting and compliance, self-reported quitting and overall satisfaction.

### Results

The number of participants undergoing a smoking cessation programme reduced significantly (16.4%) from 2006 to 2010. Massive changes in the profiles of the participants and in the settings of the programmes were observed; especially those reaching hospital patients and pregnant women as well as a major shift from employees to general citizens took place in other settings. Completion of the program, quit rates and satisfaction rates were not influenced by the reduction in participants or changes in their profiles and program settings in contrast; the follow-up rate improved significantly.

### Conclusions

One sixth of the smoking cessation interventions were lost after the Danish Healthcare Reform 2007.

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## Smoking cessation among heavy smokers - in a real life setting

**RASMUSSEN Mette, TØNNESEN Hanne**

### Introduction

Higher quit-rates are generally achieved in high than low intensity smoking cessation programs; however, also lower quit-rates have been reported particularly among heavy smokers. The aim of this study was to evaluate the quit-rates among heavy smokers undergoing a standardized intensive 6 week smoking cessation program that integrated pharmacotherapy, and to identify modifiable factors associated with improved quit-rates. A secondary aim was to examine if quit-rate was associated with smoking severity.

### Purpose/Methods

In this nationwide clinical study based on 36,550 smokers attending an intensive cessation program in Denmark in 2001-2010 the primary outcome was the 6-month continuous quit-rate. Six months response rate was 78%. Heavy smoking was defined as  $\geq 7$  points in the Fagerström Nicotine Dependency Test, smoking  $\geq 20$  cigarettes/day or  $\geq 20$  pack-years. Multivariate and sensitivity analyses were performed.

### Results

Proportions of heavy smokers were 28% (Fagerström score  $\geq 7$  points), 58% ( $\geq 20$  cigarettes/day) and 68% ( $\geq 20$  pack-years), respectively. Overall quit-rate was 33% (worst case 26%), but 1-6% lower in heavy smokers. Quitting was associated with 'individual format' (vs. group/other, OR's:1.23-1.44,  $p < 0.001$ ), setting (hospital: vs. pharmacy; OR's: 1.17-1.23,  $p < 0.001$ -0.031; vs. non-pharmacy/other, OR: 1.11,  $p = 0.030$ ) ( $\geq 20$  cigarettes/day), other vs. pharmacy: OR 1.09-1.12,  $p < 0.030$ -0.101) next to 'attending the planned meetings'. Quit-rates were consistently decreased in a dose-dependent manner with increasing smoking severity.

### Conclusions

Quit-rates after the intensive program were 1-6% lower in heavy smokers compared to the overall 33% rate. Small improvements seem possible due to potentially modifiable factors.

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methods These Guidelines are addressed to both policy makers and to the health care as an aid to management at all levels.

### Purpose/Methods

To implement the new guidelines from the Swedish National Board the division of surgery started a unit in September 2010 for smokers to undergo surgery. Before the operation the doctors ask the patient about the smoking habits, the significance of being smoke free before and after the operation and that a visit of a smoking cessation nurse is part of the preoperative preparation. All smoking patients will be contacted by the smoking cessation nurse. An individual smoking cessation plan including motivational interview will be made in consultation with each patient. From November 2011 we changed the method by giving the patients free nicotine replacement. For every reference to the smoking cessation the clinic is replaced by 500 SEK.

### Results

The flow of the smoking patients about to undergo surgery and pass to smoking cessation increases continuously as the physician's awareness and knowledge. Since start 345 patients have undergone smoking cessation. With the first method 35-40 % quit smoking. From middle of November 2011 till middle of January 2012 82 patient passed the unit with free nicotine replacement added and 51% of them stopped smoking.

### Conclusions

It must be easy for the medical staff to refer smoking people for smoking cessation To obtain the impact of the introduction of smoking cessation in conjunction with surgery in a large university hospital requires simple procedures, knowledge in motivational interview and some form of economic compensation to the clinic. The prevention diseases have come to be an integral part of health care.

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## Smoke free operation

### KATARINA OSSIANNILSSON

### Introduction

Skane University Hospital is situated in the south of Sweden. The hospital has 12.000 employees and during a normal day there will be 190 patients receive surgery and 1750 inpatients. Sweden has the lowest proportion of smokers in the world 14%. The catchment area for the SUS has a higher proportion of smokers and smoking among persons undergoing an operation is above average. Estimated to be about 20 %. Swedish National Board has in a wide open process and the background of evidence developed national guidelines for disease prevention



## Session O3.1: Health promotion for children and adolescents II

### Predictors of Overweight and Obesity in Taiwanese Children

**CHEN Yang Ching, LEE Yungling**

#### Introduction

Our aim is to explore the relationship between socio-demographic factors, perinatal factors, and household environmental factors with childhood overweight/obesity in Taiwan.

#### Purpose/Methods

A total of 7,930 nine to fourteen year-old children were recruited from 14 randomly selected Taiwanese communities in 2007 and 2010. Height and weight were measured using standard protocols during school visits. Questionnaires which contained children's basic family information, birth conditions, exercise habits, and household environmental factors were answered by the parents. Univariate and multivariate logistic regression models were employed for data analysis.

#### Results

In our cohort, 32.3% of the children were overweight and 17.5% were defined as obese. Male gender, born of high birth weight, exposed to in-utero maternal smoking and current household environmental tobacco smoke were positively associated with childhood overweight/obesity. Children with higher parental education level, more sibling number, keeping exercise habit and taking vitamins were inversely associated with childhood obesity. Birth weight revealed a J-shape relationship with the probability of childhood overweight/obesity. Maternal smoking showed a greater impact on childhood overweight/obesity than paternal smoking.

#### Conclusions

To minimize the prevalence of childhood overweight or obesity, we must reduce the harmful factors (parents could quit smoking), and to promote the protective factors (encourage exercise habits, and taking vitamins as needed).

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## Social and Psychiatric Outcomes of Individuals with ADHD: The Moderating Roles of Family and Parenting Behaviors

**GAU Susan Shur-Fen**

#### Introduction

Despite established relationship between attention-deficit hyperactivity disorder (ADHD) and psychosocial dysfunction and psychiatric comorbid conditions, little is known about the moderating roles of parent and family process on the association between ADHD and adverse outcomes. The study aims to investigate the psychosocial and psychiatric outcomes of ADHD and the potential moderating roles of age, sex, parental education, family support, and parenting styles in the associations between ADHD and psychosocial/psychiatric outcomes across child, adolescent, and young adult population.

#### Purpose/Methods

The sample included for data analysis consisted of (1) 2,584 1st to 9th graders, (2) 560 clinic-based children and adolescents with ADHD, (3) 2284 incoming college students, and (4) 1399 young men on military service. The main measures included the Chinese SNAP-IV, CPRS-R:S, CTRS-R:S, and ASRS for ADHD symptoms; the ASRI-4 for DSM-IV psychopathology; the K-SADS-E for psychiatric diagnosis; the SAICA for social functioning; the PBI for parental behaviors; and the Family APGAR for perceived family support.

#### Results

Individuals with ADHD were more likely to have impaired social, academic and school functions, and a wide-range of psychopathology. Childhood ADHD symptoms predicted more ADHD symptoms, disruptive behaviors, anxiety/depression, sleep problems, and personality problems in young males. Decreased family support/functioning and parental affection/care and increased parental overprotection/control were associated with social and school impairments at adolescence, and psychopathology at young adulthood. Age, gender, parental education, family support, and parenting styles moderated the associations between ADHD diagnosis/symptoms and adverse psychosocial/psychiatric outcomes.

#### Conclusions

Our results based on four different samples consistently demonstrated the important role of parenting and family function on the pathway of ADHD to adverse psychosocial outcomes either through main effects or moderating effects or both. Integrating family work to the treatment for ADHD at early stage may offset the development of school and social dysfunction, and a wide range of psychiatric symptoms.

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## Application EEG Neurological Feedback to improve the Syndrome of ADHD

**CHEN Ying- Cheng, CHIEN Chih-Cheng, CHERN Huey-Jin**

### Introduction

According to the U.S. National Institutes of Health statistics, more than 60% of children who have symptoms of hyperactivity (attention deficit hyperactivity disorder Attention deficit hyperactivity disorder, ADHD). The children often have learning difficulties, emotional distress and poor interpersonal relationships. By these cases, we use EEG neurological feedback to treat ADHD instead of medications which is a kind of simple and effective treatment. The benefit of treatment can avoid the side effect of medications and increase their confidence in growth.

### Purpose/Methods

Through the hardware ProComp infinity (made from thought technology LTD ), and connect with the software of biofun by EEG to train the EEG wave of ADHD patients. The main treatment is to inhibit the Theta brain wave, enhance SMR wave and increase Beta wave by neurofeedback and concentrative skills. The training combines with cognitive training exercises which is once a week, and there are twelve times (about 3-4 months) in the one course.

### Results

There are fifty ADHD children (10 - 18 years old) in our hospital. In originally, they had symptoms of inattention, learning difficulties, emotional distress and poor interpersonal relationships. After the treatment up to 12 times, their symptoms were improvements or alleviation, especially in learning ability. Such as:  $\Theta / B$  ratio decreased to about below 1; the average of pre-treatment their school reports was 51, after treatment their average school reports was 75.

### Conclusions

After neurological biofeedback treatment, 67% of ADHD children whose structural changes in brain waves and their academic achievement were progression. This treatment not only increases the confidence both children and parents, but also the treatment teams find this way is a good alternative for medicines to ADHD children.

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## Youth Friendly Sexual and Reproductive Health Services by Government Hospitals in Thailand

**AUAMKUL Nanta, KUSMITHI Saipin, JONGWANICH jaruwan**

### Introduction

Behavioral surveys conducted by the Bureau of Epidemiology showed the rising number of young people engaged in sexual risk behaviors. Despite the increasing trend, sexual reproductive healths that are sensitive to young people's needs are rarely available. With high concern in this matter, the First National Policy and Strategic Plan on Reproductive Health Development (2010-2014) was approved by the Government Council. Particular attention is paid to increasing the availability of SRH services that effective reach most at-risk adolescents.

### Purpose/Methods

More information is needed about the existing services provided. Data on SRH service delivery system responding to young people, enabling factors, and obstacles emerging during 2007-2011 were collected. The methodology includes reviewing of relevant documents and in-depth interview of key informants.

### Results

It is found that the standard of Adolescents/Youth Friendly Health Service (YFHS) and self-assessment tool were developed and distributed widely to both public and private health facilities. By the year 2011 YFHS/SRH services are available nearly throughout the country, 64 from 77 provinces. Significant contributing factors are strong policy at national and provincial levels, participation and commitment of young people and all key stakeholders in YFHS standard development, application of existing HPH and HA-HPH standards and capacity building of service providers. Major obstacle is limited number of skilled YFHS providers.

### Conclusions

Currently YFHS/SRH services are considerably progressive comparing to those during 2002 -2006. By the way effectively integrated approaches of health promotion, disease prevention and curative care in friendly atmosphere are required. Challenges are to strengthen service delivery systems to better meet young people's needs, to expand partnership and network of service systems, and to continuously improve the quality of service. Innovative social measures as well as active participation of youth and community are also needed.

### Comments

In the future, studies should focus on the efficiency, effectiveness and sustainability of YFHS/SRH service/system. Knowledge sharing and knowledge management among related parties should be considered seriously.

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## Session O3.2: Health promotion for migrants and minorities

### The Community Development and Health Promotion in the Aboriginal Tribe.

**SU YU-MEI**

#### Introduction

Most community development and health promotion projects in aboriginal tribes in Taiwan were conducted by non-governmental organizations (NGOs). From selecting issues, linking outside resources, to planning and implementing programs, NGO community workers may confront various kinds of barriers, such as the difficulties in communication among community groups, applying funding, cooperating with local governments, and balancing personal life. This study is to share the experience of community development and health promotion strategies used by professionals from medical and community workers in aboriginal tribes.

#### Purpose/Methods

Our group included professionals from medical, local health promotion organization, and government. We had formal meeting and informal social program in order to build a consensus on community development and health promotion projects. We collected information of demographic, health, need from the residents who lived in the community. The activities of health promotion were based on the priority of their need, their lifestyle, custom, and culture. After providing the activities, statistical analysis and interview were performed to evaluate the efficacy. Intervention activities include: (1) health promotion: healthy diet with actual cooking, exercise, and smoking cessation. (2) case management for certain chronic diseases: hypertension or metabolic syndrome. (3) trying to create supportive environment for health, strengthen community action for health.

#### Results

Our experience found that professionals from medical entered into the communities though connecting the right "gate keepers" and informants. Finding the community workers lived in the communities and maintained good relationships with residents. Most good community development and health promotion projects were led by communities and designed according to aboriginal customs and cultures. The development of local health promotion organizations ensured sustainability of project results.

#### Conclusions

The health problems of aboriginal community are related to the poor economy and the social culture of the natives. It is hard to solve the health problem barely from the health community building. It is suggested that we should realize the meaning of health to the natives, strengthen the health education for the teenagers and the utilization and training of volunteers.

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### Closing the Aboriginal Oral Health Care Gap

**MORRIS Christine, BRAUN Janice**

#### Introduction

This presentation will describe the Aboriginal Oral Health Program established in 2005 in South Australia in response to the poor attendance of Aboriginal adults in mainstream dental services. It is an excellent example of a successful program to close the gap for Aboriginal people in the area of oral health. Aboriginal adults have more missing teeth, and Aboriginal children have at least twice the dental caries experience and more untreated caries than the non-Aboriginal population.

#### Purpose/Methods

The aim of the Aboriginal Oral Health Program is to increase attendance of Aboriginal people at mainstream dental services through a series of policy and organisational practice changes. Staff have had comprehensive cultural awareness training and special liaison staff have been appointed at each Aboriginal Oral Health clinic. Aboriginal adults have been given free, priority general and emergency dental care and no waiting lists.

#### Results

Since 2005 there has been an increase of Aboriginal attendance through the program from 60 to 1,900 people in 2011 and an increase of 46% since 2010. There has been an overall increase in total Aboriginal adult and children attendance for dental care in 2011. Staff have increased their understanding of cultural issues and Aboriginal communities have a greater understanding of the importance of oral health to general health. Health workers are supported to refer clients. Challenges include the 30% fail to attend rates.

#### Conclusions

This project has contributed markedly to the increased attendance of Aboriginal people at South Australian Dental Service clinics and as a consequence improved oral health for Aboriginal people. It provides an excellent example of developing and implementing a culturally appropriate health promotion program using Health Promoting Health Service principles of cultural safety, partnerships, organisational change and commitment to reorienting a clinical service to health promotion. The success of the program has led to further funding and expansion of the program.

#### Comments

This program demonstrates how non-indigenous and indigenous program staff can work together to implement a successful program using strategies drawn from both sets of experiences.

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## Gender balance in health care to reach the equity and overcome the differences

**SALANI Manuela, VERZOLA Adriano, TAGLIETTI Emanuela, FORINI Elena, MATARAZZO Teresa, ANTONIOLI Paola, BOMBARDI Sandra, MORGHEN Ilaria, URDA Adriana, BORGHI Chiara, SOAVE Ilaria, ROVIGATTI Micol, CARLINI Ermes, FABBRI Patrizia, FERRARESI Annamaria, GARDINI Andrea, RINALDI Gabriele, GIAVARESCO Umberto**

### Introduction

The annual mission report is the instrument of social accountability toward stakeholders, with which the hospital describes the results of its institutional action, in relation with the assigned objectives. Ferrara University Hospital included on its annual mission report, as objective of peculiar institutional relevance, the gender balance that is placed side by side to traditional documents of social and economic programming and constitutes the tool for gender policies final statement.

### Purpose/Methods

To evaluate how the impacts of policies is different between men and women through the gender balance and its effect on the planning of the activities. On the base of the data contained in Ferrara University Hospital database the analytical frame of gender differences has been constructed considering: 1) demand of health by the population who get to care service of the hospital divided by gender, age and outcome. 2) demographic, working and epidemiological situation of the hospital human resources.

### Results

The informations gathered about in-patients and hospital human resources permitted to: monitor the results of prevention, diagnostic observation, treatment and rehabilitation in a gender perspective; identify, in the research, themes about the prevention and risk factors connected to some emergent pathologies in women population; stimulate the formative institutions about the development of gender medicine studies; promote specific projects, like the civic network for the prevention and contrast of violence against women and children.

### Conclusions

The gender balance is not only a reporting instrument but it is also the base in order to construct new solutions of development in methodology and planning. It starts the way toward the gender equity, however, to be completely effective, it needs also a quality strategy through new financial investments, without which all the equity opportunity initiatives are impossible or ineffective.

### Comments

<http://inospfe.it/l-azienda/bilancio-di-missione>

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## Session O3.3: Improving quality of care by patient involvement and participation

### Assessing patient reported outcome measures (PROM) after critical illness using a nationwide intensive care registry

**ORWELIUS Lotti, WALTHER Sten, SJÖBERG Folke**

### Introduction

The centre of patient reported outcome measures (PROMcentre) in Sweden is involved in the international network of HPH. The PROMcentre has a national commitment with a goal to promote and support the use of PROM, amongst which health related quality of life (HRQoL) is one of the most important. One significant tool in this aspect is to include PROM variables in the outcome measures of national quality registries, such as is done in the Swedish national intensive care registry (SIR).

### Purpose/Methods

HRQoL data (SF-36) from SIR where examined at 2, 6, and 12 months after discharge from the intensive care unit (ICU). Data from a random sample of the Swedish population were used as a control group. As the social economic aspects is of importance for HRQoL the impact of employment before and after ICU were also examined.

### Results

In October 2011 HRQoL was registered for 526 patients on all three occasions. At 2 months HRQoL were significantly decreased in all 8 dimensions compared with the reference group, with highest difference in the role physical function. HRQoL increased between 2 and 6 months except for the dimension general health (GH). No further increases in HRQoL were seen



at 12 month. Before ICU care 555 patients were independent, 141 had returned to independence at 12 months.

### Conclusions

The results support the use of PROM in outcome research and show that the decreases in HRQoL, particular in the role physical function for ICU patients is significant. This knowledge is of importance for the development of future intensive care and supports the use of PROM as a significant outcome measure in critical care.

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## User and family-centered mental health services in Taiwan: from satisfaction survey to service user involvement.

**CHING Yung-Chieh**

### Introduction

Global healthcare provision requires providers to supply efficient and cost-effective care, while continuously assessing user focused outcomes upon which to base subsequent improvements. However, the voice of the service user in mental health services is a relatively new concept in Taiwan. The aim of this research was to gain knowledge about the users' perspectives of current Mental Health services in Taiwan and for these findings to inform recommendations for the development of user and family-centered mental health services in Taiwan.

### Purpose/Methods

A satisfaction survey using the Verona Service Satisfaction Scale- Traditional Chinese (VSSS-TC) questionnaire was administered, preceded by translation and cultural adaptation protocols developed by the EPSILON Research Group and a pilot study procedure to test face and content validity. This research was conducted under ethical approval within two hospitals in Taipei. A non-proportional sampling method was used for the survey data collection.

### Results

The survey data were analyzed by using SPSS 16.0 software, and the results indicate that participant rated the highest level of satisfaction in 'Professional Skills and Behaviors Dimension' (m=3.82), whereas the lowest rate of satisfaction is 'Relative Involvement Dimension' (m=3.59). The result also indicates that there is an inadequate provision of four services area: (1) Sheltered accommodation ; (2) Home visiting services ; (3) Finding employment ; (4) Leisure activities outside the hospital.

### Conclusions

Satisfaction is an indicator of the relationship between users and services, and it can be related to both the risk of dropping out of the healthcare system and compliance with treatment. Since only two hospitals were involved, the results are not claimed to be representative of the Mental Health System of Taiwan. However, this was designed to elicit preliminary insights as a first step to understand issues concerning user involvement in Taiwan, and to provide a platform for future research.

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## Participation of oral cancer survivors in prevention work: The experience of Sunshine Oral Cancer Volunteer Team

**CHUANG Li-Chen, CHENG Hui-Lien, JUNG Wen-Ru, CHOU Liang-Chuan, TSENG Ya-Jung, HSIEH Shao-Ching, HSU Trista Yu-Ting**

### Introduction

In Taiwan, 88% of oral cancer patients are betel nut chewers. Realizing that many knew little about the dangers of betel nut before being diagnosed, Sunshine Social Welfare Foundation (SSWF) created in 2008 the "Sunshine Oral Cancer Volunteer Team" to involve oral cancer survivors in prevention efforts. By training oral cancer survivors to become educators who share their own experience, this project facilitates reaching out to at-risk groups and enhances their awareness about dangers of betel nut.

### Purpose/Methods

The Team is composed of oral cancer survivors recommended by social workers of SSWF. After an interview process followed by standardized training, volunteers accompany SSWF social educators as speakers during prevention activities organized by national and local health authorities, hospitals and other organizations in communities, schools and workplace. Volunteers receive guidance and supervision from social workers and educators of SSWF, who also organize on-the-job trainings and group activities. Because volunteers are clients of SSWF, they benefit from the foundation's services.

### Results

The project has trained 40 volunteers who have spoken in 599 prevention activities attended by 52,289 people. At the prevention level, evaluation found that 90% of participants in activities understand better the dangers of betel nut. They might not immediately quit betel nut, but are moved to pay attention to

oral health by the narration of volunteers with oral cancer. This is important in terms of encouraging screening. At the individual level, volunteers feel empowered through helping others.

### Conclusions

This project links social welfare and health actors, with health authorities, hospitals and NPOs combining their strengths to achieve greater impact in betel nut control. It also involves patients, empowering them by transforming their personal ordeal into a force for change. Future recommendations include: 1. Continue involving patients in prevention efforts; 2. Encourage hospitals to create their volunteer teams; 3. Enhance screening and precancerous lesion education; 4. Enhance knowledge and skills of doctors for oral cancer screening and diagnosis.

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## Session O3.4: Supporting smoking cessation

### Laser Therapy: a contributor in the armoury for Smoking Cessation Services

**ORIORDAN Ann, PENMAN Anne, GILLESPIE Ann**

### Introduction

Pressure to find alternative and effective smoking cessation treatment options are building. The burden of ill health is ever increasing with tobacco use a major contributor and compounded by changing economic factors and growing fears concerning undue reliance on pharmacological interventions for tobacco cessation. Concerns over the continued use of nicotine, primarily sourced from the tobacco industry, all be it for the desired tobacco cessation outcome is believed by many health experts to potentially weaken societies efforts to combat the tobacco industry.

### Purpose/Methods

Reducing tobacco use, particularly smoking is the motivation for this paper. The Anne Penman Laser Therapy (APLT) is in existence for nearly 20 years. It provides a drug and nicotine free Stop Smoking Service similar to the NHS Stop Smoking Services. It combines behavioural support, delivered in an individual setting. The main difference being that APLT uses laser therapy as opposed to pharmacotherapy support. Effectiveness of APLT is in line with all recommended therapies and has in addition potential to provide long term, economic and more importantly improved health outcomes.

### Results

For the purposes of this paper, Glasgow data is presented and compared with similar Scottish and UK. The APLT achieves self-reported quit rates of (51.91%) at one month, 20.85% at 6 months and 9.36% at 1 year (December 2009 to 2011). These rates compare favourably with ASH Scotland self reported quit rates of 38% at one month, 17% at 3 months and 7% at 12 months in 2009 and NHS services self reported abstinence rate of 50% - 60% at 1 month an abstinence rate of 15% at 1 year (Ferguson, Bauld et al. 2005). In addition, more detailed statistics can be presented like the number of quit attempts reported prior to using the APLT and the percentage of clients that reported having tried 2 or more cessation methods (i.e. patch, drugs) prior to quitting with the APLT Programme.

### Conclusions

In the past, claims by non pharmacological treatments have been viewed with suspicion, in many cases justifiably. The truth however is that many such as the APLT are highly reputable, reliable and effective. The difference being that, unlike adjunct cessation products produced by the pharmaceutical industry, alternative therapies are able to attract research funding or even to be included in research studies. In this way, the true benefits of these therapies are undervalued, underutilised and their potential contribution in efforts to increase smoking cessation rates remains poorly researched.

### Comments

Taking into account the data presented and the finding from a Rapid Review of NON NHS TREATMENTS FOR SMOKING CESSATION (McRobbie H, et al 2007) that commercial smoking cessation therapies may hold promise for the future. Further research and exploration into the use and integration of the APLT into existing cessation services is strongly advocated. References 1. ASH Scotland (2010), State of the Nation: measuring progress towards a tobacco free Scotland, ASH Scotland 2. McRobbie, H. et al (2007). Rapid Review of Non NHS Treatments for Smoking Cessation, National Institute for Health and Clinical Excellence (NICE) PDF 43885 3. Royal College of Physicians (2000). Nicotine Addiction in Britain. London, Royal College of Physicians cited in McRobbie, H. et al (2007) Rapid Review of Non NHS Treatments for Smoking Cessation, National Institute for Health and Clinical Excellence (NICE) PDF 43885 4. Ferguson, J., L. Bauld, et al. (2005). The English smoking treatment services: one-year outcomes. *Addiction*. 100 Suppl 2: 59-69. 5. NHS (2009) Smoking Cessation Service Statistics Scotland <http://www.scotpho.org.uk/nmsruntime/saveasdialog.asp?IID=8193&slD=5832> 6. NHS Smoking Cessation Service Statistics (Scotland) 1st January to 31st December 2010, <http://www.scotpho.org.uk/nmsruntime/saveasdialog.asp?IID=8193&slD=5832>

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## Smoking Cessation Services Without Hospital Wall

**LIN Hsiu-Lian, WANG Ju-Feng, LIU Jen-Tao, CHI Yu-Chiu**

### Introduction

Smoking cessation services provided by health professionals are one of the most effective strategies to quit smoking. Conventionally, smoking cessation services were provided in hospitals. In order to better meet citizens' demand and recruit more smokers to quit, it is necessary to promote smoking cessation services without hospital wall to communities and workplaces.

### Purpose/Methods

The objective of this study is to explore difference in smoking abstinence rates for smoking cessation groups offered in hospitals, communities and workplaces. Department of Health of Taipei City Government has launched hospital-based, community-based, workplace-based smoking cessation groups in 2009-2010. Length of the group session was 12 hours. Program effectiveness was evaluated by smoking abstinence rates at one year after the last sessions of the groups.

### Results

There were 40 hospital-based groups and 26 for both community and workplace-based groups. Number of smokers enrolled was 847, 345 and 317 for hospital, community, workplace groups respectively. Smoking abstinence rates at one year were 23.14%, 27.54%, 25.87%. The difference in smoking abstinence rates at one year for three types of groups were no significant difference in chi-square test; neither were the difference in abstinence rates at one year for hospital-based groups held during 2007~2008 and during 2009~2010.

### Conclusions

Community and workplace-based smoking cessation groups can be as effective as those provided in hospitals. Therefore, smoking cessation services can be extended beyond the hospital wall and promoted in communities and workplaces in order to meet citizens' demand.

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## The Evaluation of Smoking Cessation in Hospitalized smokers

**TSAI Ping-yun, HSU Hsin-wen, HUNG Ling-yu, CHU Shu-han, CHIN Ching-fen, CHEN Yu-shan, HONG Jin-jiun**

### Introduction

A period of hospitalization may be a good opportunity to enhance a smoker's motivation to quit. However, inpatient-based smoking cessation service is seldom provided in Taiwan although hospitals have been smoke free environment in Taiwan since 2009. This study aimed to assess whether reading standard self-help booklet during hospitalization and telephone counseling after discharge might improve the knowledge, motivation, and behavioral change of smoking cessation in hospitalized smokers.

### Purpose/Methods

We have launched smoking cessation service to inpatient smokers and their family since June 2011. The smokers was given a standard self-help booklet during hospital stay and referred to a trained nurse making proactive telephone counseling at 2 weeks, 4 weeks, and 12 weeks after discharge. Satisfaction of the service, knowledge, motivation, and behavioral change of smoking cessation were evaluated by questionnaires with five-point Likert scale.

### Results

Thirty-five hospitalized smokers were analyzed. The mean age and smoking year was 46.7 and 19.0 years, respectively. Eighty percent were referred from internal medicine. The response rate was 57%. Satisfaction of the service was high. For knowledge of tobacco harm, quit information, and motivation, 85% of respondents reported helpful or very helpful. Fourteen smokers (40%) moved forward their trans-theoretical stage after discharge. Ten smokers (28.6%) reduced their daily smoking about half a pack. The 12-weeks abstinence rate was 20%.

### Conclusions

The preliminary results showed that intervention for inpatient smokers may promote the motivation to quit and proactive telephone counseling after discharge provide a continued support for smoking cessation. We need to make more effort in provoking smokers' motivation to quit and do further evaluation.

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## Outcome evaluation from smoking cessation class and outpatient clinic: experience of a regional hospital in northern Taiwan

**WONG WEI-LING, CHENG YU-MEI, HUANG YI-NING, HSU CHIN-MEI, LIU CHEN AI-CHIN, CHEN MEI-JU**

### Introduction

Smoking cessation interventions have become an important element in recent public health programs in Taiwan. Our hospital provided smoking cessation class and outpatient service to help smokers quit smoking. The research aimed to examine the effects of smoking cessation class and outpatient service offered by a regional hospital in northern Taiwan.

### Purpose/Methods

Study subjects were recruited from smokers over age 18 who participated in the smoking cessation class and attended outpatient clinic in a regional hospital in northern Taiwan from January 2009 until December 2010. Among 650 people in the cessation clinic and 250 in the cessation class, SPSS 18.0 was used to draw a random sample of 130 individuals from each group.

### Results

In the clinical intervention group, cessation rate was significantly associated with age in the first month, daily consumption and nicotine dependence ( $p < 0.05$ ). Participants with more than 10 years of smoking history (83.8%) outnumbered those with 10 years and below (16.2%). Compared with those who never visited a cessation clinic, success rate was significantly higher among those attending clinic for 1 month, 3 months, 6 months ( $p < 0.001$ ) and 12 months ( $p < 0.01$ ) periods.

### Conclusions

Overall, the cessation rate among outpatients was higher than that of cessation class participants. The difference might be explained by nicotine replacement therapy (NRT) used in the clinical setting. In terms of clinical approach, medication and number of visits were both contributing factors. Our research showed a better outcome when smokers continued with NRT.

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## Session O3.5: Health promotion for hospital staff II

### A Simple Method to Improve Employees' Health

**CHANG Yuh-Lin, CHEN Yen-Pi, TANG Chang-Tze, CHEN Shih-Iuan, LIN Ko-Jen**

#### Introduction

Many sources indicate exercising regularly can mitigate chronic diseases and musculoskeletal problems. To many medical workers, exercising regularly and consistently is a difficult aim. According to statistics, Yuli Tzu Chi Hospital had 80% of employees who exercise less than three days a week; and 50% of the employees did not exercise more than 20 minutes each session.

To promote employee health and improve fitness, Yuli Tzu Chi Hospital has established a plan to help the staff exercise regularly and consistently.

#### Purpose/Methods

In August 2010, the hospital has adopted Hualien Tzu Chi Hospital's aerobic regimen. Starting from September 2010, the staff would do a 10 minute warm-up routine before work and a 20 minute aerobic and cardio exercises after work. Every year the participants would perform a fitness evaluation; other relevant data would be analyzed to see the correlation between exercise and body fitness.

#### Results

The hospital has 92 employees and 72 are participants in the aerobic program. There are 27.78 % of male participants and 72.22 % of female participants. Out of the 26 people who have participated in the regimen for more than 50 times, 76.92 % (20/26) of the people have improved their physical fitness. Out of the nine people who have participated in the regimen for more than 100 times, 88.89 % (8/9) of the people have improved their physical health.

#### Conclusions

According to the statistics the hospital has collected, promoting aerobics among employees has achieved significant improvement in their physical fitness. In addition, the more regimens an employee participates in, the better his fitness would be.

#### Comments

For clinical staff, doing exercise is somewhat challenging due to their busy schedule. But from this simple aerobic program, the results are conspicuous enough to motivate the staff. Although the number of people who exercise regularly can be furthered, the event has elevated the employees' anticipation and participation. The hospital hopes the medical staff can have "good health" through the habit of consistent physical activity.

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### Effects and Associated Factors of Weight Change among Staffs Participated in a Weight Control Program in a Health Promoting Hospital in Taiwan

**CHANG Hsiao-Ting, WANG Cheng-Chung, SHENG Yueh-Hsuan, WEI Ming-Yi, SHIH Ling-Na, KUO Chang-Feng, LIN Shoei-Loong**



### Introduction

Obesity is associated with increased risks of chronic conditions such as hypertension, ischemic heart disease, type 2 diabetes mellitus, stroke, dyslipidemia, several forms of cancer, degenerative joints diseases and etc. Compared with non-obese workers, obese workers have more absent days from work and increased rates of illness, injury, and disability claims.

### Purpose/Methods

To analyze the effects of a weight control program (including dietitian consultation, aerobic exercise teaching, video-assisted exercising, and calorie-marked food product convenience stores.) applied to healthcare workers in a health promoting hospital in Taiwan. Staffs had a body mass index  $\geq 20$  kg/m<sup>2</sup> were recruited. Information including the work status, age, gender, anthropometric measures, blood pressures, fasting blood glucose, liver biochemistries, and lipid profiles were recorded. Statistical analyses were done by SPSS 17.0 and the significant level was 0.05.

### Results

Among 347 participated subjects, the majority were women (69.2%), and the mean age was 41.5 $\pm$ 10.9 years. The subjects had significant weight, waist circumference, BMI, blood pressure and serum triglyceride decreases after the program (all  $P < 0.0001$ ). ICU nurses had more weight loss than the administrative personnel, ward nurses and physicians ( $P=0.047$ ,  $P=0.046$ , and  $P=0.049$ , respectively). Associated factors of weight loss were the height, weight and waist circumference of subjects before their participation in the weight control program ( $R^2=0.147$ ).

### Conclusions

Weight control program was effective for staffs working in the health promoting hospital and the pre-participated height, weight and waist circumference of the staffs were associated with the effect of weight control.

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## Factors associated with hospital staff's intent to leave: results from a national survey in Taiwan

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auh-Shin, OU Liang-Jong, TSAI Yi-Tsen,  
CHUANG Chi-Hsiang, CHEN Yen-Fang**

### Introduction

Staff burnout and turnover is a critical problem in Taiwan's hospitals. This study aims to examine the personal and organizational factors associated with staff's intent to leave the hospitals.

### Purpose/Methods

We did a nationwide survey on health and safety needs among hospital staff in Taiwan during May and August in 2011. All 66 health promoting hospitals (HPH) were invited to participate in the survey. A sample of 61 non-HPHs matched on accreditation level with the HPHs was randomly drawn and invited. The participation rates were 83.3% (55/66) and 81.8% (45/61), respectively. Self-administered anonymous questionnaire was distributed to all full-time employees in the 100 hospitals and 70,622 copies returned with a response rate of 74.3%. Intent to leave was assessed with a 5 point Likert scale. Level 4 or 5 were classified as "strong intent to leave". Demographic data, work-related conditions, self-rated health, and job satisfaction were included in the analysis.

### Results

Overall, 21.9% of hospital staff had strong intent to leave the hospital. Job satisfaction was strongly correlated with intent to leave. Nurses, followed by pharmacists, had stronger intent to leave than physicians and the other professions. In multivariate logistic regression analysis, young age, work-related stress, stress from leaders, stress from workload, lack of distributive justice, being a nurse or pharmacist, ever having needle stick injury, ever having work-related sick leave, and feeling depressed recently were associated with strong intent to leave, while feeling positive about personal development in the hospital, satisfaction with pay, higher sense of achievement, satisfaction about hospital support, and feeling honor of being a member of the hospital were associated with lower intent to leave.

### Conclusions

To improve staff's job satisfaction and reduce turnover, promoting a healthier workplace through comprehensive approach including adequate staffing, higher developmental support, positive organizational atmosphere, higher cohesion and higher occupational safety may be necessary and helpful. The HPH model endorses such approach and may support the hospital managers in dealing with this issue.

### Comments

Staff turnover and burnout is a central concern of hospital managers in Taiwan as well as in other countries. Analysis of this national survey provides evidences that the HPH initiative, with staff as one of its key stakeholders, can hopefully help the organization improve its organizational health and increase staff intent to stay.

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## Empowerment Awareness and Burnout of Hospital Employees: A Case Study

**SZU-CHIN Tong, SZU-HAI Lin, YEA-WEN Lin, PO-HAO Chiu, WEI-CHEN Lin, MENG-TING Tsou**

### Introduction

Hospitals are special work places with teams that are formed by many professional medical personnel. Hospital employees are responsible for looking after the public health. Hospital employees preserve health, but boast being healthier than others are. Little do they know that years of heavy workloads and stress cause burnout, as well as the primary cause of physical and psychological disease. Since 1990, Taiwan promotes workplace health promotion and continues to advance health promotion programs for hospitals employees since 2006.

### Purpose/Methods

This research discussed the relationship of health empowerment awareness and burnout of hospital employees. Structured questionnaires include empowerment awareness scale and burnout scale. Data were collected from 7 December to 23 December 2011. A total of 280 questionnaires were returned with a response rate of 46.67%.

### Results

Empowerment awareness was related to position ( $P < 0.05$ ). Burnout was related to age ( $P < 0.01$ ), number of children ( $P < 0.01$ ), marital status ( $P < 0.01$ ), and weekly work hours ( $P < 0.001$ ). Scheffe's results: burnout for personnel aged below 30 higher than 41 and above. Burnout for personnel with no children was higher than 1. Burnout for personnel with 51 work hours and more per week was higher than 41 to 50 and less than 40. Negative correlation was observed in empowerment awareness and burnout ( $p < 0.01$ ).

### Conclusions

Hospital employees with high empowerment awareness had low burnout. We found that the majority of employees had their own decision-making power for health and healthy behavior. They had the ability to make decisions to promote health, implement healthy lifestyle, and relieve burnout. Suggest that administrative units in hospitals invite employees of superintendents from each department, aged fewer than 30, unmarried, and work over 51 hours every week to participate in planning health promotional programs to relieve burnout and enhance health.

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## Session O3.6: Occupational safety & health risks for hospital staff

### Incorporating exposure assessment into HP and healthcare in research laboratory workers

**CHEN Chi-Hsien, WANG Li-Jie, WANG Lynn, GUO Yue-Leon**

### Introduction

Laboratory workers are exposed to various health hazards, including chemical/metal toxicants, allergens, biohazards, radiation, extreme temperature, and noise. It is impossible to evaluate the effects of laboratory environment on health without individualized assessment of occupational exposure. However, the information is limited regarding to the strategy and efficacy of combining exposure assessment with health examination and health promotion in laboratory workers.

### Purpose/Methods

We aimed to facilitate the health promoting activities and healthcare in research laboratory workers by exposure assessment. Annual health exams were provided for 978 laboratory workers of two research institutes in 2011. Pre-exam questionnaire was applied to collect information of personal history, symptoms in recent 6 months, and occupational exposures. Walkthrough studies were conducted for three workers with suspicious work-related health problems. Case management and consulting clinics in workplace were provided.

### Results

More than 50% of workers were involved in microbiology experiments, and about 20% in organic chemical synthesis. Most common reported symptoms are associated with allergies and stress. In addition, working in cold room was associated with palpitation sensation; working in noisy environment with tinnitus; exposure to organic dusts with wheezes. Using formaldehyde and paraformaldehyde increased the rate of respiratory allergic symptoms. Walkthrough studies identified 2 patients with work-related health problems, i.e. asthma and dermatitis.

### Conclusions

In this study, we found several benefits from incorporating exposure assessment to regular health examination in laboratory workers, namely, (1) reinforcing the knowledge and practice of occupational safety and health, (2) helping health providers understand working styles and potential exposures of the examinee, (3) enhancing the capability of identifying clustered health outcomes from specific hazards, and (4) providing relevant recommendations to the organization. Case managers play an important role in enhancing the follow-up clinic visits.

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## Radiation protection devices in interventional angiographic room

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### Introduction

The study of the placement of radiation protection devices in an angiographic room is essential in order to identify the most appropriate measures to protect health workers in compliance with International Commission on Radiological Protection guidelines to reduce the side effects by overexposure to X-ray.

### Purpose/Methods

To identify the distribution of barriers for the X rays in an angiographic room and increase the protection of workers and their correct placement on the basis of isodose curves and the dosimetric control. To check the attenuation of exposure. The attenuation coefficients and calculated doses have been reported by anthropomorphic phantom, dosimeters and ion chambers. Measurements were made at the gonads and eyes, simulating the positions of the players' team.

### Results

We have been detected without X rays barriers, mean values of 6.950 mSv/h at a distance of 0.5 meters, 1.797 mSv/h at 1 meters and 0.630 at 2 meters and in their presence 0.08 mSv/h at a distance of 0.5 meters, 0.07 mSv/h at 1 meters and 0.035 mSv/h at 2 meters. To quantify the doses described can be considered the Fukushima nuclear event that produced levels of radioactivity in the surrounding areas of 0.0017 mSv/h.

### Conclusions

The study has allowed optimizing the layout of the devices during exams performed in the operating room in function of the irradiation beam, the type of examination and the radiation protection of workers' team. We have shown that barriers break down diffuse radiation in our operating conditions, about 100 times. The analysis did not provide a specific dosimetric protocol in order to make the study easier to understand by all professionals involved without specific training in radiation protection.

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## Session O3.7: Financing models for HPH and enhancing public health by health promotion

### A Model of Enhancing Finance for HPH

**TASO Wei-Chien, CHEN Ho-Chin, HUANG Hui-Ting**

### Introduction

Taiwan Adventist Hospital engaged in the issue of health promotion for more than a decade. Recently, we are quite success in placing fine breeds of health promotion in our culture. There are many factors to contribute our progress, including good vision, excellent leaderships and strong financial supporting. Here we will emphasis on the importance of proper investment in the field of health promotion.

### Purpose/Methods

In order to construct a strong health promoting hospitals, we placed investment in HPH by a series of well planning strategies. This investment portfolio includes: 1. Setting up a team to promote the health promotion; 2. Improving a working place to health and friendly environment; 3. Placing health factors in the Balanced Scorecard; 4. Encouraging employer to exercise; 5. Participating international activities of health promotion; 6. Encouraging papers for health promotion; 7. Promoting a balanced, healthy diet; 8. Promoting health evangelism; 9. Changing healthy lifestyle; 10. Encouraging our social responsibility

### Results

Financial reform is the foundation of hospital change. Hospital managed budget to several parts like sociality service funds, mountain clinical service funds and employer welfare funds to fulfill the needs of HPH program. The investment portfolio for health promoted in Taiwan Adventist Hospital received many rewards, not just is the Model prize of HPH in Taiwan but also greatly enhance the value of our hospital's intangible assets.

### Conclusions

Taiwan Adventist Hospital is a non-profit organization and commits itself to health promotion. The feedbacks of HPH should not just be calculated by "Return on Investment Analysis". It takes time to show the benefit of being health promotion hospital. We believed we are in the right tract for continuing forever to manage.

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## Accident Prevention Project 2009 - 2015 in Finland

**PUOLIJOKI Hannu, HIETANIEMI Miia,  
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### Introduction

Accidents are a national health problem that concerns all age groups. Nearly one million accidents take place each year in Finland (population 5.3 million ) and cause the death of ca 3,000 people. On the grounds of the preliminary report on healthier traffic by Mattila & Roine (Liikenne terveeksi, 2008), a significantly wide project for prevention of accidents was launched during spring 2009. The purpose of the project is to support national well-being, health and safety programmes as well as development at local level.

### Purpose/Methods

The project approaches accident prevention from a communal point of view. The purpose is to create an operational model where in addition to health care also different municipal sectors and different regional organisations carry out accident preventative work. The project is carried out in co-operation with The Technical Research Centre of Finland (VTT), The National Institute for Health and Welfare (THL) and with two pilot regions, South Ostrobothnia and South Kymenlaakso. The young, traffic and intoxicants were selected as the focus area of South Ostrobothnia. Along the project, research and development work on promoting juvenile traffic safety and decreasing juvenile intoxication have been set in motion in the region. For South Kymenlaakso, prevention and good treatment of intoxication-related accidents were selected as the focus area. In the region, research is made about the occurrence of alcohol-related accidents and problematic alcohol consumption amongst accident patients at open welfare. Implementation of the interventions that were developed in the project is also under research in the region.

### Results

Wide-ranging objectives of the project during 15th May 2009-31st Dec 2015 are: 1) Developing and testing an efficient, community-related operational model in order to prevent accidents 2) Assuring efficient prevention of accidents 3) Treating accidents more efficiently 4) Controlling the consequences of accidents 5) Decreasing work load in health care and 6) Evolving the interadministrative co-operation between social, health and safety fields. Methods used will be 1) Identifying regional needs 2) Utilizing regional, functional conventions 3) Utilizing the existing information more efficiently in the regional safety work and in developing, targeting and evaluating the work 4) Unifying the accident registration conventions into a follow-up system 5) Networking and interadministrative co-operation and 6) Research and development work.

### Conclusions

The project is anticipated to produce the following results: decrease in accidents, decrease in alcohol-related risk behaviour, improvement in safety culture, and extensive and permanent co-operation with various actors.

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## Exploring the Unmet Medical Needs in Taiwan - A Preliminary Analysis

**WU Chih-Hsun, HSU Che-Wei, CHEN Chu-Chih**

### Introduction

Diminishing health disparity is one of the ultimate goals to build a healthy society. It is very important that every people can fulfill their medical needs while they needed. However, there were few studies with national representative data focusing on this problem. Thus, the current study aims to explore relative phenomena of unmet medical needs in Taiwan.

### Purpose/Methods

The national representative data used in this study were from the "2009 National Health Interview Survey(NHIS)" in Taiwan. The question: "Do you ever feel uncomfortable but did not go to the doctors in the past 6 month" was used to indicate unmet medical needs, demographics, and other health related variables were included in the analysis. Descriptive statistics were used to describe unmet medical needs, and logistic regressions were used to explore the differences on unmet needs among different covariates.

### Results

Results showed that 8.83% of people had unmet medical needs, and a significant age-group differences were found. For those elderly, who were female, living alone, and still working had higher odds as having unmet medical need. For those younger people, who were female, had higher education, reported poorer self rated health, having at least one chronic condition, and having some functional problems had higher odds as having unmet medical need.

### Conclusions

In general, the results of the study showed that although there was a small percentage of people having unmet medical needs in Taiwan, some disparity still existed. It is important for us to be aware that those who had poorer health conditions might have more unmet medical needs. Further studies are needed to understand more about this phenomena.

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## Nation-wide Supportive System for Weight Control via Phone Call Center

**LIU Tsan-Hon, LIN Ching-Yung, CHIEN Yi-wen, CHIOU Shu-Ti**

### Introduction

Obesity is associated with many diseases and metabolic abnormalities, with high morbidity and mortality. Out of the top 10 leading causes of death, eight of them are obesity-associated chronic diseases. The prevalence of overweight was increasing to 44% among Taiwanese adults. To promote healthy lifestyle and ideal body weight, there is a public policy of "Healthy Centenary, Healthy Taiwan" with a goal to reduce 600 tons (600,000 kg) of excessive body weight by the end of 2011 in Taiwan.

### Purpose/Methods

Bureau of Health Promotion set up a call center (0800-367-100) to help people resolving their problems while losing weight during June to December of 2011. The call center provides a 9am to 9pm, Monday to Sunday services with 5 special lines. Professionals with nutrition and exercise background were recruited to answer questions on line. Calls during off-line time were recorded and answered next day. Feedback calls were carried out every 2 weeks to follow subject's condition if they agreed.

### Results

A total of 1,431 telephone calls were recorded during June to October in 2011. Among them, 78.4% of calls were from the female and the mean age of subjects was 42 years old. More than half (53%) of the subjects were overweight or obese. Fifty-one percent of questions are about dietary control, 31% about exercise, 9% about their weight status. Among them, 216 subjects agreed to receive follow-up call and lost 239.1 kg of body weight in sum.

### Conclusions

Weight reduction is a nationwide activity in Taiwan. A country-wide network of call center service is an important supportive system to help people lose weight, which is better than internet for their real time feedback and interaction. It is an alternative way of knowledge and message transmission as well. The cost-effectiveness of call center needs to be assessed in the future. In sum, call center create a good supportive environment and help people lose weight wisely and effectively.

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## Medication safety in community - Intervention by different health education models

**YING-HUA shieh, HSIAO-WEN chan, WEN-LING Tsai**

### Introduction

1. To assess the participants' knowledge on medication safety by pre-intervention questionnaire and improvements in the knowledge via post-intervention questionnaire.; 2. To promote medication safety in Chung-Shun districts and Wan-Ho districts through collaborative efforts of experts.; 3. To compare the difference in the enhancement of participants' knowledge on medication safety between discussion model and lecture model.; 4. To provide references for future public policy making by comparing the cost and efficacy of the two education models .

### Purpose/Methods

Lecture model: Scheduled biweekly 2-hour lecture for 2 consecutive months were carried out in Wan-Ho districts. Participants may ask questions near the end of the lecture. Both education models promote the use of medication safety hotline and medication safety diary. Discussion model: Problem oriented discussion between lecturer and small group population Q&A regarding knowledge of taking medication. Weekly 1-hour session was carried out for 2 consecutive months in Chung-Shun districts.

### Results

Overall satisfaction rating of Chung-Shun districts: 89.4 (out of 100); Overall satisfaction rating of Wan-Ho districts: 86.1 (out of 100)

### Conclusions

Compared with the districts that utilizes the lecture model, the districts where discussion type education model was employed resulted in a better performance in terms of participants' knowledge of medication safety (evidenced by the pre and post intervention questionnaires), learning attitude, and behavior. Discussion model should be considered when promoting community health education in the future.

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## Session O3.8: Creating environment-friendly hospitals and health services II

### The Degree of Cognition of Hospital Personnel towards Green Hospital: A Case Study

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#### Introduction

Since 1988, the World Health Organization (WHO) began promoting the healthy hospitals project. The primary purpose is to develop a healthier hospital. A green hospital refers to the creation of a hospital with the concepts of ecology, environmental protection, and health. Hospitals that promote green project must become a critical strategy for hospitals promoting health. This study is based on the core values of healthy hospitals as proposed by the WHO European division and green building evaluation criteria to assess the degree of cognition towards and attitudes about green hospitals by hospital personnel. Our results will be used as a reference for the implementation of greener hospitals to promote healthier personnel in the future.

#### Purpose/Methods

Structured questionnaires were used to collect data. Our research subjects were personnel from a specific hospital. A total of 278 questionnaires were received with a response rate of 46.3%. The data were collected from 7 December to 23 December 2011. We adopted for the validation of questionnaires content validity and the Cronbach's alpha reliability values of green hospital cognition scale was 0.946.

#### Results

Degree of cognition of green criteria: up to 85% of hospital personnel know the meanings of 7 green criteria. Only 27.29% green criterion are used in hospitals. Up to 82% of hospital personnel agree with the promotion of green hospitals. The results with the most benefit that hospital personnel believe that hospitals that promote for greener technologies are increasing the efficiency of energy utilization, reducing the consumption of earth resources (234 people, 84.2%), enhancing hospital image (194 people, 69.8%), and promoting the health of patients and personnel (157 people, 56.5%). The results with least benefits that hospital personnel believe that hospitals promote for greener hospitals are insufficient space in hospitals (159 people 57.2%), interdepartment integration, difficulties in communicating (136 people, 48.9%), and insufficient budget (131 people, 47.1%). The standardized score of the total scale of green hospital cognition was 78.03, the green building scale index was 82.20, the intentional definition was 81.80, and the acceptance attitude was 74.67. The degree of cognition of personnel on green hospitals was average. The results of correlation analysis of basic information and degree of cognition for

green hospitals of personnel indicated: age ( $p < 0.01$ ), marital status ( $p < 0.05$ ), job employment nature ( $p < 0.01$ ), service seniority ( $p < 0.01$ ), average work hours per week ( $p < 0.05$ ), and degree of cognition on green hospitals reached significance level.

#### Conclusions

Hospital personnel approve of the promotion of green hospitals and have good cognition towards environmental green criteria. Most personnel believe that the promotion of greener hospitals will enhance the efficiency of energy utilization and reduce the consumption of the Earth's resources. In addition, we discovered that the longer married personnel have served in hospitals, the higher their cognition will be towards greener hospitals. This indicates that personnel hope to improve the working environment of hospitals to further promote healthier hospital environments and promote healthier personnel.

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### Building Sustainability into Ophthalmology: Eye Care for Carbon

**DAS Aditi, CASSELS-BROWN Andrew**

#### Introduction

Climate change is the greatest health threat of the 21st century. Globally, climate change impacts upon epidemiology of eye disease and we are now observing a rising incidence of eye conditions including cataracts. Equally, within the UK's National Health Services, Eye services contribute enormously to carbon emissions as a result of unnecessary wastage of resources. We present results of a regional and national study into sustainable eye care, in collaboration with local eye care professionals, managers and public health specialists.

#### Purpose/Methods

The purpose was to develop long term sustainable eye health services and promote Leeds Teaching Hospital NHS as a carbon friendly trust. Qualitative and quantitative methods were utilised to identify carbon saving initiatives within ophthalmology. Regional eye care and hospital staff were invited to attend various sustainability workshops. Questionnaires about carbon saving opportunities were sent to all Regional Ophthalmologists. Departmental audits (including an audit of waste during cataract surgery) were undertaken alongside a literature search, to collect baseline information.

#### Results

Thirty-two hospital staff attended the sustainability workshop to help identify strategies to reduce carbon within various eye care pathways. Written questionnaires were received from twenty ophthalmologists, demonstrating an interest for the Ophthalmology department and hospital to take a stance in reducing carbon. Potential local opportunities for waste reduc-





tion included schemes to recycle surgical equipment, e-referrals and community care programmes. Nationally, our survey results identified significant opportunities to reduce carbon emissions in Ophthalmology through shared care and referral refinement schemes.

### Conclusions

Sustainability is an important issue and needs to be an integral part of all local, national and international health services. Within Ophthalmology, our study has identified several opportunities for building sustainable eye services both locally and nationally. Leeds Teaching Hospital NHS Trust aims to be a pioneer in the Sustainable Development Movement. Our staff have adopted carbon saving measures and have engaged with key stakeholders to ensure that our eye care services are financially and environmentally sound.

### Comments

We present the initial results of a long term project into Sustainable Eye Care. Within our Ophthalmology unit and hospital, we hope to achieve carbon reduction through four main approaches; by preventing illness, ensuring lean service delivery, empowering patients and preferentially using low carbon technology. We have adopted a mixed qualitative and quantitative approach to build a concrete evidence-base on how much waste occurs within ophthalmology services both locally and nationally.

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## The first low-carbon emission baby - a sample study from the first Low-Carbon Footprint verified Postpartum Nursing Home in Taiwan

**HUANG Hui-Ting, HSU Tzu-Chuan, WANG Li-Lin**

### Introduction

Carbon Footprint is a measure of the amount of carbon dioxide emission. Since global climate change and the increasing importance of green lifestyles, our hospital, with a mission to safeguard public health and be exemplary in providing green services, seeks to be the benchmark for the industry by calculating the amount of greenhouse gas emission produced daily by a mother and her new born child at our Postpartum Nursing Home - the first Postpartum Nursing Home passing carbon emission verification.

### Purpose/Methods

The period of study is from 1 January 2010 to 31 December 2010, with a sample of 322 mothers and 355 new born babies at our Postpartum Nursing Home. The method is the same with

National Health Service England Carbon Emissions Carbon Footprinting Report for service provision which calculates the energy consumption as well as the CO<sub>2</sub> and other greenhouse gas emissions. Data for both direct and indirect greenhouse gas emission is aggregated and measured by tonnes of CO<sub>2</sub>eq.

### Results

The average greenhouse gas emission is 39.95 kgCO<sub>2</sub>e/person/day with the following findings: 1) The components include a typical operation/accommodation, a typical nursing care and a typical meal. The carbon emission produced by the operation/accommodation is the largest (34.03 kgCO<sub>2</sub>e/person/day) and accounts for 85.17% of total emission. 2) The carbon emission produced by a typical meal is 3.11 kgCO<sub>2</sub>e/person/day or 7.80% of total emission. 3) The second largest component is the nursing care (2.81 kgCO<sub>2</sub>e/person/day) which accounts for 7.04% of total emission.

### Conclusions

The greatest source of carbon emission is from operation/accommodation component including direct energy consumption and waste removal/management. In scope of this, the following measures are undertaken to reduce our carbon emission - using energy-efficient lighting products, improving cooling tower efficiency and adding a heat pump system. It should also be noted that a typical meal in our Postpartum Nursing Home is a high-fibre vegetarian meal (free of refined oil, refined sugar, milk or egg) and encourages mother to breastfeed.

### Comments

It is recommended that the results in this study to be used as a reference for future study in lowering greenhouse gas emission, and therefore introduces a green nursing care concept to increase staff and consumer's awareness in low carbon emission nursing care service.

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## PCHS (Probiotic Hygiene Cleaning System) Protocol: reduction of Hospital environmental impact with a new and innovative technology for cleaning in the Rehabilitation Hospital "Nuovo S.Giorgio" of FUH

**ROVIGATTI M., MANZALINI M.C., ANTONIOLI P.M., ALVONI L., DALPOZZO V., MAZZACANE S., BALBONI P.G.,**

## VANDINI A., FRABETTI A., CARLINI E., GARDINI A., RINALDI G.

### Introduction

Striving for environmental sustainability calls for a revision of policies, strategies and actions to follow in the main areas of contact between environmental, social and economic development. The objectives of this approach include minimization of natural resources consumption, of waste production (enhancing reuse and recycling), of air and water pollution. For Ferrara University Hospital (FUH) it means trying to manage the health facilities in an environmentally friendly perspective to minimize the impacts of activities on health and therefore health.

### Purpose/Methods

Implementing a new system of environmental cleanup, which combines efficacy, safety and environmental protection at "Nuovo S.Giorgio" Hospital: 90 beds, about 1.300 discharged patients and 7.700 outpatients per year; 200 operators and workers of external partners. The products used are based on probiotic, not pathogenic bacteria, that colonize the environment, competing with other potentially pathogenic bacteria, responsible for the nosocomial infections. The aims are: -create hygienically safe context -reduce exposure to chemicals of patients, caregiver and staff -reduce environmental impact.

### Results

For the first time, PCHS Trial was carried through Ferrara University Hospital between 2010 to 2011, with proven results by more than 12.000 environmental samplings with a reduction of 70-80% of pathogenic microorganisms. Given the hygienic effectiveness, the systematic application of these products was initiated in November 2011 at the "Nuovo S.Giorgio", also to measure environmental performance. First results on reduction of impacts will be available from March 2012 (disinfectant liters, water liters, waste packaging plastic Kg, energy consumption TEP).

### Conclusions

For environmental management, the hospital ethical commitment can be realized also with the introduction of an innovative cleaning system able to pull down the pathogenic microorganisms and to reduce the hospital's environmental impact. It develops within the Project "A LESSER IMPACT", started from 2007; it's part of Company Policy, integrated with Regional Program for environment; it promotes safety and risk management; it's a fundamental commitment for HPH Hospital Network on social marketing and promotion of virtuous behavior.

### Comments

For FUH sustainable development means managing processes and structures oriented to continuous improvement in environmental performance, application of environmental criteria in the design of new facilities / activities and the acquisition of goods and services, social communication and promotion of virtuous behavior.

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## Employee's dietary choices and attitudes toward vegetarian diet in hospitals that promote and serve complete vegetarian diet

### CHIU Tina Hsueh Ting, LIN Chin Lon

### Introduction

Vegetarian diet is one of the most effective ways for improving health and mitigating climate change. Previous analysis had shown that a hospital serving complete vegetarian diet was able to reduce 2 million kilograms of CO2 emission in a year. We conducted an online survey among employees in six Tzu Chi hospitals in Taiwan, to learn about their dining habits and attitudes toward vegetarian diet.

### Purpose/Methods

Hospital employees were invited through email to participate in an anonymous survey, which included multiple choice questions on frequency of consuming vegetarian diet, type of vegetarian diet chosen, and reasons for choosing or not choosing to be vegetarian. Employees were also invited to write down suggestions and thoughts about vegetarian diet.

### Results

Among the 30% employees who responded, 20% were vegetarians and 80% omnivores. 89% and 50% of omnivores consumed at least one vegetarian meal per day on work days and on holidays respectively. The top reasons for choosing vegetarian diet were environmental, health, and animal welfare. Among omnivores, 33% never thought of becoming vegetarian, 52% were in contemplation, 11% were in preparation. This presentation will share more detail analysis of employee's responses, and hospitals' strategies to improve diet at workplace.

### Conclusions

In workplaces where vegetarian diet is an established culture, employees are more likely to adapt plant based diet. The most practical strategy to make plant based diets popular is to make them palatable, economical and healthful. Hospital's investment in healthy diet may improve health for patients, employees and the environment. Healthcare professionals' adaptation of plant based diet could further serve to inspire patients and communities to move toward a healthier and lower carbon footprint diet.

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## Session O3.9: Workshop "Health literacy"

### Strengthening health literacy in Health Promoting Hospitals

**PELIKAN Jürgen M.**

Health literacy was introduced into health promotion as one of the social determinants of health which can be measured as an intermediate health outcome and directly influenced by health promotion interventions. It already had one of its origins in healthcare (especially in the United States). In the current situation where a contribution of healthcare institutions to Public Health is critically discussed, health literacy might be conceptualized as contributing to the public health impact of healthcare, especially of Health Promoting hospitals. For implementing health literacy in (Health Promoting) hospitals, at least 3 quite different kinds of strategies can be followed: \*more and better health education for patients; \*More and readability and navigability of healthcare institutions; \*Improved communication between health professionals and patients. The workshop will bring together health literacy concepts and examples from different healthcare systems.

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## Session O3.10: Symposium on education

### Education on Clinical Health Promotion

**BEIER-HOLGERSEN Randi**

A continuously education of health care professionals and patients on clinical health promotion is of outmost importance for achieving improved health gain. In this symposium we will be looking into examples of education programmes, courses and studies - all focused on improving health promotion competencies of the staff, managers, students and others. Aside from the presentations about concrete initiatives and examples, we will conclude with a discussion among the participants and speakers.

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### Masters Degree in Health Promotion. What elements should be taken into consideration in a Masters degree?

**BEIER-HOLGERSEN Randi**

#### Introduction

The influence of health promotion on the patient pathways is well known. However, still health promotion in many hospitals and other health cares is not always taken seriously. The main problem of implementing health promotion is to reach the hospital professionals. One way of doing this is to ensure they feel comfortable about their own knowledge and about using this knowledge.

#### Purpose/Methods

The International Network of Health Promoting Hospitals and Health Services has decided that one way to implement knowledge and promote the use of it, is to develop a Masters degree in Clinical Health Promotion. The purpose of this study is to raise a discussion on how the curriculum of the Master should be assembled and what it should encompass.

#### Results

The Master is currently under development in an international collaboration and a short presentation of how the International Network of HPH considers an educational curriculum will be presented. The Masters degree will be offered globally and thus the many different cultures addressed needs to be taken into consideration The pedagogical principles will be "how do adults learn" combined with "community-based education".

#### Conclusions

The author is looking for inspiration and knowledge to further develop the curriculum by discussing the content of a Masters degree in Health Promotion during this conference.

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## Engage in the Process of Change

**BERN JENSEN Thor**

#### Introduction

As a health care professional, you may need to support your patients in their process of changing lifestyle and health behaviour. When engaging upon this, you may sometimes wonder about the patient's compliance or reluctance on doing what seems so obviously necessary.

### Purpose/Methods

An operationalisation of three easy-to-use tools for the engagement of health care professionals has been developed: - The Line provides an understanding of the patients level of confidence in succeeding a change of lifestyle or health behaviour.; - The Box offers the patients the possibility to reflect on their ambivalence towards the change of lifestyle or behaviour.; - The Circle illustrates the different stages a person will go through when undergoing the process of change.

### Results

Practice has shown (Engage in the Process of Change - Facts and Methods (textbook in press)) that the three tools are useful in different settings such as surgical settings, the setting of a cardiologist and that of audiologists. Further to this, examples are given on circumstances needed to be taken into consideration when dealing with special patient groups, including; pregnant women, children and their parents, patients at the Emergency Room, elderly patients, and patients with a mental diagnosis.

### Conclusions

For all health care professionals, an engagement in their patients' process of change is a relevant approach, which will enable the health care professionals to better understand, support and empower their patients. The approach is both easy to learn and implement in practice.

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## Evidence-based patient education programme for alcohol abusers in acute fracture surgery

**PEDERSEN Bolette, OPPEDAL Kristian, EGUND Lisa, WEBER Julie, TØNNESEN Hanne**

### Introduction

A new Scandinavian patient education programme is developed and based on the successful and well-established gold standard programme for smoking cessation. Further, a qualitative study was conducted to clarify patient opinions about this programme. The patient education programme is currently being evaluated in a large multi-centre RCT for patients with ankle fracture and hazardous alcohol intake.

### Purpose/Methods

The patient education programme consists of five meetings over 6 weeks; each with an individual education topic. The goal is alcohol abstinence in the perioperative period. 1st: Identification; Ambivalence; pros and cons; Level of motivation. 2nd: Dependence; Withdrawal symptoms. 3rd: Relapse. 4th: Benefits

by short and long term alcohol cessation. 5th: Alcohol cessation or non-hazardous drinking after the intervention. All meetings: Timeline follow-back, withdrawal score and prophylaxis, alcohol breath test + controlled disulfiram, vitamins, blood and urine tests.

### Results

Patient inclusion for the randomised trial is ongoing since December 2009, and a number of patients have therefore already completed the education programme. The experiences so far indicate that the patient education programme seems effective with regard to alcohol cessation following surgery and is well received by the patients in the intervention group. Preliminary results are presented at the symposium.

### Conclusions

The evidence-based patient education programme may be followed by reduction in both alcohol intake and development of complications among surgical patients. Consequently, the patient education programme should be tested in other patient groups and implemented in clinical practice.

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## Medical PhD Supervisors: Needs and requests for a supervision course

**RAFFING Rie, JENSEN Thor Bern, TØNNESEN Hanne**

### Introduction

The quality of supervision is an important predictor for a successful PhD project. 95% of PhD students of health sciences in Denmark found that good supervision was important for completion of the PhD education. Interestingly 54% had experienced weak or insufficient supervision. This has led the Research Education Committee at the University of Copenhagen to recommend the supervisors to develop their supervision competences. The question is now, what should this competency development consist of?

### Purpose/Methods

To explore the medical PhD supervisors' self reported needs of and requests to a course in supervision.

### Results

The participants included 20 PhD supervisors, 10 women and 10 men, aging from 37 to 66. Nine had educated 3 or more PhD students and 11 had educated 2 or less. Semi-structured interviews were employed to obtain data. The interview guide contained three research topics; the supervisors' supervision history, experience with supervising others, and needs and wishes of a teaching and training course. Framework was the analytic approach applied to the data.



**Conclusions**

There was a general interest in the course though some supervisors found it difficult to express, what they needed. The interviews revealed several themes for the content of a course; 1) Formal demands from the University, 2) Responsibility of the supervisor, 3) Handling general problems, 4) Leadership, 5) Types of students, 6) Professional skills, 7) Collegial group supervision. In addition some of the supervisors argued that due to their extensive supervision experience, they would not need to join a course.

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## Session O4.1: Developing age-friendly services

### Ageing Friendly Hospital

**CHEN Ho-Chen, SHEU Yu-Lin, HUANG Hui-Ting**

#### Introduction

According to the Taiwan's National investigation, elder population hits 2.51 million, about 10.83% of the total population in 2011. Ageing population result in increasing health care needs as the prevalence of chronic disease and disability increase with age. Ageing disparities in health and health care have been well documented all over the world. In order to demise this inconvenient to elder population, hospitals have to make some change to fulfill this purpose. Taiwan Adventist Hospital has now transformed itself into a geriatric friendly facility to provide better service for ageing population.

#### Purpose/Methods

To transform hospital to geriatric friendly facility, we made these: 1. Establish multidiscipline "Ageing Integrated Caring Team"; 2. Establish "Ageing Integrated Clinic"; 3. Establish "Ageing Friendly Counter" and label ageing patients with "SHARE" stickers; 4. Improved the environment by coloring the labeled, safety protected net in stairs, mobile service helper, magnifying glass and auxiliary hearing equipment, etc.; 5. Created a dementia integrated care model: a. Taste of Nature Vegetarian Restaurant, b. NEWSTART Exercise Center, c. Chapel service, d. Expressing Art Therapeutic Center

#### Results

Taiwan Adventist hospital followed the policy "Active Aging" of WHO and participated the activity of "Ageing Friendly Health Hospital" by Taiwan National Health Bureau. TAH received the honor of Ageing Friendly Health Hospital accreditation in 2011.

#### Conclusions

To provide better service to increasing elder people, hospital should make efforts to geriatric friendly environment to reduce the inconvenience. "Aging in Place" is the trend of world. We need to focus on the health and happiness of the ageing population and decrease the inequality of healthcare. Many ageing patients appreciated our efforts and recognized the important of health promoting concepts.

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## Start from the Heart/Love Building an Age-Friendly Hospital

**CHERN Huey-Jin, LEE Yow-Shan, YANG Jui-Neng, SU Yi-Lin, CHANG Chih-Chieh, TSOU Yung-Ping, FU Mei-Chiung, WU Che-Chi, CHIEN Chih-Cheng, LIN Been-Shi, CHEN Kuo-Hua, LI Ming-Jeng, LIU Yu-Ning**

#### Introduction

According to the Council for Economic Planning and Development (2008) comparison of national data shows the speed of aging. It is estimated that the proportion of the elderly is expected to grow from 7% of 1993 to 14% in 2017. Only just 24 years, the pace of development of its elderly population can be said is the top of the world few. Therefore, it is imperative to build the elderly environment and services-friendly in this day and age.

#### Purpose/Methods

Purpose: 1. To enhance colleagues with consensus on service; 2. To enhance the satisfaction of elderly after services. Method: Through several conferences of senior-friendly Initiative Committee that is a multi-disciplinary team to develop and promote age-friendly policies.

#### Results

To use (heart/ love) as a friendly symbol in order to link up comprehensive services for the elderly. 1. To print the heart symbol on the upper right corner to all kinds of forms. To remind to medical personnel to be changed with the elders speak Taiwanese or Mandarin, speak slower and louder, fall prevention measures. 2. To equip with "Angel" brand, so as to connect works with relevant departments. 3. Creating services of "love seats" and "love buses".

#### Conclusions

There are big benefits between people and hospital when the policies of Age-friendly are promoted. To hospitals, it is a good opportunity to deal with all medical procedures, services, and environmental issues. This way could avoid a large number of elderly people come to our hospital then make arguments in the future. To people, who will feel the hospital is no longer a heartless place. On the contrary, people will feel the hospital is a nice and warm place.

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## Applying WHO Age-Friendly Primary Health Care Toolkits in Primary Care Center in Sub-urban area

**HSIEH Jyh-Gang, WANG Ying-Wei**

### Introduction

The World Health Organization (WHO) has recognized the critical role of primary health care (PHC) centers in caring of age people. With the rapidly increasing number of age population in the community, the services are more diverse, complex and challenging for PHC centers. WHO had developed Age-friendly PHC toolkits as the guideline for practicing elderly health care in the primary care setting.

### Purpose/Methods

We started a pilot project based on WHO age-friendly primary health care toolkits at a sub-urban community in Eastern Taiwan. The community composed of 20% residents aged above 65 years old. The project included programs of training for staffs and volunteers, screening for every elderly visiting the health care center for the four geriatrics giants-memory loss, urinary incontinence, depression and falls, and improving the elderly friendly physical environment.

### Results

There are five volunteers groups integrated into the health services system. The screening for "geriatrics giants" in primary care center showed that the incidences of urinary incontinence and depression are 32.6% and 13% respectively. Experience of falls in recent year is 26.9%. Falls histories are highly relevant to experiences of urinary incontinence ( $p < 0.05$ ) and depressive moods ( $p < 0.05$ ). Physical environment had been adapted to the principles of universal design.

### Conclusions

The WHO age-friendly primary health care toolkits are easily to use in the primary care setting. The screening tools can be completed by trained volunteers, and the health care team can manage patients' problems depending on the abnormal screening results. This study showed a high prevalence of urinary incontinence and fall in primary care center in sub-urban area.

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## Follow up of Taiwan medical center Integrated care and Health promotion index

**YING-HUA shieh, HSIAO-WEN chan, SHIOU-DAR Su**

### Introduction

The prevalence of multiple chronic diseases will increase year by year. Preventive care and health promotion are much more important. The elderly population accounts for medical expenses of the national health insurance expenses by 30%. In order to solve problem, the Department of Health launched integrated health plans to encourage a variety of chronic care hospital patients. To provide this multi disciplinary medical team, integrated care hospitals object to the list of first quarter the total number of 8,535 patients.

### Purpose/Methods

The OPD is duty on every Monday to Friday one time per day. Consider the patient's condition are complexity and need to previous assessment by case controller. Therefore we limit the maxima 25 patients/OPD. To Diagnosis and care patient by the family physician, the geriatric physicians, nephrologists, endocrinologist and general physicians in the same place together. In health promotion, our patient-centered care for diverse groups, such as increasing drug safety, preventive health care and health education activities.

### Results

After prevention action, object hospital care medical costs per person per month lower than last 6 months object of care, hospital medical costs per person per month decreased by 31%. The average monthly hospital visits to the doctor is fell 32.7% average.

### Conclusions

The integrated care and health promotion plan can definitely solve the medical resources utilization problem. The average monthly hospital care drugs target the number of items compared to an average decrease of 2.92 items. Hospital emergency care target rate last 6 months compared to an average monthly decrease of 33.7%.

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## Never too Late to Exercise

**CHANG Yuh-Lin, CHEN Yen-Pi, TANG Chang-Tze, CHEN Shih-Iuan, LIN Ko-Jcn**

### Introduction

For a senior, doing exercise regularly is not an easy task. According to 2010 Tzu Chi Yuli Hospital's inpatient statistics, osteoarthritis and related diseases ranked number one in the top 10 diseases among adults aged over 65. Hence, how to keep a senior's joints flexible and avoid the increase of joint degeneration from inadequate sports and injuries becomes a crucial topic.

### Purpose/Methods

Yuli Tzu Chi Hospital is a community hospital with 46 beds; so medical staff resource is limited in promoting health issues. Nevertheless, the hospital has designed a program combining community resources in promoting seniors to exercise regularly. The hospital has hired some training coaches to choreograph an aerobic regimen and train the community volunteers to help in leading exercise at 5:30 every morning.

### Results

From March 2011 to November 2011, there were seven groups and over 127 seniors exercised daily and underwent follow-ups. The participants are 10% male and 90% female; the average age was 73.8. The hospital evaluated participants' physical condition before and after the program, and found that regular exercises can improve the seniors' strength in the lower torsos for 42.3%. Besides promoting physical health, this program also improves the seniors' interaction with others; and that was a desirable outcome everyone values.

### Conclusions

Although seniors participating in this program did not show major physical improvement besides lower torso strength, the program can still maintain the seniors' joints agility. Through the warm-up exercises prior the aerobics, sports injuries and joints degeneration can be minimized or even avoided.

### Comments

The aerobic program and competition was to allow seniors to exercise, to interact and to view aerobic tournament as an exercising goal. One of the teams' average age was as 81.2, so keeping a consistent exercise has no correlation to age. As long as the seniors establish a goal, consistent exercise habit will be part of the their lives.

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## Session O4.2: Developing pain-free and safe health services

### Gender and Pain: analysis of two different perceptions

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### CARILNI Ermes, GARDINI Andrea, RINALDI Gabriele

### Introduction

Differences between men and women regarding pain prevalence, prevalence of seeking medical treatment due to pain conditions, as well as pain behavior and response to treatments have long been studied in literature. It has been shown that women perceive more pain than men. Different causes can be mentioned: biological variables (gonadal hormones, genetics, pain circuitry pathways and CNS variation) and psychosocial variables (anxiety, depression, culture, sex role expectancies, language, type of communication, pain related appraisal).

### Purpose/Methods

Aim: to monitor pain perception in hospitalized people and improve the therapeutic responses, with a particular attention to gender differences. The data result from an integration of many epidemiologic researches "one-day prevalence studies", made through years in the teaching hospital in Ferrara. Pain perception was analyzed using NRS, divided in four pain score ranges (no pain: 0, slight: 1-3; moderate: 4-7; severe: 8-10). The findings have been investigated by gender for three areas: surgery, general medicine and oncology.

### Results

The sample was made of 617 people: 340 women (55.1%) and 277 men (44.9%). The 24.1% of the sample perceived "no pain". In this group, the 53.7% were women, the 46.3% were men. The 28.8% of the sample said "slight pain": 52.8% women, 47.2% men. The 32.6% said: "moderate pain": 51.2% women, 48.8% men. The 14.4% suffered from "intense pain": 70.8% women, 29.2% men. Women have significantly higher levels of pain than men ( $p < 0.002$ ), particularly if old-aged.

### Conclusions

Females have the 50% more possibility to perceive pain if compared to males (O.R. 1,5). Women perceive intense pain significantly more than men both in surgical and in medical areas. The application of studies about gender in the company policies, in terms of information and education about pain, both for patients and for the sanitary staff, is a guarantee for a high level of sanitary care. It is an important aspect in terms of promotion of health and wellbeing.

### Comments

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## Pain assessment: how to improve health care quality through staff empowerment.

**ZORATTI Raffaele, FAVARETTI Carlo**

### Introduction

Quality measurement in health care is complex and in a constant state of evolution: recent changes in health care promotion standards are driving increased attention to assess patients' needs and to improve the quality of healthcare, both inside and between healthcare institutions. Evaluation of patients' satisfaction with care, especially pain management, is considered an indicator of quality of care, and this can be achieved through patient and staff empowerment procedures.

### Purpose/Methods

Literature on pain management is extensive, but most studies deal with specific conditions while fewer studies deal with inpatients prevalence measures, when the prevalence of patients suffering pain while in hospital is still high. The study's aim is to investigate the prevalence of pain and pain assessment among inpatients in the "Santa Maria della Misericordia" University Hospital in Udine, Italy, and how this tool can be improved to ameliorate our patient's care through staff empowerment.

### Results

Our Hospital established in 2005 a Committee for Pain Management with the purpose to set up protocols and guidelines to implement pain assessment and pain management. Study target was to get an accurate documentation of pain assessment within 24 hours from patient's hospital admission. The prevalence of pain assessment documentation in a sample of random clinical records went from 60% in 2009 to 70% in 2010, to 82% in 2011, with a net increase of 20% in two years.

### Conclusions

This study is a baseline measure of pain assessment in our Hospital and could be used in quality improvement work plans. Efforts must be made to implement the quality goal of pain management, so that all staff will become familiar with guidelines, procedures and outcomes. It is necessary a strong collaboration among clinicians, nurses, healthcare services, researchers, and policymakers in order to achieve a long process of continuous improvement in patient health care and promotion.

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## Person-centered approach in health promotion

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### Introduction

The national and regional sanitary policy in Italy underlines the importance of the person-centered healthcare. Actions against pain and suffering, two of the most important aspects in healthcare, represent an ethical matter as well as an example for a good clinical practice, updated to the modern scientific knowledges. The members of "Pain-free hospital and land Committee", in Ferrara University Hospital, act to maintain and develop a network of services for patients' health care and their needs.

### Purpose/Methods

Aim: to analyze what suffering people need and their help requests; to personalize health care and health promotion programs, both for patients and for caregivers, in hospital and at patient's home. Results are from two epidemiologic researches, which data were aggregated, made as one-day prevalence surveys in Ferrara hospital. They allowed us to acquire, directly from citizens, evaluation elements on perceived suffering and relief needs, useful to improve the implementation path of the "Pain-free Hospital and Land" project.

### Results

Hospitalized people, in order to obtain relief from suffering, ask: "presence of loved people" (37.7%), "to feel less pain" (32.4%), "to not to be a burden to family" (32.1%), "more self-sufficiency" (29.6%), "to be reassured" (28.8%), "precise information on care" (27.7%), "psychological help" (16.2%), "more comfortable place for care" (15.6%), "health assistance at home" (15.6%), "economic help for therapies" (15.1%), "religious and spiritual support" (14.2%) and "to give a sense to my suffering" (12.6%), "other" (6.7%).

### Conclusions

Pain and suffering perceived by hospitalized people are an important sanitary matter. The questionnaire reached all groups of people, independently from gender, religion, culture and language. The high level of interest and the personalization project, proposed by the "Pain-free Hospital and Land Committee" are important instruments to improve the assistance to hospitalized people and they can guarantee a dedicated treatment scheme to consent suffering relief.

## Comments

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**"Don't wash your hands of the matter!" ("Non lavartene le mani!")**

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## Introduction

Patient's safety, linked to health-care facilities, is a topic that worries in increasing way the Sanitary Systems all over the world. The healthcare-associated infections (HAIs) involve high costs for patient, family, health-system and can cause death. Such consequences can be prevented with the simple action of hand hygiene in the "5 fundamental moments" indicated by WHO, performed at point of care. So, Ferrara University Hospital started its local Campaign "Don't wash your hands of the matter!" from May 9, 2006.

## Purpose/Methods

Reduce the HAIs prevalence by 20% in one year (9,2% in 2011) with multidimensional and multimodal strategy involving health workers, patients, caregivers and visitors, increasing hand hygiene compliance to 65%. Current observation in 22 care-units. Key elements of success are: organizational changes, blended training, reimanders and local testimonials, -evidence-based best practices, observations on three main Areas of intervention (hand hygiene and glove use, hygienic working environment and equipment, quality of care), annual consumption monitoring gel for rubbing alcohol (indirect indicator).

## Results

Currently, from 2009 to 2013, we are implementing in scale-up the Campaign in all care-units. Reached results (2009-2010): Observers involved (WHO standard): n.5; Hours of observation: 103; Health workers observed: n.419; Compliance observed in 14 care-units: average 52,75% (Range 39-79,7); Medicines: 52%, Surgery: 50,12%, Obstetrics: 60,4%, I.C.U.: 56%; HAIs prevalence rate: 9.4% in 2010; 9,1 in 2011. Analysis of the annual consumption of alcohol product for rubbing (Proxi indicator): from 258 lt. (2007) to 707 lt (2010).

## Conclusions

The reached results underline the importance of: continue the implementation of local Campaign to maintain an adequate level of compliance with hand hygiene in all careunits, monitor

systematically the three main Areas of intervention identified as critical, supporting and promoting the empowerment of staff, patients, family members and caregivers at every stage of the care process. During 2011 the strategy was applied in 22 care-units. The first results will be available from April 2012. So, "Save lives: clean your hands!"

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**Reduce Healthcare Associated Infections (HAIs) shares through proven and sustainable actions implemented with a multimodal and multidimensional strategy in the Rehabilitation Hospital "Nuovo S.Giorgio" of Ferrara University Hospital**

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## Introduction

Patient safety is a shared global challenge in all the world's health systems. HAIs are one of the main aspects: they're among the main causes of increased morbidity and mortality in hospitalized patients, they're costly for patient, family and society. The infections are increasingly caused by opportunistic and antibiotic resistant microorganisms well spread in nosocomial environment. Based implementation is "Nuovo S.Giorgio" Hospital: 90 beds, about 1.300 discharged patients and 7.700 outpatients per year; 200 operators and workers of external partners.

## Purpose/Methods

Creating a safe environment for patients, workers, caregivers: - reduction in hospital environment of potential pathogens at least of 70-80%, applying a new cleaning system based on probiotics (previously tested in other hospital units with positive results from 12.000 environmental samplings) -reduction of HAIs incidence by 20% in one year (11,8% in 2011), with some organizational changes and strengthening of good care practice



es in a systematic and controlled way. The effectiveness will be monitored from November 2011 to October 2012.

### Results

Compression/stabilization of environmental pathogenic bacteria, specifically: -Stafilococcus aureus: - 95,59% -E.coli: - 85,12% -Pseudomonas spp: - 95,16% -Candida: - 94,86% -Acinetobacter: - 75,99%. Reduction of HAIs incidence of 20%, compared to data collected in prevalence studies in the target wards (2008:11.4%; 2010:13%; 2011:11.8%). Increase hand hygiene compliance; current observation in 22 careunits, including Rehabilitation. Compliance averaged 2010 (standard): 52.75%. Analysis of annual consumption of alcohol product for rubbing (proxy indicator), increased from 258L in 2006 to 1.735L in 2010.

### Conclusions

The project is unique for multimodal, multi-dimensional and intersectoral approach used, where safety and health promotion are integrated and strengthened, in which all stakeholders are involved and participate. It was decided to apply a multi-strategy to transforming hospital environment. The promotion of health and safety through the reduction of pathogenic microorganisms is the engine of the strategy, which is proving to be sustainable, feasible and reproducible, because foresees the active information and participation of patient, family, operators and others stakeholders.

### Comments

\*data published in the journal "L'Ospedale", no 4/11, pag.52-58.

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## Session O4.3: Studies on and tools for health promotion for hospital staff

### Organizational Diagnostic Tool for HPH Standard 4

#### CÔTÉ Louis

#### Introduction

Organizations are becomingly increasingly aware of the importance of healthy workplaces. While the determinants of employee health have long been expounded in the scientific literature, relatively few tools fully meet the needs of healthcare establishments. The difficulty primarily resides in finding a tool that is comprehensive, psychometrically sound, easily administered, affordable, and available in different languages. The goal of this project was thus to develop a tool that

enables such organizations to take an accurate snapshot of their organization.

#### Purpose/Methods

This organizational diagnostic tool for Standard 4 was developed based on an extensive consultation (i.e. literature review and consultation with subject matter experts) and validation process. Existing tools were analyzed according to the aforementioned criteria. A questionnaire was subsequently created using an item bank as no single tool met all the criteria. The questionnaire was then administered to employees of anglophone and francophone Montreal healthcare establishments.

#### Results

Statistical analyses subsequently demonstrated the validity and reliability of the tool. The next phase of this project will be to help healthcare establishments utilize this tool in order to develop effective intervention plans.

#### Conclusions

This tool can then be used to help organizations assess the effectiveness of their interventions. In the future, we hope this tool will be used internationally and will potentially serve as an invaluable part of the evaluation process with regard to Standard 4.

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## The Study of Nurses' Job Satisfaction and Mental Health of a Medical Center in Taiwan

#### CHANG Yuanmay

#### Introduction

The object of this study was to investigate the relationship between job satisfaction and mental health among nurses of a medical center in Taiwan.

#### Purpose/Methods

A cross-sectional descriptive and correlational study design was used. The nurses were recruited and asked to complete a set of questionnaires, including a five-item Brief Symptom Rating Scale (BSRS-5) and a 30-item Job Satisfaction Questionnaire (JSQ-30). A total of 428 (94.2%) staff nurse and 26 (5.8%) head nurse completed the entire set of questionnaires.

#### Results

The prevalence of psychiatric morbidity defined by the BSRS-5 was 292 (64.3%), with hostility ranking the highest (2.24-0.86), followed by depression (2.50-0.89), anxiety (2.13-0.89), and total (10.56-3.89). In general, subjects with more severe psychological distress reported lower levels of job satisfaction on five dimensions measured by the JSQ-30. Factors related to

supportive relationships were especially important in overall job satisfaction and severity of psychological distress. to correlate negatively with job satisfaction

### Conclusions

The prevalence of psychiatric morbidity in the hospital is high. The severity of psychological distress is negatively associated with job satisfaction. Early detection of psychiatric morbidity through self-administered screening questionnaires, as well as implementation of organizational mental-health promotion programs, is recommended to improve nurses' mental health and job satisfaction.

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## Evaluation of health promotion projects for staff

### WYSSEN Ruedi

#### Introduction

In 2004, 2005 and 2006 we realized in 5 hospitals health promotion projects for staff with the following goals: - Reduction of work-related absences - Improve the wellbeing and the existential orientation - Enhance the motivation and the job satisfaction - Improve the efficiency due to less work-related absences - Improvement of the work climate - Improvement of the corporate image The hospitals implemented different measures, e. g.: - structural and organizational measures - management measures - training activities In 2011 we evaluated the projects.

#### Purpose/Methods

The purpose was to get answers to the following questions: - How is the sustainable effect of the health promotion projects? - Which are the most important factors of success? The evaluation steps were: - employee survey with an anonymous questionnaire - interviews with HR and health promotion representatives - analysis of different statistics (e.g. absences) The results were related to the collected data at the beginning of the project in 2004, 2005 or 2006.

#### Results

The different results will be presented at the conference.

#### Conclusions

Health promotion has to be - a part of the hospital policy - integrated in the management quality system (e.g. EFQM) - included in the yearly business targets - a part of the leadership (skills in health promotion) - integrated in the yearly assessments of executives and employees (behaviour in health promotion)

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## The Effect of Health Promotion Program on Job Performance for Hospital Staffs

### LEE Chen-Lin

#### Introduction

Researches in the past two decades showed the health status of the workers were highly related to their mood status. Previous focus of the worksite safety was on the problem of labor accidents, burnout and workplace accidents. Job stress was an important occupational hazard and has gained the attentions of many industries. Psychological health on organization outcome was one of the study interests of the researchers recently.

#### Purpose/Methods

An integrated model to investigate the relation of health promotion activities, employees' well-being, job performance and job stress was tested. it was hypothesized that (1) health promotion was positively related to job performance (2)workers' well-being will be a mediator between health promotion and job performance (3) Job stress moderates the relationship between health promotion and job performance. A multiple-item method was used to construct the questionnaires. Confirmatory factor analysis (CFA) and structural equation model (SEM) were used to test the hypotheses.

#### Results

Empirical results from the study proved our understanding of the relationships between health promotion, employee well-being, job performance, and job stress. In this research, we concluded that health promotion is beneficial for job performance. It is very helpful that hospitals promoting work well-being among their employees by creating working conditions through work (re)design approaches. In addition, the health promotion activities offer valuable aspect for developing comprehensive strategies to prevent and reduce job stress.

#### Conclusions

The research model is theorized to be causal, our study adopted a cross-sectional approach in which cause and effect data are analyzed in the short term. A longitudinal design for further examining the relationship of the factors was the next step for the model. Finally, further research exploring the relevance of other internal or external factors can build a more complete model.

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## Session O4.4: Improving health promotion and quality of care by applying new technologies

### TeleCardiology - new management of chronic cardiovascular disease in the elderly host in Health Care Residences

**BRUNAZZI Maria Cristiana, PASQUALINI Mario, NEGRELLI Maurizio, PACCHIONI Emanuele, TARTARI Elisa, MARCOMIN Chiara, SCHIAVELLO Renato, GHIDINI Sonda, STUCCHI Luca Maria Filippo, STORTI Piervincenzo**

#### Introduction

The incidence and prevalence of heart failure and decompensation, progressively increases with increasing age. The estimated prevalence of heart failure is the 0.3% between 20 and 39 years old of 2% between 40-59 years old, del 6% between 60 and 79 years old and more than 12% in patients with more than 80 years old, with considerable repercussions on the human and material costs are often underestimated. The management of patient with chronic heart failure should provide for an optimal use of available resources, preferential paths for the rapid passage of the patient seen between the different levels of intervention, through the sharing of diagnostic therapeutic guidelines-universally accepted. Taking into account that we have developed this project with the goal to create a management integrated and coordinated between healthcare and social-health, covering the older people suffering from chronic cardiovascular pathology, guests at residential care facilities (RSA), with the aim of avoiding and reducing hospital admissions, sometimes not necessary.

#### Purpose/Methods

**Aims:** 1. Constitution of multidisciplinary and integrated Group project - a. the first phase of the project is to create the working group. The Working Group is composed of doctors and nurses of the Hospital of reference, of Cardiology Ward, as well as doctors and nurses Health Assistance residences (RSA) project members. The objective of the Working Group is to build and share a care protocol for the monitoring of chronic heart failure in patients at Health Care residences. 2. Definition of inclusion criteria of the guests in the pathway for the management of chronic heart failure identification of subjects to be included in the path - a. this is a fundamental aspect for start up and for the realization of the project. Specifically it is to define the clinical criteria that allow to correctly identify guests of RSA that fall in the Protocol of care and chronic failure monitoring. 3. Activation of an education/training on the field for the development of protocols of care and welfare shared project implementation requires an education and training aimed at medical and nursing

staff of Health Residence. 4. Setting follow-up - a. Telephone contacts should follow a personalized program, b. We'll be working the remote monthly guests who find themselves in a situation of stability and shorter remote consultation in cases of instability or during optimization. 5. Outcome monitoring - a. the decrease in the use of hospitalization from the Health Assistance Residences and requests for urgent procedure visit, especially, b. Another aspect to consider is the clinical outcome, i.e. assessing the benefit derived by the guests from care and particularly by monitoring activities, after appropriate training and educational training of medical and nursing staff that operates within Health Care residences. The methodology includes: 1. a survey of patients with heart failure Health Assistance residences that gave their adhesion to the project and definition of clinical criteria of inclusion in the path; 2. elaboration of a protocol shared welfare Hospital - Territory and planned with the involvement of Health Assistance Residences (RSA) for the management of chronic heart failure with guest and exacerbation by the use of telemedicine; 3. structuring a shared procedure between HTN (Health Telematic Network) and RSA members to implement phone call transmission of the parameters and electrocardiograms. 4. building paths for quick access to diagnostics and intervention specialist consulting through scheduled follow-up at the RSA facilities; 5. activation of counselling with regard to the medical and nursing team of RSA involved.

#### Results

\*reduction of recourse to hospitalization and costs related to repeated hospitalizations for exacerbations decompensation, hypertension and arrhythmias through the enhancement of the activity of cardiology at the canvases socio sanitary facilities for the elderly (RSA) present on the territory of reference; \*implementation of an integrated approach in the management of patient with chronic heart failure, through the sharing of pathways and protocols in the context of a multidisciplinary team hospital-territory; \* testing and launching the use of telemedicine at the socio-sanitary residential structures; \* planning for continuity of care pathways (resignation) from the hospital to the socio-sanitary residential structures. \* construction of pathways for quick access to Diagnostics with the delivery of reports and intervention specialist consulting through scheduled follow-up at residential facilities; \* activation of counselling and educational training of medical and nursing staff of the complex structure of Cardiology to medical and nursing staff in the Health Assistance Residences (RSA); \*improvement of appropriateness performance reducing the number of accesses in emergency room.

#### Conclusions

The changing needs of health at territorial level linked to increased fragility of social-health, require innovative solutions geared to optimize the actions on an optical integrated and multidisciplinary work. Set specific intervention programs, thanks to the use of telemedicine and audio telecounselling, management of elderly people with heart failure in RSA mean to create particularly conditions to avoid unnecessary hospitalizations and often traumatizing for the person and for families. The areas of application of Telemedicine are manifold, as well as various possibilities of using telemedicine, like: \* request consulting to a specialist on a specific clinical case; \* telemedicine services online, e.i. telediagnosis, teleconsulting, synchro-

nous or asynchronous communication of images and signals between healthcare providers and patients or between only operators, reproduction and reporting of signals from diagnostic equipment, communication between health care facilities or between individual health professionals on the territory

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## The Effectiveness of Tele-homecare for the Caregiver of Dementia Patient

**YAN Sui-Hing, CHOU Hsin-Kai, TSAI Ming-Tsu, WU Lei-Lan, LIOU Shioh-Wen, WOUNG Lin-Chung**

### Introduction

In comparison with the general population, caregivers of demented patients are more likely to suffer from symptoms of strain, depression, and, decreased quality of life. The burden of care may be exacerbated due to lack of knowledge about dementia, caring skills, and coping with such emotional problems. Some studies have shown that the integration of tele-homecare to provide a high level of care can relieve the caregivers' burden and living stress.

### Purpose/Methods

The purpose of this study is to explore the effectiveness of tele-homecare as an intervention for caregivers with dementia patients living at home by assessing the caregivers' depression status, burden, and quality of life. 30 dementia patients and caregivers were chosen from our memory clinic for this study. We provided caregivers tele-homecare system, which consisted of: home units, personal pendants, fall detectors, bed occupancy sensors to provide functions of communication, mental support, consultation, health education, and monitoring of patient safety. Caregivers had access to 24 hour call center and a specialist simply by pressing a button set at home. We had two evaluations in place: a baseline assessment then followed up by a six month assessment. Every caregiver was assessed by Caregiver Burden Inventory (CBI) for burden, Geriatric Depression Scale (GDS) for depression, and WHO Quality of life -BREF scale (WHOQOL) for quality of life at 6 months interval.

### Results

The CBI total score ( $T = -0.38$ ,  $P = 0.704$ ) found no significance deterioration and WHOQOL score ( $T = -1.00$ ,  $P = 0.50$ ) had mild improvement, but not statistically significant at 6 month interval. The GDS score ( $T = 2.73$ ,  $P < 0.05$ ) and Caregivers' depression significantly improved after 6 months of tele-homecare service.

### Conclusions

A care-coordination assisted by tele-homecare system seems to stabilize burden, improve quality of life, and decrease the depression of caregivers of dementia patients.

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## Using a web-based integral information platform to improve the efficiency of early childhood intervention services in Taipei City

**WU Hsueh-Yu, LIU Yueh-Ping, SU Syi, CHEN Ching-Mei, HUANG Zu-Yu**

### Introduction

Early Childhood Intervention Services (ECIS), which support children with a disability or developmental delay from birth to 6 years old, and their families, were established since 1995 in Taipei City. All children referred to the ECIS must receive a multidisciplinary evaluation, including an assessment of all five areas of development (cognitive, communication, physical, social-emotional, and adaptive development). Due to lack of integration of multidisciplinary systems, the efficiency of ECIS was severely criticized by the citizens of Taipei City.

### Purpose/Methods

1. Building a web-based integral information platform among the health, education, and social welfare departments to enhance the accessibility of ECIS. 2. Establishing the ECIS network to improve the efficiency of ECIS: i. Using three early intervention evaluation centers to coach related institutions to provide better quality of care and establish a new referral model. ii. Sharing the resources of ECIS in Taipei metropolitan perimeter: Taipei City and New Taipei City work together.

### Results

1. The preliminary results of ECIS showed that the detection rate of children with special healthcare need was increased from 3.87% to 7.12% 120,996 children received treatment in 2010. 2. Using key performance indicators, 16 community clinics and 22 contracted medical care institutions have been coached to provide better quality of care. 3. The waiting time for evaluation has been decreased from 70-27 days, while waiting time for treatment has been reduced from 39-12 days.

### Conclusions

Using this web-based integral information platform, we are able to strengthen the network of early intervention care without negligence, improve stakeholders' satisfaction, quality of care for children with special healthcare needs and the efficiency of the ECIS. In order to establish a sustainable ECIS in Taipei City, we are searching for an evidence-based model, and the roles of government and the community sector.



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## Session O4.5: Creating organizational capacities for HPH II

The regional research project aims at bringing the 14th regional demonstrating health promoting hospital up to world class standard (MBNQA:HEALTH CARE).

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**PHATTHANASETTHANON Sukhuman,**  
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**Introduction**

WHO Budapest Declaration 1978 has been announced in the world. Thailand government implement WHO HPH concept as National Policy since 2002 then continue to World Class Standard (MBNQA : Health Care ) in 2007. World class standard Demonstrating HPH is the role of the 15th Regional Health Centre.

**Purpose/Methods**

The Objective to demonstrate world class Standard Health Promotion Quality assurance by the 160 HPHNQA Standards throughout the world bank CAGI Protocol to improve Hospital service and Health Care in the 14th South Eastern Region of THAILAND. The 5th Regional Health Centre HPH has been selected to be sample. The CAGI protocol with 160 HPHNQA Standards have been lunched for intervention, then interpreted with percentage and mean.

**Results**

The CAGI Protocol with HPHNQA Standard has been lunched. Self assessment score improved 305 to 348, the strength have been changed from 93 to 132 items, OFI improved 125 to 87 topics in the highest score of t Plan number 4, 2 and 7 created projects. They were the quality assurance, Organize development, Service development, KM, Risk analysis, Enhance health and community development.

**Conclusions**

The 14th Regional demonstrating Excellent Health Promoting Hospital of the 5th Regional Health Centre THAILAND have been improved the Quality of Health Promotion in Hospital and Health Care by the CAGI Protocol with 160 item HPHNQA Standards that had been benchmarked which the World Class MBNQA:Health Care Standard, improve Quality score and enhance created strategic plans.

**Comments**

Finally, the World Class Health Quality Assurance by the CAGI Protocol with the 160 items HPHNQA Standard intervention is the choice of improvement and enhance the quality of Health Promotion in Hospital and Health care by the Excellent demonstrating HPH of the 5th Regional Health Centre. The authors thanks to Ass.Dr. Keaw Kanka, Boon yong, Dr Deerasamee, Somyot, and Others

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Hospital performance on HPH quality standards at joining the network and its change over time: 5-year experience of Taiwan Network

**CHIOU Shu-Ti, CHEN Yen-Fang, LIN Shu-Wei**

**Introduction**

Health promoting hospitals developed structures, cultures, decisions and processes to improve health gain for its stakeholders. Taiwan Network applied the self-assessment tool of WHO HPH Standards to guide the organizational development and monitor the continuous quality improvement for member hospitals. This study examined the 5-year learning curve of this network.

**Purpose/Methods**

Member hospitals in Taiwan did initial self-assessment on WHO HPH Standards to become a member and did re-assessment every 4 years to renew membership. The network offered training courses, did site visits and selected best practices to promote implementation of these standards. Individual performance on each measurable element was scored between 0 and 100. Average score of members on the 40 elements, 13 substandards, 5 standards and the overall performance was calculated and compared between different periods of time, i.e. initial assessments in 2006-2007, 2008-2009 and 2010-2011, and re-assessment in 2010-2011.

**Results**

There are 80 member hospitals with 74 initial assessments and 33 reassessments. The initial assessment in 2006-2007 identified 11 elements, 3 substandards and 1 standard with average score below 80. These became the targets of emphasis in training and communication. Assessments done in later periods demonstrated statistically significant improvements on all of these items. Multivariate regression on overall performance showed that later timing of assessment and bigger hospital size (more than 600 beds) were associated with higher score.

### Conclusions

This study showed that the application of WHO self-assessment tool in Taiwan was well accepted by its members and has successfully helped the network identify its weak points and achieve significant improvement.

### Comments

Taiwan HPH Network made self-assessment of WHO HPH Standards a pre-requisite for hospitals and health services to get and to renew membership. This practice provided a unique opportunity to examine the acceptability and effect of applying these standards. The 5-year experience showed that such practice has made the HPH concept clear, acceptable and effectively implemented.

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## Achieving organizational change: findings from a case study of health promoting hospitals in Taiwan

**LEE Chiachi Bonnie, POWELL Michael,  
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### Introduction

The Taiwanese Network of Health Promoting Hospitals (HPH) has been in place since 2006 and developing rapidly. The global criticism of inadequate evaluation of the HPH approach also holds true for the Taiwan HPH Network. Organizational change is key to sustainable and effective health promotion, and it is also an important issue in the European HPH movement.

### Purpose/Methods

This study evaluated changes in organizational capacity for HPH in Taiwan. 55 key managerial employees in hospitals committed to HPH (HP-hospitals) were invited to participate in the study, 52 completed the questionnaires. The survey covered seven dimensions of organizational capacity; a total score of each dimension was calculated and converted to a sum of 10. Based on the overall score for each hospital, cluster analysis was performed. Each cluster reflected a different level of achievements.

### Results

HPH made a positive impact on HP-hospitals in Taiwan regarding capacity building for HPH. Leadership, organizational culture, and mission and strategy received the top three highest mean score while staff participation received the lowest score. The high level of organizational change was associated with the high satisfaction levels of organizational support by the key managerial individuals. Hospitals reaching high levels of organizational change demonstrated a hybrid model with combination of the Addition and Integration Model of HPH.

### Conclusions

These results presented evidence that HPH contributed to organizational capacity building of hospitals for health promotion.

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## What health promotion specific structures and capacities in HPH hospitals do effectively support the implementation of health promo- tion?

**SCHMIED Hermann, PELIKAN Jürgen M.,  
RÖTHLIN Florian, DIETSCHER Christina**

### Introduction

A Health Promoting Hospital is an organisation that aims to improve the health gain for its stakeholders (patient, staff and community) by implementing HPH-strategies [1] and fulfilling HPH-standards [2]. To realize these strategies and to achieve the aims, specific organisational structures or capacities in form of adequate infrastructures and policies as well as personal skills, knowledge and other resources are needed. Theoretically this assumption follows from Avedis Donabedian's quality paradigm [3], Nutbeam's [4] hierarchy model of outcomes for evaluating health promotion and also capacity building approaches in health promotion [5, 6]. Research question is to prove if (and which) structures and capacities established in hospitals have a significant positive impact on the implementation of health promotion activities. Hospital data from the "Project on a Retrospective, Internationally Comparative Evaluation Study" (PRICES-HPH) are used as source for hypothesis testing. This study is a systematic empirical evaluation of HPH networks and their member organisations run by the WHO Collaborating Centre for Health Promotion in Hospitals in cooperation with the HPH Network.

### Purpose/Methods

The data were collected by an online survey (2009/10) completed by the assigned HP coordinators of HPH member hospitals. The used data set includes 139 questionnaires from European acute hospitals. Indicators on established structures and capacities for health promotion were defined as independent variables. The dependent variable(s) was an index of all questions by which the degree of implementation of specific health promotion activities for a target group (i.e. for patients, staff and community) had been assessed. Tested was via t-test and variance analysis, if the existence (or absences) of specific structures and capacities have a significant impact on the means of the indices of health promotion activities.





## Results

The following seven organisational capacities could be identified as supporting factor for the implementation of health promotion in HPH hospitals: 1) HPH coordinator is responsible for planning, coordinating and evaluating of HP; 2) Specific personal structures for HP are established; 3) Written policies and strategies for HP are in place; 4) A specific financial source for HP is available; 5) HP quality assessment is routinely performed; 6) Specific HP indicators are routinely monitored; 7) There is strategic cooperation with specific external partners in the context of HP. It also could be shown, that these capacities are effective in an additive way. The more capacities are established, the higher is the degree of health promotion activities. The hospital groups (with more and fewer capacities) differ about 60% on average in the degree of HP implementation.

## Conclusions

The assumption, that specific capacities in hospital can support their HP implementation processes could be validated by this study. Results could be used to develop recommendations for (HPH) hospitals, defining into which structures and capacities they should primarily invest to best realize their health promotion objectives.

## Comments

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## Health Promotion in Hospitals in England - The National Picture

### KNUCKEY Steven, COOK Gary

## Introduction

Hospitals in the UK are increasingly seen as key providers of health promotion, with the British Department of Health advising that every contact should be an opportunity for health

promotion. The National Health Promotion in Hospitals Audit was set up in 2009 to measure the delivery of health promotion to hospitalised patients within all English hospitals. It was reaudited in 2011, giving a unique opportunity to compare the progress in the delivery of health promotion in over 50 hospitals nationally.

## Purpose/Methods

The purpose of the audit was to provide each of the 55 participating hospitals with details of the proportion of their adult hospitalised patients that were: assessed for a risk factor (smoking, alcohol, obesity and physical inactivity); had a risk factor; were delivered health promotion; and whether they had written or verbal support provided. Over 5000 patient case notes were audited. The policies and staff available for health promotion were also assessed through an organisational survey.

## Results

The above measures together give the national picture for England. These are still in the process of analysis, but headline results include - significant increases in obesity assessment and significant decreases in assessment for physical activity.

## Conclusions

The conclusions are still to be finalised, but will include investigations of variations by hospital and comparisons with 2009. The conclusions will also identify whether differences in health promotion assessment rates and referrals correlate with differences in: organisational policy and pathways for lifestyle factors; resources; staff (eg smoking cessation nurses, organisational champions etc); and available training. This will show best practice in the area. The findings will also allow comparisons for attendees from other countries.

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## Session O4.6: Creating tobacco-free health services

### 100% Smoke-Free Hospitals as Community-based Antismoking Agencies

### VATHESATOGKIT Krongjit

## Introduction

Because most government and non-governmental tobacco control agencies are centrally located in Bangkok, a project was launched to disseminate tobacco control policy and practice outside Bangkok. Smoke-free policies have been incrementally expanded in Thailand, but compliance is sometimes low and needs strengthening. District hospitals in Thailand were chosen

as appropriate and feasible centers for expanding smoke-free policies and tobacco control activities.

#### Purpose/Methods

To enlist and assist 100 district hospitals to implement 100% Smoke-Free Hospital policies, and to serve as centers for cessation and anti-smoking activities in the community. Action on Smoking and Health enlisted over 100 district hospitals to forward both broader smoke-free goals and cessation in the community. Staff training and encouragement to hospital administration about accreditation requirements for smoke-free hospitals was provided.

#### Results

Accomplishments included moving staff to record patient smoking status and intention to quit, introduction of the 5A approach to smoking cessation into daily practice, assisting staff who were smokers to quit, institution of a policy of preferential recruitment of non-smokers as new employees, enabling nurses to take action for smoking cessation and in support of smoke-free places and homes, and fostering 100% smoke-free environments overall.

#### Conclusions

Establishing smoke-free district hospitals as community centers for tobacco control proved to be a useful method to decentralize tobacco control messages and activities and resulted in multiple tobacco control advances for staff, patients and the public.

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### Building and strengthening a network capacity through a Smoking Cessation Program: a collaborative partnership among MUHC, CSSS de la Montagne, and RNAO

**NOEL Marie-France, SOULIGNY Chantal, ROWAN Christine, NAVARRO Justine, SOUNAN Charles, LYNCH Ann**

#### Introduction

In Canada, almost five million citizens aged 15 years and over smoke on a daily basis. Tobacco use is the leading preventable cause for the utilization of Canadian health care services. Aligned with the Health Promoting Hospital (HPH) concept, the MUHC and the CSSS de la Montagne formed a partnership with the RNAO by participating in the National Nursing Best Practice Smoking Cessation (SC) Initiative, funded by Health Canada.

#### Purpose/Methods

The goal of this national initiative is to build and strengthen the capacity of nurses and other health care professionals to utilize SC best practices with patients and families and integrate evidence-based SC interventions into their daily practice.

#### Results

The process started with the identification and designation of the SC Facilitators, followed by the recruitment of over 100 SC Champions, who are actually members of the Canadian SC network. Their role is to promote SC best practices, to support and ensure knowledge transfer within the community, and to implement a minimum of one SC recommendation from the RNAO Best Practice Guideline "Integrating Smoking Cessation into Daily Nursing Practice" into their practice setting. In 2010, over one hundred SC Champions attended the RNAO one day SC workshop. After the workshop, 94% of the participants stated that they were more confident in utilising the brief intervention in their work setting and 84% believed that this will significantly help their patient in quitting smoking.

#### Conclusions

Brief intervention not only requires a short time commitment (3 minutes), it ensures uniformity for the information given and facilitates its implementation at each patient visit. In addition, this initiative shows that building a network capacity for smoking cessation works.

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### Tobacco control policies in hospitals going further: evaluation of a national smoke-free campus ban

**SUREDA Xisca, BALLBÈ Montse, FU Marcela, CARABASA Esther, MARTINEZ Cristina, SALTO Esteve, FERNANDEZ Esteve**

#### Introduction

Since January 1st, 2011, smoking is prohibited in Hospital Campuses in Spain. The objective of this study was to evaluate the implementation of Smoke-free Campuses in the hospitals of the Catalan Network using an objective environmental marker of tobacco smoke (Particulate Matter <2.5  $\mu\text{m}$ , PM<sub>2.5</sub>) and observational data.

#### Purpose/Methods

Cross-sectional study including the 60 hospitals affiliated with the Network. During 2011, we measured PM<sub>2.5</sub> (in micrograms/m<sup>3</sup>) in different locations, both indoors and outdoors, and we evaluated smoke-free signage and signs of smoking in outdoor areas within the hospital campuses. We computed



medians and interquartile ranges (IQRs) of PM2.5 concentrations in each location.

#### Results

485 PM2.5 measurements were taken. The overall median PM2.5 concentration was 8.32 micrograms/m<sup>3</sup> (IQR: 4.94-13.00 micrograms/m<sup>3</sup>). The locations with higher PM2.5 concentrations were outdoor areas: entrances to the building (9.88 micrograms/m<sup>3</sup>) and entrances to the campuses (9.62 micrograms/m<sup>3</sup>). 50 out of the 60 hospitals presented completely or almost completely smoke-free signage within the campus and only 11 hospital campuses had evident signs of tobacco smoking.

#### Conclusions

All the PM2.5 concentrations were lower than the annual guideline value of 10 µg/m<sup>3</sup> recommended by the World Health Organization for outdoor settings. These results and observational data in outdoor areas show the feasibility of implementing smoke-free campuses legislation and its positive effects.

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## Tobacco-free Hospital Certification and Network Development Program: Implementation of National Experiences

**CHIOU Shu-Ti, SHIH Yaw-Tang, LU Lan-Chin, CHIU Herng-Chiag, LIN Szu-Hai, CHUNG Pei-Hua**

#### Introduction

Taiwan launched the active preparation procedure to apply the network member at the end of 2010. Bureau of Health Promotion, Department of Health, Taiwan has been authorized as the corporate member that coordinates Global Network for Tobacco Free Healthcare Services in Taiwan since February 2011. Taiwan is the first national network group member in Asia.

#### Purpose/Methods

We started the ENSH project in nationwide Taiwan since early 2011. First of all, we held a public hearing, 161 people representing 112 hospitals participated. Second, we recruit 53 hospitals to participate the project and help them to apply new members. Third, to identify the more detail definitions or guidelines in each items of ENSH standard, 9 experts and 8 hospitals representative were invited in our first expert meeting, during the meeting we discussed about how ENSH Standard and Self Audit Questions items would be suitable for Taiwan hospitals.

#### Results

Finally, we organized The Tobacco-free Hospitals Conference titled "Tobacco-free, Quality, Quality and Innovation", held in Taipei city, Taiwan. It is the first time of ENSH Tobacco conference out of European country with around 400 visitors. During the Conference, many Tobacco free implementing-related dialogues have taken place and have produced fruitful and remarkable outcomes. We also had a Ceremony Award for 53 hospitals were given an award in our national level, 32 for Gold, 13 for Silver, 3 for Bronze and the other 5 hospitals without these award were given potential award to encourage them.

#### Conclusions

In the coming year, we aim to recruit the new 30 hospitals to join the Network. More training activities and collaborations will be initiated to promote the smoke-free culture & practice in healthcare settings.

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## Session O4.7: Miscellaneous

### Food Provision in Malaysian Public Hospitals: Staff's Attitudes and Practices in Addressing Patients' Preferences

**VIJAYAKUMARAN Reena, EVES Anita, LUMBERS Margaret**

#### Introduction

Reasons for the compromised food provision include poor quality or unsuitable food, lack of help during meal time, failure of staff to identify undernutrition or refer to a dietician, and failure of hospital policies to provide adequate resources for staff training (Cumming, 2004). Many of the causes related to the role of staff in delivering the service. However, there is limited detailed information about staff roles in the food provision in Malaysian hospitals.

#### Purpose/Methods

To examine the provision of hospital food from the staff's perspective. Attitudes, practices and experiences of staff (nurses, doctors, dieticians and foodservice managers) were expected to provide a good understanding of patients' food consumption and how foodservice system works to address patients' preferences. The study focused on a qualitative approach, where twenty staff in six hospitals were interviewed, and data was analysed using content analysis.

### Results

Each group of staff had a different perspective on patients' food consumption. Staff's attitudes and practices during mealtimes often elicit negative emotions among patients, which staffs were aware. Lack of collaboration between the different staff groups is one the main factors for not addressing patients' preferences. Staff lacked in knowledge, initiative and people skills, while overall foodservice operation lacked in allocation and authority to introduce any changes. Provision of certain policy and operational practices needs to be reorganized as well.

### Conclusions

Viewpoint and experiences of key stakeholders facilitated understanding of various factors involved in the provision of hospital food, which affected patients' decision to accept and consume hospital food. Staff lacked in knowledge, initiative and people skills, while overall foodservice operation lacked in allocation and authority to introduce any changes. Provision of certain policy and operational practices needs to be reorganized as well.

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## Communication and patient-provider relationship in the context of care: a survey of patients in a hospital ward

**ROSSI G, STEGAGNO C, TORRI Emanuele, GOBBI L**

### Introduction

Inpatients' satisfaction with care can lead to better health outcomes for patients and also promote the development of hospitals as healthier working and treatment environments. There is growing evidence that satisfaction levels are higher in patients with perception of shared decision-making and good patient-physician relationship. The objective of this study was to explore inpatient satisfaction with care, with a focus on the interpersonal communication process.

### Purpose/Methods

The study sample consisted of all patients hospitalized in the Neurology Unit from September 1st 2011 to December 31st 2011. 210 patients on discharge received a survey package that included a covering letter to explain the objective of the questionnaire and a reply envelope to be sent back within two weeks. The survey instrument was a questionnaire with 18 five-point items, evaluating global: assessment of physician-patient relationship, organization and interpersonal aspects of information process provided by physicians and nurses, and respect

for patient dignity. For each patient socio-demographic variables were collected.

### Results

The average patient age was 59 (range 15 - 92). The response rate as of 31st December was 52%. 98% of the sample had a good or excellent opinion of the provider-patient relationship. The most appreciated issues concerned the emotional aspects of relationships (e.g. politeness, readiness to listen). Most patients (92%) reported good or excellent opinion of the information on clinical content, but 12% found "only" sufficient the explanation on therapy after discharge. Information consistency was considered excellent for 25% and good for 66% of the sample. The lowest rate was found for structural issues and privacy: for 23% sufficient and 3% insufficient.

### Conclusions

Our evidence suggests that we may be optimistic as to the relationship that we can establish with our patients. Detailed analysis of specific issues is pointing out actions possibilities to promote empowerment-based practice and deliver high quality patient-centered care.

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## "Enjoy finding health" - an application of the caregiver health promotion program in a long-term care facility in Taiwan

**CHU Yu-Ying, WEN Ru-Yuh, HSIEH Yu-Ling, LIU Chih-Hua, HUANG Mei Luan**

### Introduction

Who can look after caregivers? Although most caregivers are at home, there are some others in health care facilities. They are elder spouses, new immigrant women or foreign laborers. We promote "Enjoy finding health" for caregivers in long-term care facilities in order that they can enjoy their life and remain healthy in daily caring process.

### Purpose/Methods

We plan family symposiums such as course have different unit discussing how to relax by self. Including rehabilitation doctor to demonstrate exercises at home. We investigated the facilities exercise environments and drew facilities exercise maps. We design "shared moment exercise spot", which we set up stairs for caregivers by the side of rehabilitation facilities. Caregivers can do some stairs climbing exercise while elders having physiotherapy. In order to enhance motivation, we prepare point card for caregivers and offer some small gifts.



## Results

Through this activity, not only caregivers exercise more, but also elders have fun in rehabilitation and have more interaction with caregivers. A caregiver said: "I feel life are more meaningful. At least both me and he are not boring and encourage each other do exercises." Exercise spot usage increased from 6 people per day in average (2010/12) to 18 (2011/7). There are 4 symposiums be held and participated caregivers increased from 7 to 55, which means average 1.3 people per family.

## Conclusions

In addition to let these long-term caregivers enjoy themselves, "Enjoy finding health" helps they apply newly learned knowledge in daily life. We look after these caregivers through fun games and carry out the idea of health in long-term care facilities.

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## Women's Relapse and Metastasis Breast Cancer Care and Support Service

## CHANG Ta-jen, CHU Yi-Ru

### Introduction

Since 2003, breast cancer has been the leading disease for Taiwanese women. In clinical studies, the chances of relapse for patients who have had breast cancer is 4 times as much as the average person, and has a relapse probability of 30% within an average of 5 years. The emotional illnesses such as depression often occurs among these patients. Given this situation, from 2010, this association has developed a comprehensive intervention mechanism to provide care and support especially for them.

### Purpose/Methods

Individual Care and Support Service: Provide social support to patients through the Care Worker's group service via regular phone calls. Spiritual Group Activity: Provide a group meeting for patients with individual needs, which is mainly led by medical professionals to rediscover their personal value and the meaning of life. Outdoor Stress Relieving Activities: To relieve their physical and mental burdens, the association has led the patients with undergoing treatment to walk out of their homes and relax in the outside world.

## Results

Using the Social Support and the Yang's Depression Rating Scale as evaluation indexes: Social Support: 82.8% of 58 patients experienced social support, mostly from information and emotional support, which coincides with the Care Workers' records. Other than their close relatives and friends, Care Workers have become an important member in the patient's support net-

work. Yang's Depression Rating Scale: Out of 50 patients, there were 27 (54%) whose depression degree showed a decline/the same, while patients who are depressed (10.6%, 14%) need active care.

## Conclusions

This association has established a Care and Support Mechanism through the Care Workers for relapse and metastasis patients, and through various methods, created a social support network and trusting relationship with the patients. Out of all the patients participating, 75% have significantly experienced social support, while 40% have noticeably decreased their depression degree after intervention.

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## Session O4.8: Using health promotion to address addictions

## Scand-Ankle: A randomised clinical multi-centre trial

## PEDERSEN Bolette, OPPEDEL Kristian, EGUND Lisa, WEBER Julie, TØNNESEN Hanne

### Introduction

Alcohol intake is an independent risk factor for postoperative complications, and the threshold for surgical patients seems to be an intake of more than 2 drinks per day. Preoperative alcohol cessation intervention has been shown to halve the frequency of postoperative complications, but even so only few surgical patients are offered a qualified alcohol intervention as part of their clinical pathway. What is still unexplored, however, is the effect of alcohol cessation during and after surgery.

### Purpose/Methods

A Scandinavian multi-centre RCT, Scand-Ankle, evaluates the effect of an intensive patient education programme aimed at alcohol cessation in the perioperative period for patients with ankle fracture and a hazardous alcohol intake. The programme consists of weekly meetings to support alcohol cessation; including alcohol withdrawal prophylaxis and supervised disulfiram. The scope of the programme is alcohol cessation for 6 weeks following surgery with follow-up visits up to 12 months. We aim to include 2 x 60 patients in the trial.

## Results

Patient recruitment is ongoing since December 2009. The primary outcomes are: Postoperative complications and second surgery; Frequency of continuous alcohol cessation and changes in alcohol intake (biochemically validated); Cost and cost-

effectiveness. The secondary outcomes include: Length of stay, use of health care resources, return to work and sick leave, functionality, self-evaluated health; Alcohol withdrawal symptoms, alcohol markers (biochemical and other tests); Estimates of QALY. All outcomes are evaluated on short-term and long-term.

#### Conclusions

The effect of perioperative alcohol cessation intervention has not yet been investigated, and the Scand-Ankle trial is evaluated in four PhD theses. Some preliminary results will be presented at the conference. In perspective, on short term we expect the number of postoperative complications and use of health care resources to be reduced by alcohol cessation in the perioperative period. On long term, the effects alcohol cessation or a reduced alcohol intake can yield other significant health effects.

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## Development and implementation of evidence-based patient pathways for substance abusers

**PEDERSEN Birger, TØNNESEN Hanne**

#### Introduction

Treatment of alcohol and drug abusers in the Region of Skåne, Sweden, previously took place in several units with different cultures, structures, criteria for access, collaboration with social care, treatment programmes and follow-up. A new Psychiatry Organisation aimed at ensuring that all substance abusers had equal access to evidence-based care at high quality in the entire region.

#### Purpose/Methods

After visits and interviews with all the units, new comprehensive pathways with common standards and indicators were developed. Health professionals from all units and social workers were represented in the working groups. The methodology from the International Guidelines Network was used.

#### Results

The groups worked out pathways for ten different groups of substance abusers. The guidelines were positively discussed in the patient organisations. The groups now constitute a network that has not previously existed in the region. A study has been decided on measuring before and after fulfilment of standards and indicators - including effect of treatment.

#### Conclusions

The next step is to run a hearing round, a minor pilot study and a full-scale teaching and training programme in the new patient pathways for all staff in the units of addictive medicine, the psychiatry, the hospitals, the primary care and social workers.

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## Session O4.9: Workshop "Baby-friendly hospitals"

### Breast Feeding Hospital Initiative Symposium

**SAADEH Randa Jarudi**

What is BFHI and how it relates to child survival? The importance of a partnership between HPH and BFHI. Randa Saadeh. Sharing examples of best practice in BFHI – how does it contribute to quality of care? Julie Stufkens (NZ). How to ensure continuum of care and facilitate exchanges of experiences and mutual support between hospitals doing BFHI? Julie Stufkens (NZ). How to promote BFHI to more hospitals worldwide? Randa Saadeh & Julie Stufkens (NZ).

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## Session M1.1: Health promotion around pregnancy and birth I

TaFo - Dental and Public health for immigrants and their children

MOE Rigmor, AHLSEN Kirsten

### Introduction

Project focusing on dietary habits, nutrition and dental health. Target group :adult immigrants training in community learning centres. Main focus of the project was to provide training in healthy diet and dental care, being aware of that young immigrant children with non-Western background have a higher caries experience compared to young children of the same age with a Western background. Lifestyle diseases occur due to lack of knowledge of healthy dietary habits and dental diseases due to lack of knowledge of prevention.

### Purpose/Methods

We wanted to give newly arrived immigrants in Norway an easy and simple introduction to healthy dietary habits and dental care methods . Goal: Reduce the prevalence of dental caries in children and focus on healthy diets to prevent lifestyle diseases. Lectures given to immigrants in the community learning centres. 4 sessions x 45 minutes. Their knowledge was mapped before and after the sessions to survey their knowledge. Dental hygiene kit and literature with dietary and dental care advices were handed out.

### Results

Evaluation shortly after finishing the training showed increased knowledge what healthy diets consist of and knowledge of dietary advices to follow. The evaluation also showed knowledge of how to avoid dental caries in children and adults by improving oral hygiene and regular meals. They are better prepared to avoid lifestyle diseases and dental caries by reducing the consumption and frequency of sugar intake. They are also better prepared to prevent periodontal diseases after having been trained in dental hygiene.

### Conclusions

Good dental health results and change of life style take time to achieve, but by giving adult immigrants awareness and knowledge in how to avoid lifestyle diseases and dental caries their children will have a better basis to avoid early dental caries. Similarly they have knowledge in how to avoid periodontal diseases . The adults are better prepared to transfer their knowledge to their children and contribute to a better oral health for children and adults.

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## Immigrant Women and Infant Health: The Experience of Taipei City, 2005-2006

CHEN Mei-Ju, TANG Chao-Hsiun, JENG Huey-Mei

### Introduction

Over the past three decades, steady annual increases have been recorded in the number of transnational marriages taking place in Taiwan. This study sets out to examine the health status of immigrant mothers during pregnancy, birth outcomes, and the health status of their infants, by mothers' nationality of origin.

### Purpose/Methods

A total of 38,444 newborns delivered during January 1, 2005 to December 31, 2006 in Taipei City, Taiwan. Of these children, 1,865 were born to Mainland Chinese women, 1,156 to Vietnamese women, 166 to Indonesian women, and 35,257 born to Taiwanese women. Chi-square tests and multiple logistic regression analyses were conducted to examine the association between women's nationality and maternal and neonatal health outcomes.

### Results

Mainland Chinese women had lower likelihood of preterm and low birthweight infants, and these results remained significant across almost all age groups. Indonesian women had higher risk of low birthweight infants, but the results became statistically insignificant in analyses stratified by age. Vietnamese and Indonesian  $\geq 35$  years of age were more likely to have babies with congenital defects.

### Conclusions

Generally speaking, immigrant women seemed to have similar pregnancy, obstetric, and neonatal outcomes to Taiwanese women. Further research is needed to investigate the causes of adverse outcomes among Vietnamese and Indonesian women of specific maternal age groups or age gap groups.

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## A Study of Baby-Friendly Hospitals Implementing Post-discharge Telephone Consultations on Breastfeeding for postpartum Women

LU YU-YING, GAU MEEI-LING, LIU CHIEH-YU, WANG SU-FANG, HSU MEI-YUEH,

## HSU CHUN-SEN, SHYU MING-KUANG, YANG CHERNG-CHIA

### Introduction

This main purpose of this study is to investigate current conditions of certified Baby-Friendly Hospitals implementing post-discharge telephone consultations on breastfeeding for postpartum women in Taiwan.

### Purpose/Methods

Qualitative research method is adopted in this study, and non-structured interviews are conducted for data collection. As ten hospitals and two clinics (totally 31 interviewees) engaged in this study. All content of interviews were tape recorded and translated into verbatim transcripts.

### Results

The main results were included as follows: 1) As for the bottlenecks encountered when implementing telephone consultations, consultants are confronted by challenges of (a) human resource shortages, (b) inadequate budgets, (c) lack of efficient channels for breastfeeding referrals, (d) lack of preparations and trainings for telephone consultants, (e) and the non-cooperative attitudes possessed by postpartum women as well as their family members towards telephone consultation services. 3) As for supervisory cooperation and assistance, it is necessary that (a) the follow-up tracking be taken into consideration for human resource allocation; (b) supervisors cooperate in the integration of human resource; (c) consultant fees be included in the budget; (d) websites about breastfeeding and information promotion be reinforced by the government; and (e) volunteer functions and quality management be fortified.

### Conclusions

Future plans on training telephone consultants proactively implementing post-discharge telephone consultations on breastfeeding for postpartum women may refer to this study, which may provide as the reference for future health policies to formulate specific measures on the prolongation of breastfeeding. Finally, we especially thank to Bureau of Health Promotion, Department of Health, ROC (Taiwan) for funding this study.

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## Study on Mother's Perception and Willingness of Breastfeeding Lasting over Six Months

**FOUN CHI WOON**

### Introduction

It is valuable for mother herself to persist a long term(>6 mo) breastfeed not only for the health of mother and baby, but also

benefits the whole society as well. The perception and willingness of mother to persist a long-term breastfeeding in order to elevate the rates of percentage of probability of breastfeed in the future.

### Purpose/Methods

The study was held through 30th of March to 6th of April 2011, the outpatient department of GYN/OB. a local hospital in Pin-tung city. A total of 300 questionnaires were given and collected. 293(97.6%) were responded and valid for analysis. Under the four sections of questionnaire attribute of mother personal data, prenatal and postnatal counseling, supportive system, and the willingness of long term breastfeeding are applied to test and analysis the final result.

### Results

After logistic analysis, is showed that 1), annually family income(by couple) rather than (by husband) statistically significant the willingness to persist a long-term breastfeeding ( $P<0.001$ ); 2), Nevertheless, an oppositely decrease with 45% of willingness to breastfeed if growing at every point of babies' condition in this outcome ( $p=0.001$ )

### Conclusions

Authorities should strengthen and facilitate the hospitals in prenatal and postnatal counselling for breastfeeding, family income (by husband) are able to increase the percentage of willingness of mothers to long term (>6 months) breastfeed, particularly in Baby-Friendly Hospital in communities around.

### Comments

Pesistently pushing the long term (>6 months) breastfeed, aim to promote, protect, proceed and support the healthcare of mother and child in our global village in the future. To integrate the healthcare delivery system in every spirit of love. as well as follow the declaration of WABA and WHO 2011.

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## "Health Life Passport" for Health Communication Support

**TAKIZAWA Kiyomi, TAKESAKO Kazumi,  
NAKAMURA Yasuhide, SAKAMAKI Tetsuo**

### Introduction

Information on human and/or capital resource reaches every corner across national and regional borders thanks to the development in information technology and expansion of infrastructure. The reality is, however, developing areas still desperately need to improve maternal and child health conditions. The authors will post the system called "Health Life Passport" on line to donate the 30% of the royalties from this





system as a funding for projects in the field of maternal and child health.

#### Purpose/Methods

"Health Life Passport" is a health communication support system based on the Multi-lingual Medical Questionnaires (MMQ), which we created to enable users to input own health care related information for health control and to display the data both in own and targeted languages. This system facilitates communication among care workers including physicians and foreign patients, immigrants or visitors who don't speak the same language as medical professionals.

#### Results

The MMQ were designed in collaboration with the Department of Medical Informatics and Decision Sciences, Gunma University and contains about 179 questions classified into 14 categories of the body. They were already translated into 34 languages. This system works efficiently as a communication tool in a way that users can download the PDF version to fill in wherever section they need to print and take it to medical institutions or drug stores to refer to their health data.

#### Conclusions

What we aim is a sustainable contribution to maintain a flow of international donation from the 30 % of the royalties from the system, expecting insurance companies, tourist agencies or hospitals to use the contents on own websites. What institutions or organization should do for sustainable flow is to post a clear message on relevant websites so that users realize that they will reach out to those children as a kind of investment for their future.

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## Session M1.2: Health promotion for children and adolescents

### Interpersonal Relationship Intervention Group for Young Adults with Mild Autistic Spectrum Disorders

**YANG Chih-Liang, CHIU Yen-Nan, SU Shu-Chen, KUO Chun-Ya, LI Su-Chen, HSIAO Mei-Ni, LAU Winnie Yu Pow, LIN Wan-Yi, CHIEN Yi-Ling, WU Szu-Ying, WANG Siou-Jhih**

#### Introduction

Autistic spectrum disorders (ASDs) lack of social competence and have deficits in personal relationship. A continuous outpa-

tient's group therapy focused on interpersonal relationship was conducted over young adults with mild ASDs patients.

#### Purpose/Methods

The aims of the group were (1) to develop a comprehensive clinical service model. (2) to explore the group effects of enhancing ASDs' empathetic and friendship abilities. Patients aged 18 to 30 were recruited from psychiatric outpatients in National Taiwan University Hospital. A 10-week period intervention program focused on interpersonal and social skills was designed, once weekly, ninety minutes for each session. Explanation, modeling, role playing and feedback were used. The pre-post intervention effect was evaluated with questionnaires.

#### Results

A total of 13 male young adult with ASDs patients were enrolled in the groups. Members reported social skills learned in group sessions and revealed moderate satisfaction, the pre-to post-treatment differences were found on measures of symptoms, social competence and friendship behaviors between participants. The changes and improvements suggest that role play in sessions, program design address self awareness, and especially in empathy training behavior would be valuable.

#### Conclusions

1. It is important for individuals with ASDs have the opportunity for sharing ASDs-related feeling and emotion experiences. 2. The results show that the group therapy is effective on enhancing patient's self awareness, social skill and friendship performance. 3. Social skills learned in group sessions should be generalized to settings outside the treatment group and the quality of life. 4. Larger, controlled continuous group treatment effects should be followed and enhanced in the future studies.

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## DEHP and Its Implication in the Pediatric Population of Taiwan

**WANG I-Jen, KOTO Karen, LIN Shoei-Loong**

#### Introduction

In May 2011, the Taiwanese government accidentally discovered a manufacturer replaced expensive natural clouding agents (palm oil) with diethylhexyl phthalate (DEHP). The tainted clouding agent were widely distributed in many food, health supplements, and medicinal products. The potential toxicity of DEHP includes kidney toxicity, thyroid problems, infertility, cancer, precocious puberty in females, and feminization in males. The relatively vast exposure items, combined with DEHP's potential effect on sexual development in children, caused unprecedented panic in the Taiwanese public.

**Purpose/Methods**

This study aimed to help ease the public concern about the incident and raise awareness to future food contamination problems. Children whose parents brought them to clinics because of concern about plasticizer-tainted food products consuming were recruited. A questionnaire survey according to the list of contaminated items and environmental plastics exposures was created to access various sources and duration of the exposure and health effects. Blood and urine specimens were analyzed for biological changes and indicators of exposure.

**Results**

Finally, 69 children with specimens were enrolled. The first five most contaminated items that children consumed was probiotic powder (47.8%), antibiotic syrup (43.5%), sports drinks (40.6%), juice concentrate (34.8%), and Tapioca milk tea (33.3%). The mean age was 5.48 (range 1-13) years old. The BMI was mean  $\pm$ SD 18.24  $\pm$ 6.05. Initial laboratory data showed no significant difference in white blood counts, liver and renal function, and sex hormonal levels, compared to normal children population of the same age.

**Conclusions**

Though the present laboratory data was within normal range, long term follow up of the growth and health outcomes is necessary. Further age specific analysis is needed to investigate the possible consequences of ingestion of DEHP.

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## Prevention of indoor dampness in genetic susceptible wheezing children

**WANG I-Jen, TSAI Ching-Hui, LEE Yungling L.**

**Introduction**

Evidence has shown that climate may contribute to different prevalence of asthma in different geographic areas. In subtropical area, indoor dampness is a risk factor for respiratory symptoms and constitutes a significant public health problem. However, little is known about the effects of dampness and genetic polymorphisms on asthma.

**Purpose/Methods**

In this study, we evaluated the effects of home dampness and  $\beta$ 2-adrenergic receptor (ADRB2) genetic polymorphisms on asthma and wheeze. We investigated 6078 schoolchildren by a standard questionnaire for respiratory symptoms and environmental exposures. Multiple logistic regressions were performed to assess the association between ADRB2 polymorphisms and home dampness frequency and degree (visible mold on the

wall, mildewy odor, water stamp on the wall, and water damage) on asthma phenotypes, after adjusting for potential confounders.

**Results**

The frequency mildewy odor, the number of walls with water stamp, and the duration of water damage were associated with increased risk of awakened at night due to wheeze ( $p < 0.05$ ). ADRB2 Arg16Gly showed significant interactive effect with home dampness on current wheeze ( $p$  for interaction=0.04) and awakened at night due to wheeze ( $p$  for interaction=0.007). The frequency and degree of home dampness was associated with increased risk of current asthma, current wheeze, medication use, and awakened at night in an exposure-response manner among children with ADRB2 Arg/Arg genotype ( $p < 0.05$ ).

**Conclusions**

Home dampness prevention is one of the important steps of asthma control, particularly in children with ADRB2 Arg/Arg genotypes. In subtropical areas with humid climate, early prevention and remediation of indoor dampness should receive more public attention.

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## Session M1.3: Addressing non-communicable diseases with health promotion: Metabolic disorders and diabetes

### Capacity building for a diabetic patient support group

**HUANG chiu-yu, KAO ying-hsia, CHANG Chun-hua**

**Introduction**

A diabetic patient group, SWEET FAMILY, was established to promote health cognition, self-efficacy and healthy behaviors. In order to enhance autonomy and independence of the group, we grouped members based on their abilities of self care and self management. We encouraged the high-ability group to share their experiences and to participate in the management of the group. Through this approach, this diabetic patient group improved their capacity to promote their health belief and objectives.

**Purpose/Methods**

The diabetic patient group members get together regularly. Health seminars are held twice per month, gathering once two months, aerobic activities once per week and outdoor hiking



once per month. Based on their abilities of self care and self management, we group them into group A, B, and C. The group A members led group B and C to promote their health knowledge, attitude and behaviors.

### Results

60 diabetic patients took part in the pre-and-post physical examination. This study found that there were statistically significant reductions in fasting blood glucose by 9.16%, waist circumference by 7.38%, Glycated hemoglobin by 6.06% and blood pressure by 5.5%.

### Conclusions

The operation of the diabetic patient support group brought positive health of the members. This study suggested that the patient support group take ability grouping to assign different groups different tasks and provide diverse education courses so as to empower the ability of diabetic patients.

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**Serum hyperglycemia might be not related to fat composition of diet and vegetable composition of diet might improve sugar control: 24-hour dietary recall data from a group of type 2 diabetic patients in Taiwan**

**HOU Yi Cheng, CHANG Ya Lin, KUO Shih Ching, CHIANG Chih Fan, CHIANG Cheng Yang, LIN Yu Fang, CHEN Chih Xian, WENG Pei Chen, LIU Ni Ying, LAI Chien Han**

### Introduction

Objective: This study was conducted to examine the relationship between the biochemistry data and food compositions in the diabetic patients.

### Purpose/Methods

Method: One hundred and forty-five type 2 diabetic patients were enrolled. The correlations between biochemistry data and diet compositions from food questionnaire were explored (Spearman correlation,  $p < 0.05$ ). The diet compositions were also correlated with each other to show the diet characteristics of diabetic patients in Taiwan. Linear regression was also performed for the significant correlated groups to estimate the impacts to biochemistry data from different compositions in diet.

### Results

Results: Postprandial serum glucose level was negatively correlated with the fat diet, polyunsaturated fatty acid and fiber diet. Hemoglobin A1c was negatively correlated with fat diet, polyunsaturated fatty acid, vegetable diet and fiber diet. Fat compositions, polyunsaturated fatty acid and monounsaturated fatty acid in diet seemed to be negatively correlated with sugar percentage in diet and positively correlated with vegetable and fiber in diet.

### Conclusions

Conclusion: Serum glucose might not be correlated with fat diet and vegetable with fiber diet might improve sugar control in diabetic patients.

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## Session M1.4: Health promotion for older patients

**Health and Body Image of the Elder in Dual Cities: Discussing the Value of Exercise and Sport and Viable Policy**

**GUO Jeffrey, LU Piching**

### Introduction

Ageing of population and rapidly aging is a global trend in developed countries; as in the past, the body image of elder stayed in the treatment of concepts, making the national policy put effort on the improvement of expenses in medical care and cure, but not to promote the benefits of sport and design the suitable regulations for the elder.

### Purpose/Methods

This paper focuses on the theoretical perspectives of symbolic interaction and the looking-glass self from Charles Horton Cooley, to examine the social construction about self-image of the elder in Taiwan, adopting qualitative methods to conduct this empirical research with combination of questionnaire and depth interview

### Results

the process of body image constructing for the elder in aging society, while facing the changes in population structure, the society requires for a brand new understanding after the challenge the contents of this study followed by analysis of the elder for the value of perspectives from their own health to explore the social system, judging if the elder can have functions of reproduction, rather than just the maintenance and waiting for death

### Conclusions

Not the same living styles of the elders may have total different perspectives of body images, after comparing the elders living in the dual cities. Therefore, there should be several types of health strategies for them to deal with their own healthcare.

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## The relation of exercise and psychiatric disorders in geriatric population

**CHENG Chun-Yun, LIU Wen-Liang, CHEN Mike Li-Chung, YU Wen-Ruey, HO Chin-Yu, CHANG Yu-Tzu**

### Introduction

Psychiatric disorders in the elderly got more attention over the last decade. Previous studies have suggested that regular exercise may reduce psychological symptoms and psychiatric disorders. This study aimed to find out the relation of exercise and psychiatric disorders in geriatric population in Taipei City, Taiwan.

### Purpose/Methods

We wanted to evaluate the association of exercise and psychiatric disorders. The subjects received health checkups in Taipei City, Taiwan, 2009. All subjects were more than 65 years old and were grouped by exercise frequency (sedentary, exercise sometimes, exercise more than 3 sessions per week). We assessed the psychological symptoms with a 5-item brief symptom rating scale (BSRS-5, table 1). A BSRS-5 score higher than 5 points (score 6-20) signified the presence of psychiatric disorders, and was defined to abnormal.

### Results

A total of 40,053 subjects (men: 52%, women: 48%) were enrolled. The numbers of each group were: sedentary: 4,175 (10.42%), exercise sometimes: 11,301 (28.22%), exercise more than 3 sessions per week: 24,577 (67.07%) (table 2). In this study, 3,722 (9.29%) subjects scored higher than 5 points in BSRS-5. The proportions of abnormal BSRS-5 of each group were: sedentary: 13.25%; exercise sometimes: 10.31%; exercise more than 3 sessions per week: 8.15%,  $p < 0.0001$  (table 3).

### Conclusions

The proportion of abnormal BSRS-5 was lower in the group who exercise more. There was an inverse relationship between the proportion of abnormal BSRS-5 and the exercise frequency. Regular exercise may reduce psychological symptoms and prevent psychiatric disorders among geriatric population.

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## A preliminary study on the needs of athletic trainers and the professional training connotation for elders exercise: the perspectives of the elderly

**CHUANG SHU-HUI, LIN Chun-Hua S.**

### Introduction

When national development entered into an aging society, keeping the elders with a healthy quality of life is one of the most important issues for the government. The objective of the health industry is to assist the elderly maintaining healthy life style and quality of life. From the perspective of health promotion and preventive medicine, improving elders' physical strength to the situation of living independently is an important method accomplishing the above goal.

### Purpose/Methods

Owing to physical ability and health condition of elders, they require extra care when taking exercise in promoting health and physical strength. Therefore, it is essential that athletic trainers providing their professional assistance to elderly while engaging in general exercise. The study was designed with mixed research methods of quantitative and qualitative approach. Focusing on the elderly members of a community college as samples, this study collected data with questionnaire as the major method and supplemented by in depth interviews.

### Results

The data collection was to understand the elders' views on their needs of athletic trainers while exercising, and related contents of athletic training process. Assisted with literature review and analysis, this study further explores the elders' perspectives on their needs and the professional connotation on athletic training.

### Conclusions

The study will complete with suggestions on the professional athletic trainers' training program for elders exercise. Our study will design a set of curricula to fit the professional athletic trainers' training program for elders exercise.

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## Session M1.5: Strengthening health literacy in and by health care

### Intuitive reinforcement of diet education will help more patients to reach the therapeutic goal

**JUHEE AHN**

#### Introduction

Suwon medical center (SMC) is responsible for the public health care of 290,000 residents. The population of Suwon city is 1,040,000. The nationwide survey in 2007 showed the prevalence rate of hypertension and diabetes of Suwon city as 28.3% and 8.6%, respectively. The compliance of anti-hypertensive drugs was similar with that of national statistics (40.9% vs. 41.5%). However the compliance of anti-diabetic drugs was much lower (5.6% vs. 43.2%). The 47.8% of diabetics have been taking medicine for 180 - 240 days per annum. As one of the health promoting hospitals in Suwon city, SMC deemed necessary to find ways to improve the drug compliance of the patients, especially those with diabetes.

#### Purpose/Methods

From April of 2011, SMC had conducted a 6-month survey on the patients and other participants to see to what extent the people understood their current health state. The questions included were- what they know about diabetes and hypertension, what they would like to know, and did they know the level they needed to reach after the treatment. It includes the 103 in-patients and 149 participants from the 12 community health survey. The majority acknowledged their shortage of information on the life style modification including dietary treatment. Accordingly, the SMC HPH team incorporated Korea Diabetes Association's recommended standard diet chart to actual photos of Korean and other meals that listed their average sodium or calorie content. Blood pressure and HbA1c were reviewed whether they reached the goal or not. Their satisfaction to the photo manual was assessed as well.

#### Results

All of the responder had replied that the photo manuals were easily understandable. 95% had also strongly agreed that it was applicable to daily life and 70% gave extra points on the material's originality. In comparison to the previous survey, the responders resisting daily intake had decreased 30%. Also, the responder's BP are reached the treatment goal. The HbA1C are changed from 8.2 to 7.2.

#### Conclusions

To reach the therapeutic goal, life style modification is important for the hypertensive and diabetic patients. In contrast to the traditional method, easy-to-understand and patient friendly manuals will help patients in daily practice.

#### Comments

Producing and utilizing educational resources to provide information on diet modification that are easy for patients has shown an important value in patient-centered care.

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### Comfort and quality program for the active management of the waiting/visit room. Improvement of the health educational program

**PAROGNI Pierpaolo, LUPPI Mario,  
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#### Introduction

Context: The Mantua's territory, which has 393,723 inhabitants, of whom 106,579 people older than 60 years and with the prevailing incidence of cardio-cerebro-vascular diseases, needs still health information to promote correct life styles, health service organization and news concerning prevention's rules.

#### Purpose/Methods

Aims: Increase of the suitability criterion recognizing the features of the requests and the patient's category. Increase the efficiency of the healthcare system, as multidirectional net, guaranteeing the diffusion of transmitted information to every Citizen. Create elements of facility and simplification turned to the satisfaction of the needs in a continuum among hospital and territory. Operating planning: Introducing multimedia informations during the stay in the waiting rooms, based on the out-patients' treatment with modality of education on the correct lifestyles. Stimulate the User to have consciousness of his health and of what offered by the local service Activity that we shall create in order to meet following topics: \*Interventions that help having the biggest possible control on the health state and living at the highest level of autonomy for chronic patients or even final ones. \*Interventions destined to the patients, to the staff and to the community on tobacco, alcohol and physical activity. \*Welcome capacity of the structures with information about logistics, hotel services, system of signals with simplification of the routes. \*Multidimensional intercultural approach to the assistance through information and care pathways oriented to the different cultures, to the children, adolescents and elders. \*Modality to prevent the new big social illnesses of our epoch, from the obesity to the cardiovascular pathologies, from the tumors to the most diffused epidemics, increasing the value of the practices that allow the solution of these illnesses. \*Educate a correct feeding method to support new lifestyles, especially for the children, the adolescents, the differently able ones and the elders. \*Strengthen the quality and the safety of feeding, by translating it into the

certainty of having and consuming healthy food. As a first step, we proceeded to positioning some monitors in two of the most important waiting rooms, i.e. in First Aid and Emergency Room Carlo Poma Hospital of Mantua. Using these monitors and with dedicated software and hardware, we started the experimental phase of the project, designed to transmit video programming non-stop twenty-four hours, with schedule of production chosen and approved by the Project Committee and in line with the institutional aims of the health service.

### Results

1. Improvement the citizen-sanitary system relationship one intends to increase the value of the processing and technological patrimony and the rationalization of the resources and their use; 2. Transmission of health information and health promotion, continuously and pleasant 3. Customer satisfaction, 4. Health education to citizenship, 5. Suitability and equality of the medical service 6. Improvement of the quality of the offered health service and a positive social health education.

### Conclusions

Conclusions: From experience gained during the design phase, which will see the conclusion by the end of the year 2014, and the results collected so far, we aim to create a Web-TV, moving from an intra-company management to an inter-corporate partnerships with the main institutions of Mantua.

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## Application of the transtheoretical model into the weight loss program

**CHAO-YANG Fu, MIN-YUE Huang, WEN-YI Tseng**

### Introduction

Obesity-related diseases increased such as diabetes and cardiovascular diseases while people change their lifestyle and dietary habits. According to a nutrition survey by Department of Health, 44% of adults are over-weighted or obese. In other word, among 2.5 people, one is over-weighted or obese. It is obvious that obesity is serious in Taiwan. That might be because that people lack correct nutrition knowledge and attitudes and in turn lack behaviors for self care and management.

### Purpose/Methods

This study applied the transtheoretical model into the weight loss programs in a southern hospital. We held the weight loss program over a series of 3 sessions, and every time the program lasted for 8 weeks. These programs involved 42 subjects including hospital staff and the community. These programs were developed based on the interdisciplinary approach including nutrition, Chinese medicine, aerobic and exercise. Pre-and-post-test data was collected to examine the difference in knowledge, attitude, behavior and biochemical data.

### Results

After the weight loss programs, the scores for weight loss knowledge, attitude and behaviors increased by 10%, 4% and 18%, respectively. The means of weight and body fat decreased by 3.5kgs and 2.1%, respectively. The means of wrist circumference and buttock circumference reduced by 5cm. The abnormal value of cholesterol for 20 subjects decreased by 18 mg/dl, and that of triglyceride for 14 subjects decreased by 49 mg/dl.

### Conclusions

This study proved the effectiveness of the weight loss programs with application of the transtheoretical model which combined concepts of psychotherapy and behavior change.

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## Session M1.6: Supporting smoking cessation

### Smoking cessation counseling kiosks and inpatient smoking habits and behavioral change

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### Introduction

With effect from 11 January, 2009, statutory non-smoking areas have been extended to public places and indoor workplaces jointly used by three or more persons. Learning from the experience in Japan and France, Taipei Department of Health initiated the smoking cessation counseling kiosk program. The program provided designated smoking areas for smokers to use before they quit. Kiosks were equipped with cigarette extinguisher and cessation information for user's reference.

### Purpose/Methods

In this cross-sectional study, researchers designed a structured questionnaire to analyze a quota sample whether quit intentions and smoking behaviors changed after establishment of smoking cessation counseling kiosks in the Taipei City Hospital Heping Branch. In addition to exploring the association, differences before and after implementation were also compared.

### Results

1. Text and graphic information displayed more than 1/3 smokers, the kiosks changed smoking behaviors among smokers, who became self-disciplined by smoking less. 2. Smokers attempted to dial quit-line but gave up due to poor response. (They expected one stop services instead of getting information on smoking cessation class)



### Conclusions

One stop services that provide all available resources and increased access to quit information could be practical strategies to enhance utilization among smokers. To the hospital the patient will take the initiative to the smoking area. The Fixed smoke place help hospital environment clear.

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## The Clinical Evaluation of the Smoking Cessation Clinic in a Teaching Hospital in Northern Taiwan

### LIN Feng-Cheng, CHIEN Wu-Hsiung

#### Introduction

This study is to explore the results of the smoking cessation clinic in a teaching hospital in northern Taiwan.

#### Purpose/Methods

We provided healthy education and counseling services to the patients. In the meanwhile, we also supply them with nicotine patch. All demographic data, no. of OPD visits and smoking status at 3rd, 6th, 12th month were also traced by telephone calls. The dependent variables were success rate of 3rd months, 6th months and one year interval. Independent variable were information about age, sex smoking experience, health condition and factors related to treatments.

#### Results

We collected total 479 cases since Oct. 2002 to Feb. 2007, and excluded 52 cases due to double visits, or persons could not be contacted with telephone. And finally had 427 cases put in analysis with the overall 76.3%(326/427) response rate. The results showed the success rate of smoking at 3rd month was 26.0%, sixth month was 18.7%, and one year was 15.9%. The success rates were decreased with time ( $p=0.03$ ). According to logistic regression, the degree of nicotine dependence, and side effects of treatment were significantly related to smoking cessation.

#### Conclusions

In conclusion, the success rates of smoking cessation were decreased with time. The degree of nicotine addiction was associated with smoking cessation. However, the association between side effects of treatment and smoking cessation need to clarify in further studies.

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## The efficacy of group smoking cessation programs : The experience at Cheng-Hsin General Hospital in Taipei, Taiwan

### CHIEN Wu-Hsiung, LIU Jorn-Hon

#### Introduction

Smoking is viewed as a chronic and addictive disease. It is essential to promote the smoking cessation on the smokers' health and environmental protection. It is also an important issue to help smokers quit smoking and reduce smoking population. A nationwide tobacco control practice was conducted in 2002 by Bureau of Health Promotion, Department of Health, Taiwan. Our institute also actively participated this program to achieve the goal of smoke cessation.

#### Purpose/Methods

The duration of the group smoking cessation program was four weeks. All of the participants received tobacco cessation education by the doctor of family medicine, nutrition supplement and body weight control lessons by a dietitian, and experience sharing courses for all of the participants. The inclusive criteria included age>18 yrs, smoke>10 cigarettes/day or Fagerstrom Tolerance Questionnaire >4 points. The outcome evaluation was based on smoking cessation rate at 3 month, 6 month and 1 year after finishing the smoking cessation program.

#### Results

There were sixty eligible subjects participated the program between June 2008 and July 2010. Our results showed that the smoking cessation rate was 28% at the 3rd month, 28% at the 6th month and 28% at 1 year respectively in 2008. In 2009, the smoking cessation rates were 50%, 50%, and 28% at the 3rd month, 6th month and 1 year, respectively. In addition, the smoking cessation rates were 33%, 33%, and 21% at the 3rd month, 6th month, and 1 year in 2010, respectively.

#### Conclusions

After a four week intervention, there were significant reductions in the smoking rate of all participants. This smoking cessation program was apparently effective if participants well cooperated. It is worth to promote the smoking cessation program to help smokers quit smoking and reduce smoking population.

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## Session M1.7: Strengthening organizational capacities for HPH

### The assessment on the level of Health Promotion Environment in Regional Public Hospitals in Korea by using an evaluation index, developed by the Analytic Hierarchy Process Decision-Making Method

LEE Dong-Won, JUNG So Young

#### Introduction

This research was conducted to evaluate the health promotion hospital environment of public hospitals in Korea and determine the areas need to be improved to make health promotion hospitals. For accuracy and validity of the assessment, an evaluation index was developed, using the Analytic Hierarchy Process(AHP) Decision-Making Method, which allows a different importance-weight on each questionnaire of the survey. Using the AHP Method makes an accurate assessment tool to evaluate the level of health promotion environment.

#### Purpose/Methods

To evaluate the level of health promotion at hospitals, an evaluation index, developed by the AHP Method was used, from which a total of 20 questions were developed in the five domains of non-smoking, moderation in drink, exercise, nutrition and rest. Each of the five domains contains three sub-domains of environment, promotion and management. Each of the 20 questions has a different importance-weight depending on the level of importance in making Health Promotion Hospital. A survey with this evaluation index was conducted in a total of 34 local hospitals across the nation.

#### Results

Through this analysis, it was found that local hospitals across the nation were on average excellent in terms of their no-smoking environment, but poor in their rest and moderation in drink environment. A comparison of Health Promotion Hospital Environment of local public hospitals by region showed that Busan, Daegu, and South Gyeongsang Province were good, while South Chungcheong Province, Jeju Province and Gwangwon Province were poor. In terms of the number of beds, mid-size local hospitals (200-299 beds) came first.

#### Conclusions

This research revealed that local hospitals across the nation had a different health promotion environment according to their sizes and regions of the location. In particular, their environments for rest and moderation in drink turned out to be poor, which showed that these areas desperately needed to be improved in order to make health promotion hospitals.

#### Comments

The uniqueness of this study is that a specialized assessment tool was developed and used to evaluate the Health Promotion Hospital Environment in Korea. The evaluation by this assessment tool will assist the local hospitals in planning adequate programs to improve the areas needed to be improved in their environment to make health promotion hospital.

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### Awareness and Service Behavior of Thailand's District Health Promoting Hospital - a Key to Success of HPH

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#### Introduction

The Health Promoting Hospital standard is based on the Ottawa Charter for health promotion for reorienting healthcare services. Ideally, hospitals should focus not only on the clinical treatment of existing diseases, but on assisting members of the community in practicing a healthy lifestyle. District Health Promoting Hospitals (DHPH) are the closest government healthcare services to the communities in which they serve. Therefore, their leadership is crucial to the promotion of public health.

#### Purpose/Methods

This descriptive research aims to determine both the level of awareness and service behavior of directors and staff of DHPHs. Thirty-one DHPHs were recruited from among 220 DHPHs by simple random selection. The data was collected using a survey questionnaire. It was then analyzed using percentage, mean, and content analysis methods.

#### Results

The results show that the most responsible personnel are professional-level public health technical officers and nurses, female, ages 30-39, with graduate degrees. Their awareness of problem solving situations as well as their influence on the social environment is fair. Their service behavior ranked highest in the area of community strengthening/participation.

#### Conclusions

Result implied the likelihood of success for further development of health promotion in DHPHs, regarding the adequate awareness and participation from DHPHs staffs and the communities. Continuous support and empowerment should be delivered to these DHPHs to help sustain their effort and effectiveness. For





long-term, the Health Promoting Hospital National Quality Award (HPHNQA) should proceed to standardize their practices and continue the promotion of healthcare within their settings. Thailand will continue to take steps towards its Healthy Thailand goal.

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## Assessing organisational readiness for change prior to implementation of National guidelines for lifestyle interventions in primary health care

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### Introduction

The Swedish National Guidelines for Lifestyle Interventions were released in December 2011, and will now be disseminated to the regional healthcare organizations. Health promotion and prevention interventions in health care have only been implemented in a limited way until now. An organizations preparedness to a specific change i.e. "organizational readiness to change" (ORC) - has been found crucial for the outcome of implementation. ORC relates both to organizational aspects as well as attitudes and approaches by its members.

### Purpose/Methods

Our aim was to provide a baseline of two Swedish healthcare regions' readiness for change to a more health oriented primary health care, and to the national guidelines for lifestyle interventions. The study has a mixed methods approach. Data collection consists of archival data, interviews and a close ended questionnaire. Respondents of the questionnaire are heads of PHC centers, physicians and registered nurses (n.314). Interviewees are key persons in the healthcare regions. Data has been analyzed with thematic content analyses.

### Results

Interviews and archival data show that previous experiences of implementing health promotion practice and earlier National guidelines differ in the two healthcare organizations. One of them has a long tradition of lifestyle interventions and has included this perspective clearly in its' organization culture. In the preparations of the upcoming guidelines there are both similarities and variances, e.g. the consequence analyses were performed differently while both of them emphasize the need for professional education and the importance of political decisions.

### Conclusions

The study is still in progress and it is too early to draw some major conclusions, however the results clearly reveal the importance of diagnostic organization analyses to be able to plan effective change.

### Comments

As far as we know it's the first time ORC is being measured for lifestyle interventions in health care. Considering the difficulties in implementing health promotion in health care this study can contribute to clarify some of the particular challenges previous to select implementation strategy and methods. The results are still preliminary since questionnaire data is being analyzed statistically at this moment (Dec 2011).

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## Nurse-Nurse Collaboration - a survey to the registered nurses in a university hospital

**YLITÖRMÄNEN Tuija, KVIST Tarja, TURUNEN Hannele**

### Introduction

Nurse-nurse collaboration has been linked with job satisfaction, improved patient care, patient safety and decrease in medical errors. Intraprofessional collaboration is an important issue considering the well-being of the nurses and the ongoing challenges of nurse shortage. On the other hand, poor interaction among nurses cause job dissatisfaction. Nurse-physician collaboration has been studied since the beginning of 1960's, but little research has been focused on nurse-nurse collaboration.

### Purpose/Methods

The purpose of this study was to describe the level of collaboration among nurses in a hospital setting. The data was collected by questionnaire survey in spring 2011 from registered nurses (n=113) working with heart disease- and paediatric patients in a university hospital. The Nurse-Nurse Collaboration (NNC) Scale constructs of five sub scales of collaboration: conflict management, communication, shared process, coordination, and professionalism. The data was analyzed with statistical methods (T-test, one-way analysis of variance).

### Results

The results of this study showed that nurses working in the hospital were reviewing their collaboration as good at the time of the survey (97%). The majority of the nurses (95%) felt that it is easy to communicate with the other nurses. In addition, the nurse's title ( $p=0,029$ ), the continuing training ( $p=0,039$ ), the work experience in health care ( $p=0,029$ ) and the form of employment ( $p=0,043$ ) had a statistical significance on nurses' collaboration.

### Conclusions

The results indicated that collaboration between nurses is good in the hospital settings. Furthermore, the findings suggest that there is a connection between nurses' collaboration and job satisfaction. This is an important issue for strengthening the attractiveness of the nursing profession and workplace health promotion. The results of this study can be applied when evaluating the level of collaboration at the workplace and when planning staff training.

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## Session M1.8: Developing tobacco-free health services

### The Experience Sharing of Adopting ENSH Self-Examination Strategy to Implement Smoke-Free Hospital Policies in a Psychiatric Teaching Hospital

**CHIU Hsien-Jane, SHEN Shu-hua, YAN Miao-Fen, JANG Shwu-Ling, LU Hui-Lan, LEE Wan-Ling**

#### Introduction

The smoking rate and the amount of cigarettes smoked of psychiatric patients is much higher than the general population. Taiwan's Tobacco Hazards Prevention Act had involved psychiatric medical treatment institutions in smoke-free implementation. Some mental health professionals believe that smoking can stabilize patient's emotion and if the institution enforces a hospital-wide ban on smoking, it may cause patient's emotional agitation and therefore oppose to the act. Smoking cessation is a vital method to reduce the death rate. Accordingly, our hospital employed the European Network for Smoke-free Hospitals (ENSH), the self-examination strategy, to bring smoke-free hospital policy into practice to eliminate health inequalities.

#### Purpose/Methods

In response to the implementation of Tobacco Hazards Prevention Act on January 11th, 2009, our hospital began to promote comprehensive smoke-free environment policies since January 12 that year. All staffs and patients participated and implemented the program with team work strategy. Besides, since January, 2011, we had brought into force the checklist appraisal and intervention for improvement based on 10 ENSH standards and 42 items.

### Results

Before adopting ENSH-standard intervention methods in January, 2011, our hospital implemented self-examination according to ENSH standards and acquired a total of 161 points. For smoking recognition and smoking cessation support, we scored 28 out of 32, the total score. The total score of tobacco hazard control standard is 20 points. We scored 17 out of 20. After employing ENSH-standard intervention methods in June, 2011, our hospital's smoking recognition and smoke cessation standard increased by 2 points and Tobacco Hazards Control Standard increased by 3 points, summing to 166 points and the total score increased by 5 points and won the best golden award of mental hospital in Taiwan.

### Conclusions

Incorporating hospital-wide smoke-free environment policies, general participation, providing services and care proactively as well as ENSH instruments can help the institutions have a profound understanding and assessing of the pragmatism and effectiveness of a psychiatric teaching hospital enforcing smoke-free hospital policies. Besides, it can attain to the health promotion of all of the staff, patients and their family members to reduce health inequalities.

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## Tobacco or Health in Estonia

### HARM Tiit

#### Introduction

Estonia ratified the WHO Framework Convention on Tobacco Control (FCTC) in 2005. In the same year, 2005, the Estonian Parliament passed into law The Tobacco Act to comply with the FCTC and current European Directives on tobacco. The case for reducing tobacco use is articulated in: the National Health Plan (2009-2020), the National Strategy for the Prevention of Cardiovascular Diseases (2005-2020); the National Cancer Strategy (2007-2015). Outcome indicators: prevalence of daily smokers is reduced among men aged 16-64 to 30% and among women to 10% by the year 2020.

#### Purpose/Methods

According to the Health behavior study among Estonian adult population, 2010, daily smokers among men was 36,8%, among women 18.7%, in total - 26,2%. Daily smokers by education: with university education 13% and primary/basic education - 42%. Smoking during pregnancy 8,8% (Estonian Medical Birth Registry, 2010). Smoking prevalence among adolescent boys (HBSC 2009-2010): 15 years old boys 28%, incl. every day 16%, 13 years old boys - 16%. incl. every day 6%. Among adolescent girls: 15 years old girls - 23%, incl. every day - 10% and 13 years old girls - 11%, incl. every day - 3%. Distribution of schoolchildren who have tried waterpipe is increasing: from 16% (HBSC 2006) to 25% (HBSC 2010).



## Results

The implementation of tobacco-free strategies in Health Promoting Hospitals and health services: In the framework of national health strategies was established the network of 26 tobacco cessation clinics (TCC) to provide the supportive help for quitters. 5 TCC were opened for children and adolescents. The TC service is free of charge for all patients. Since April 2010 the smoking cessation service for adult population (16-64 years age) is financed by European Social Fund. 320 health care professionals were educated as tobacco cessation counsellors. More than 15000 smokers were supported about 32000 times in their quitting process. On average, 18-19% of the quitters are staying as non-smokers after 1 year. Estonian HPH Network joined the European Network for Smoke-Free Hospitals (now Global ENSH) in 2005.. 5 Estonian HP hospitals are included to EU Network.

## Conclusions

Tobacco prevention and cessation need to be seen as integral part of quality management system in hospitals and health care facilities. Health professionals have to discuss and share experiences and best practices on tobacco. Important are to cut discrepancies in smoke-free lifestyles between different socio-economic groups and ensure public smoking cessation services in primary healthcare. Health professionals have to make smokefree environments more comprehensive. It is only through collaborative action we can struggle against tobacco!

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## Building a smoke-free hospital and smoking cessation services system - the example of a community-based Catholic hospital in Taiwan

**CHEN Mei-Chih, LIN Shu-Hua, LIU Ming-Jou, LIU Shu-Ling, YANG Yi-Hua, LIOU Wen-Chin, PAN Huei-Ming**

## Introduction

St. Joseph Hospital (SJH) is a community-based Catholic hospital, with an adherent of the spirit of "Service, Joy, Humanity". To safeguard the health of community residents, SJH have actively promoted the health of its community. The hospital promotes the "smoke-free hospital" from June 2011, its primary business is to establish smoke-free environment, operate the smoking cessation outpatient service, provide the consultancy and assistance services for quit-smoking plus educations and publicizing campaign against tobacco hazards in community.

## Purpose/Methods

As providing the smoking cessation clinics from 2003 in SJH, it serves numerous patients annually and cooperates with the government on educations and publicizing campaign against tobacco hazards plus the opening of quit-smoking classes. Moreover, due to build smoke-free hospital and smoking cessation services system, from June 2011, SJH follow the ENSH standards in order to execute related business. For advancing the operation of this system, SJH also took lessons of benchmarking management from Dalin Tzu Chi General Hospital.

## Results

1.The president of SJH led all staff to sign the letters of commitment. Now the ratio reaches 86.3%. 2.The medical team keeps providing the quit-smoking services and has established smoking cessation services system including information support system and consultation system. 3.SJH held the contest of creative quit-smoking slogans on November of 2011, and held a smoking cessation class for the smoking staff. 4.To create 100% smoke-free environment, anti-smoking posters posted in every corner of the hospital.

## Conclusions

For adhering the service spirit and guarding public health, St. Joseph Hospital will keep actively promoted health promotion program for implementation of smoke-free policy. It includes outpatient smoking cessation treatment service, and establishment of a complete case management system. In addition, the hospital will cooperate with neighboring communities, companies and schools to ensure the implementation of quit-smoking conception. Ultimately, the hospital will achieve the goal of being the member of ENSH.

## Comments

Tobacco used has a injurious effect upon the health of both smokers and non-smokers. The topic has been taken seriously around the world. As a community-based Catholic hospital, SJH has a special responsibility to set an example for other community hospitals to adopt smoke-free policies.

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## Create a Smoke-Free Community through hand-in-hand strategy

**HUANG Mei-Fen, CHANG Sue-Ting, HUANG Ming-Kuo, JUAN Chi-Wen, LIN Chia-Ching**

## Introduction

Nowadays healthcare services are increasing activities to create a smoke-free environment. However, rare healthcare organization has a strategy and implementation plan for the tobacco free policy cooperate with community local leader. The hospital

is concerned with promoting smoke-free environments in public places with external partners. The study examines community intervention can through healthcare organization to extend network structure and be valuable to impact smoke-free network culture effectiveness.

#### Purpose/Methods

The promotion of the non-smoking policy involves low costs and brings great benefits to the community's health. In order to have a smoke-free environment, the commitment, leadership, and participation of community partners is necessary. The purpose of our study are : (1)Educate people to understand about negative effect of smoking on health (2)Pay attention to cigarette smoking and secondhand smoking in community.(3)No smoking environment at public place.

#### Results

The hospital created a copartnership with local leaders to announce community network commitment and established a smoke-free policy, such as Taichung International Airport, Shalu Train station, Shalu park, Shalu elementary and high schools, 28 non-smoking convenience store, 6 non-smoking restaurants, 12 workplaces and other partner. Finally, the Health Department to train 60 volunteers for the "Shalu Township non-smoking patrol team" . We hosted smoke-free family activities in Luo Quan Li community.

#### Conclusions

Since 2008, 1,976 people have attended community smoke-free advocacy seminars and 70 members from variety of areas join to Shalu smoke-free network. The hospital final undertook the community smoking-cessation from 10% up to 30%. The Health Promotion Committee has a annual plan to promote the constitution and express support for smoke-free policy, and implementation of all steps of the complete commitment and declaration. Through a community-wide non-smoking partnership create a collaboration cultural and teamwork.

#### Comments

First of all, previous tobacco control activities demonstrated a single department or organization, however, this study shaping non-smoking behaviors toward smoke-free environment goals through hand-in-hand with local leaders to create network smoke-free culture. Secondary, a resource-based view, healthcare organization provides well training clinical staff to support smoke-cessation program, thus the study examines community intervention can through healthcare organization to extend network structure and be valuable to impact smoke-free network effectiveness.

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## Session M1.9: Supporting life-style changes in community settings

### Loose weight and win

**CHUANG Chin-Ru, CHOU Tzu-Yun, KUO Ying-Ling, CHANG Pei-Li, HUNG Ling-yu, TSOU Jhi-Chyun, MA Hon-Kwong**

#### Introduction

Obesity is a major risk factor of metabolic syndrome which account for 35.7% of the MS-related deaths among the top 10 causes of deaths in Taiwan according to the statistics by Department of Health. However, it is a challenge to attract the target group to participate in weight loss campaigns. A weight loss program which involved enhance of motivation is effective in our program.

#### Purpose/Methods

This study aims to develop an effective weight loss campaign through the provision of prize incentive and evaluate its effectiveness. This study collected pre-and post-test data regarding weight, height and BMI, among the community and hospital staff members. This campaign included competition, the provision of big prizes and signature of a commitment.

#### Results

The campaign attracted 835 participants including 108 hospital staff members. The total amount of weight loss is 2085.6 kg due to this campaign. Among them, 332 people reduce more than 3 kg and BMI decreased from 27.8 to 26.1. The most weight loss is 18.1 kg; the second is 16.1kg and the third is 15.3 kg.

#### Conclusions

The weight loss campaign with the provision of prize awards can enhance motivation and incentive of the target group to take part in the program and further to lose more weight.

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## Weight control project for hospital staff and community residents

**HSIEH Lan-Chi, HSIEH Hsiu-Chi, WU Ya-Hui**



### Introduction

Obesity is a common problem worldwide. Nutrition and Health Survey in Taiwan surveyed through 2004 to 2008 appeared that 51% of male and 36.2% of female adults were overweight and obese. More studies pointed that the Taiwan overweight population percentage increased 1.6 times within the last 11 years, while the overweight situation also increased with age. This project that focus upon hospital staff and community residents tried to control weight through exercise and the concept advocates of healthy diet.

### Purpose/Methods

The main purposes of this project were to promote healthy weight management, and to \*add 10% of participants who owned correct concepts of diet and healthy \*loss 2 kg for each participants All these were achieved by Ottawa Charter as to \*Build Health Public Policy by setting up an inter-departmental group \*Create Supportive Environments by opening up the Health Fitness Center \*Develop Personal Skills by doing aerobics, etc. \*Strengthen Community Actions by Provide individual obesity nutrition counseling \*Reorient Health Service by offering weight control program

### Results

The weight control project took 13 weeks in 2011. There were totally 54 persons joined the program, and 46 of them went through the entire program. 45 persons who finished the program loss 195.5kg altogether. Meanwhile there were 32 persons each loss weight more than 2kg. The proportion of participants who owned correct concepts of diet and healthy was 79.7% before the program, 85.8% at midterm, and 88.4% after the program.

### Conclusions

Our experience suggested that weight can be controlled through proper education, exercise and discipline. Results will be used to judge whether the courses are suitable for weight control program, and to make progress for future programs hopefully. However, larger scale of weight control programs and further investigations on blood pressure, blood sugar, and blood fat would be suggested.

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## Session M1.10: Health promotion and quality of care I

### Effects of auricular acupressure on postoperative pain and knee bending angles in patients with total knee replacement

## CHANG Ling-hua, TSAY Shiow-luan

### Introduction

Postoperative pain management remains a significant challenge for all healthcare providers.

### Purpose/Methods

This study aimed to examine the adjuvant effects of auricular acupressure on reducing analgesic drug requests, and improving knee bending angles in postoperative patients with total knee replacement. Sixty two subjects were recruited in our double-blinded experimental study. Subjects in experimental group received auricular acupressure to two acupoints, and in control group received ordinary care. Pain intensity were measured by the Visual Analogue Scale and the Short-Form McGill Pain Questionnaire. Knee bending angles was measured by continuous passive motion device.

### Results

No differences in pain intensity between experimental group and control group after surgery. However, analgesic drug usage (38.49 +/- 15.53 mg of morphine) in experimental group patients was significant lower than control group patients (53.07 +/- 19.90 mg) ( $p < .05$ ). On the third day after surgery, the passive knee bending angles in experimental group patients (71.68 +/- 6.90 °) were significant higher than control group patients (66.94 +/- 7.15 °) ( $p < .05$ ).

### Conclusions

Auricular acupressure was effective on reducing postoperative total knee replacement patients' analgesic drug use. Additionally, patient's knee rehabilitation of bending angles was improved on the third day after surgery.

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## Experience of hand hygiene promotion in a regional hospital

### HU Hui-ju, CHU Yuan-Hsin, HUANG Lee-Ling, YU Hsiu-Wen

### Introduction

Healthcare-associated infection (HAI) leads to prolonged hospitalization, increased medical cost, and it will danger the lives. Cleansing hands is the most simple, economic and effective method to prevent HAI according to the literatures. WHO launched a global annual initiative of "Save lives: Clean Your Hands." since 2010. The healthcare workers didn't fully understand "5 Moments for Hand Hygiene", and resulted in low compliance. Our first goal is by systemic changes that help to raise the accessibility of hand-washing equipments, knowledge and compliance.

**Purpose/Methods**

1. Check: Alcohol hand disinfectants, washing tanks, standard procedures in hand-washing during Nov-Dec 2010. 2. Education: Choose "Hand-Hygiene-General" to perform education and exam in every medical unit. 3. SS: Put alcohol hand disinfectants on the same location and check volume annually. 4. Promotion: Poster in ward and elevator, signatures of all people, short films, lectures, propaganda cloth strip, scrolling text marquee, broadcast in ICU. 5. Participate: Clinic: Poster at every computer.; Ward: Presents for patients who ask healthcare workers if they washed their hands. 6. Equipment: Increase washing tanks, alcohol hand disinfection of each bed. 7. Monitor: The accuracy, compliance in hand hygiene, use PDCA to analyze.

**Results**

We choose 26 staffs as "Hand-Hygiene-General", had 20 units to participate poster campaign, 1300 people sign for the activity, 8 lectures, 88% of admission patients participated, increased 320 locations for alcohol hand disinfection at bed-side, 50 at public areas, and one spot of washing tanks. After 6 months, the compliance raised from 36% to 55.4%. The most progress in 5 Moment for Hand Hygiene is moment 2:39.4%, followed by moment 1:31.9%. The function of equipment is 100% normal.

**Conclusions**

Education is important for healthcare workers to get well understanding in hand hygiene. The attitude of the managers especially the chief is the most important factor.

**Comments**

To promote hand hygiene campaign, some systemic changes will help raise the accessibility of hand-washing equipments, knowledge and compliance.

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## Development of quality indicators in clinical radiation therapy: an initial experience

**CHONG NGOT SWAN, TIEN HUI-JU, KUNG WEI-HSIANG, SHUENG PEI-WEI**

**Introduction**

In order to improve the quality of delivered services for patients receiving radiation therapy, we developed a set of quality indicators to be constantly monitored.

**Purpose/Methods**

Eight indicators were created, including the cancer staging compatible to the diagnosis, completing the prescription sheets and daily treatment records, finalizing the radiation therapy summary report, completing the interrupted treatment re-

sons, records of acute side effects during the radiation therapy, the proportion of curative intent patients performing computed tomography simulation, delivery of adequate dose for radiation therapy and treatment completed in an acceptable period. The initial threshold percent agreement was set to 80% for all indicators.

**Results**

From 2010 to 2011, at least fifty percent of the curative intent patients underwent radiotherapy were included in the monitoring procedure. The indicators were audited every 3 months. Statistical analysis of the auditing showed that all patients underwent computed tomography simulation and completed the prescription sheets and daily treatment records. Other indicators showed that percent of agreements of at least 91.1%.

**Conclusions**

We had developed the indicators which serves as valuable tools to allow us to track the quality and consistency of services delivered. This initial experience provided a basis to develop a quality measure system in clinical radiation oncology.

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## Multi-strategic Promotion of Adherence to Highly Active Antiretroviral Therapy in HIV-positive Population

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**Introduction**

The key to success of highly active antiretroviral therapy (HAART) is the good medical adherence of human immunodeficiency virus (HIV)-positive individuals. The consequences of non-compliance of HAART include not only therapeutic failure, but also emergence of resistant viruses which could be transmitted to the contacts. However, an average good adherence to HAART (>80% consumption of prescribed pills) were less than 60% according to the previous literatures. So, there is an urgency to promote the antiretroviral compliance among HIV-positive population.

**Purpose/Methods**

Between Jan 2009 and Dec 2011, HIV-positive patients who visited Taoyuan General Hospital were enrolled. Patients who were going to initiate HAART should be instructed in detail about dosing frequency, food/drug interaction and side effects by a well-trained case manager before initiation. Booklets and brochures were provided. Patients could participate in the decision of which medications he or she will take. Monthly peer



groups shared the experiences of dealing with side effects. In the year of 2011, voucher incentive program were offered to the poor especially injection drug users.

### Results

Totally 692 HIV-positive patients were enrolled. Among them 20.8% had dropped out due to incarceration, transference, or deaths. In these three years, the rates of keeping appointments improved from 78% to 86%. The adherence to HAART rose from 84% to 91%. As for 179 injection drug users, the rates of keeping appointments rose from 62.2% to 94.4%. Monthly methadone maintenance rates improved from 86.8% to 96.9%. The adherence rates to HAART among injection drug users who received incentives were 97.3%.

### Conclusions

Multi-strategic approach to tailor to the needs of the patients could help the patients initiating HAART smoothly. In this program, HIV-positive patients have experienced the intensive intervention by case managers, fully understood the HAART regimens before taking HAART, participated in the decision making of choosing medications, been supported by peer groups, and received incentive vouchers when needed, could effectively improve the durable adherence of antiretroviral therapy.

### Comments

Factors associated with non-adherence of HAART include side effects, complex dosing frequencies, pill burdens, jobs in shifts, alcohol or substance abuse, socio-economic factors and care-providers' attitudes. Multi-strategic approach to tailor to the needs of the patients could help the patients initiating HAART smoothly and keeping durable adherence.

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## Introduction of an annual Nutrition Day audit survey in Changi General Hospital, Singapore to assess nutritional status of inpatients and promote awareness of nutritional health among patients and staff in the hospital

**FOO JIA MIN, CHEONG MAGDALIN, ONG LI JIUN, CHIA PEI LING**

### Introduction

Nutritional awareness is an important aspect of health promotion and disease prevention. However, the nutritional status of patients is often not a priority and overlooked in the

hospital. Hence, we see the need to propose and introduce an annual Nutrition Day audit to conduct yearly self-assessment and quality evaluation of nutritional care and status of our patients and raise awareness of the importance of nutrition in our hospital. Our first Nutrition Day mock audit was conducted on 3 August 2011.

### Purpose/Methods

It involved a one day cross-sectional survey of the nutritional status and food intake of patients in the hospital with a follow-up period of one week for outcome. A total of 347 patients from 10 general medical wards across 5 different specialties participated in the survey. A set of standardized Nutrition Day questionnaires developed by the Nutrition Day Worldwide committee was given to all the participating wards and nursing staff assisted to fill up all the forms to collect the data.

### Results

A total of 347 patients (n=347, 204M: 143F, mean +/- SD age 66.47 +/- 19.92 years, median 72) participated in the survey. 73% of patients reported that they did not know their weight 5 years ago. 15.5% were underweight with a BMI of 18.5 and below while 55.2% had a BMI of >23 (n=219, mean +/- SD 23.54 +/- 4.86, median 23.5). 17% reported unintentional loss of weight within the last 3 months. Among those who reported unintentional weight loss, 26% reported weight loss of 1-5kg.

### Conclusions

A large proportion of patients was not within the healthy BMI of 18.5-22.9. They were either underweight or overweight. There is low awareness of personal weight history among patients. A significant number of patients reported unintentional weight loss in past 3 months prior to admission. The Nutrition Day mock audit provided valuable insight to the nutritional status of our patients which is useful for future interventions aimed at increasing nutritional awareness among patients and hospital staff for better health outcomes.

### Comments

Acknowledgements to Changi General Hospital Nursing staff for supporting Nutrition Day.

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## Session M2.1: Health promotion around pregnancy and birth II

### A Comparison of Fatigue and Sleep Quality in Depressed and Non-Depressed Mothers During the Postpartum Period

**HUIMIN Lo, SHU-CHUAN Chang**

#### Introduction

Taiwanese mothers have identified insufficient fatigue as a major manifestation of postpartum depression. Few studies have thoroughly examined the relationship between fatigue and depression during the early postpartum period.

#### Purpose/Methods

The objectives of this study were to compare the characteristics of both the postpartum fatigue, sleep quality and depressed, and to determine the factors that significantly increased mothers' risks of being depressed. A 62 postpartum completed a questionnaire between the 4th and 7th days of the postpartum period. The Center of Epidemiological Studies-Depression, Pittsburgh Sleep Quality Index and Piper Fatigue Scale were used to measure mothers' experiences of depression symptoms and fatigue.

#### Results

The results indicated that the depressed mothers had higher fatigue, and poorer sleep than the non-depressed mothers, reported more fatigue disturbances, and exhibited more day-time dysfunctions. Mothers who frequently perceived all day time to be affected by infant-care performance were more likely to be depressed.

#### Conclusions

The study's findings support the view that there is a connection between depression, sleep quality and fatigue among postpartum mothers in Taiwan, and indicate that depressed mothers' experiences of fatigue are multi-faceted, and not simply a matter of insufficient energy.

#### Comments

The results can be promoted by appropriately program in staff to potentially decrease depress, fatigue and increase sleep quality among postpartum mothers.

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## Depression, Social Support, Health Promotion

**CHANG Min-Yu, KUO Su-Chen**

#### Introduction

This study is to research the factors of depression, social support, and health promotion lifestyles in pregnant women. In this study, we investigated the pregnant women in one teaching hospital in the north Taiwan via coherent questionnaire.

#### Purpose/Methods

We aimed to study whether the symptoms of depression, the social support, and the health-promoting lifestyle were different with the general characters in the second and the third trimester women. We further investigated whether depression in pregnancy and the social support affected the health-promoting lifestyle and analyzed the factors of the performance of health-promoting lifestyle.

#### Results

The age of the pregnant women, education, occupation, parity, and planned pregnancy or not are associated with depression during pregnancy. And the severity of depression in the second trimester and the maternal age could predict the health-promoting lifestyle in the third trimester. The other result revealed social support will affect the health-promoting lifestyle of the women.

#### Conclusions

The nursing staff should screen and follow those women with high risk of maternal depression for early detection. Individual counseling, advanced interview, or assisted by professional staff should be performed to those women who are evaluated as severe depression. And, we may extend the prenatal health education to encourage the meaningful supporters (the husband or her mother) to learn pregnant nursing care and support with each other.

#### Comments

We suggest the lessons should include the skills of relaxation, management of stress. This will improve the ability of the medical staff and the pregnant women to resolve the stress and let those who have physical and psychological stress during pregnancy to perform better health-promoting lifestyle.

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## Survey of Nursing Rooms in Public Health Offices within Yilan County, Taiwan

**LIN Shih-Ching, LIN Hsueh-Kuei, CHOU Mei-Ling, HSIAO Chi Yin**

### Introduction

Breastfeeding has always been strongly promoted by the WHO as an important health policy. Taiwanese women have also been encouraged, and even urged, to breastfeed their infants. Nonetheless, despite years of promotion, it is clear that the government of Taiwan is still performing poorly in the formulation of relevant policies and the provision of nursing rooms in public venues.

### Purpose/Methods

Between July and September of 2011, this study inspected nursing rooms in all public health centers within Yilan County, and surveyed users of these facilities. The purpose was to determine how successfully breastfeeding policy has been implemented in local public health offices, and whether these centers are providing a humanized nursing environment.

### Results

The results show that although all public health centers have set up nursing rooms, as required by law, most of these facilities were not in use or not properly equipped. For example, 75 % of the rooms did not provide hand-washing lotion, soap, or wipes; 66.67 % of the rooms were used for storage purposes, had dirty changing tables, or did not provide a functioning drinking water dispenser. Neither the rooms nor the doors of 50 % of the facilities fully shielded the occupants from sight. The refrigerators in 33.33 % of the rooms were used to store other foods and beverages. These issues made the nursing rooms unattractive or inconvenient to breastfeeding mothers and their infants.

### Conclusions

This study hopes that, in formulating future policies related to breastfeeding, the government of Taiwan will direct its efforts toward ensuring that mothers and infants have access to comfortable, convenient nursing environments.

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## Session M2.2: Addressing non-communicable diseases with health promotion: Cancer and hypertension

### Personal Health Record based Service for Cancer Patients

**PARK Dong Kyun, JUNG Eun-Young, JEONG Byoung Hui, KANG Hyung Wook, MOON Byung Chan**

### Introduction

As cancer patients' survival period and number of complete recovery rise, interest in improving patients' quality of life is increasing. In addition, the rapid development of IT technology has made change in environment of medical. So, there were need for healthcare management services and system to manage their health condition no matter of time and place.

### Purpose/Methods

According to the rapid changes of health environments, u-CAREnote service was developed based on PHR(Personal Health Record) for personalized contents and self management service of cancer patients at Gachon University Gil Hospital. The developed total care system which provide customized medical and health promote service to patients and families contribute to improve health life expectancy and quality of life of patients.

### Results

u-CAREnote service is consist of PHR service, home nursing service, and specialized consulting services including diet@nutrition and fitness contents for cancer patients. The service interfacing with EMR of hospital be able to view and confirm their medical information using Smartphone, Web, USB and to continuously check customized cautions after discharged through health note of functions. In addition, it enables to send various symptoms(chemotherapy side effects, sudden pain) and diet@nutrition and fitness record input by onself and manage onself by personalized contents.

### Conclusions

u-CareNote service is specialized service for cancer patients developed by Gachon University Gil Hospital which is to provide premium services and various contents to improve cancer survivors' quality of life, that will extend it's services to chronic disease management. PHR has potential to lead disruptive innovation in healthcare industry and will become customer centric services which satisfies customers' right to know.

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## Be Volunteers as Health Promotion for the Women Who Recovered from Breast Cancer

**WU Fang-Chien**

### Introduction

According to mortality statistics from Taiwan's Department of Health, breast cancer for women was able to maintain at a rate between 10 % to 12% in 2009. We found many of the women who recovered from breast cancer had acted as volunteers in hospitals through their interaction with other breast cancer patients. This interaction aided these volunteers in further enjoying their lives – both physically and mentally.

### Purpose/Methods

We ran breast cancer volunteer support group for one and half years. In the past four months we ran the focus group where once a month we discussed the positive meaning of life. Other than this meeting, a social worker met with ten volunteer patients and conducted in-depth interviews. The focus group included six topics: their volunteer career and how it changed their lives, family support, religious beliefs, optimistic thinking, opinions on death, and spiritual growth.

### Results

We found the experiences of the volunteer patients who paid visits to other patients, brought them greater appreciation for life and further encouraged them to take better care of themselves which they felt the responsibility to be able to continue their volunteerism. Family support played quite an important role in the recovery period, the impact of religious beliefs offers similar concepts. The translates to health eating and living while having an optimistic outlook on life.

### Conclusions

Spiritual growth stems from these experiences as these volunteers find meaning in life, making them happy and sharing that happiness with others.

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## Cross-sector service integration for comprehensive patient care: Oral cancer services of Sunshine Foundation

**CHUANG Li-Chen, SHIANG Grace, YEH Yuh-Shiow, WEI Chang-Po, WANG Pei-Shan, TU Vita Yu-Hsien**

### Introduction

There are over 5,000 new cases of oral cancer in Taiwan annually, 90% of which are middle-aged men. The disease and its treatment are known to lead to disfigurement, result in difficulties eating and talking, and limit physical movements. Furthermore, stigma associated with disfigurement and cancer can result in social discrimination. This contributes to lowering life quality of cancer survivors and their family. Since 2006, Sunshine Social Welfare Foundation (SSWF) has been addressing these needs and issues through its services.

### Purpose/Methods

The comprehensive services of SSWF aim to improve health and enhance life quality of oral cancer survivors by addressing their physical, psychological, economical and social adaptation needs. Strategies include: 1. Resource integration by building referral partnerships with hospitals, with SSWF reinforcing service delivery after hospital discharge and linking other social resources; 2. Team-based services provided by SSWF social workers, OT, PT, psychological counselors and vocational counselors; 3. Oral cancer peer support fostered through visits and group activities.

### Results

SSWF provided services to 2,729 oral cancer survivors from 2006 to November 2011. Evaluation shows that 86% of clients and their family believe that services were beneficial in addressing problems faced after the disease. Clients still undergoing cancer treatment were particularly satisfied with home nursing and home rehabilitation services. For many, group activities cultivate peer support and enhance social participation. Successful service program completion rate reached 87% (excluding clients who passed away). However, employment and early rehabilitation intervention remain problematic.

### Conclusions

Oral cancer services of SSWF value network integration and strengthen links between patients, hospitals and the community, to ensure that patients can obtain comprehensive care after discharge. Also, through advocacy and social education, SSWF addresses social exclusion faced by survivors. Future recommendations include: 1. Strengthen links and cooperation with hospitals to enhance overall quality of care; 2. Continue developing SSWF services and enhance quality; 3. Support participation of oral cancer survivors in services and foster the emergence of patient groups.

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## Session M2.3: Health promotion for seniors in community settings

### Promoting Health of middle old in rural-based community

**YU-MEI CHEN, CHI-HSIANG HSU, PEI-LING YANG, CHIA-HUI YAO**

#### Introduction

In the last two decades, Da-Li District (Taichung) was developed from the rural community develop into rural cum urban mixed communities. Its statistics the elderly population aged over 65 accounted for 6.13% in 2010. But in some rural type of community elderly population ratio is more than 14%. We try to design a simple health promotion programs in the community and easy to do for these middle old (more than seventy-five years old).

#### Purpose/Methods

Hospital health promoters, community leaders, volunteers together discuss and to develop policy, chose to diet (Totally 5 vegetables with fruit daily) and Tai-Chi healthy exercise for health promotion and intervention of two methods. All 50 participants and average age is 77.8 years old. Fix Timing and Location daily and create a supportive environment for teaching how to eat healthy diet and exercise 30 minutes at least. Programs lasted for three months and with the survey assessment activities.

#### Results

A healthy diet section, 50 questionnaires sent, 44 were below the pre-test standard, measured after 32 people have improved, to improve the rate of 72.72%. Exercises Health section, pre-test questionnaire that 16 were sub-standard; back 14 people have improved, to improve the rate of 87.5%. Mental health component, 32 people (that there is no happier than to last year), 24 people have improved, improved rate of 76.92%.

#### Conclusions

Health promotion should focus on the different community structures, promoting innovative programs for the different elderly. Our health promotion programs have good achievements. Just like a 101-year-old resident said "I do not feel myself have more than one hundred years old, to participate in such activities make me feel younger, happier and healthier."

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## Remote Communities - Silver-Haired Elderly Health Promotion

**LIN Chia-Te, CHOU Lih-Lih, HSIEH Tsung-Han, SHYU Rong-Yaun**

#### Introduction

Although our hospital located in the administrative region of New Taipei City, but there are still many remote areas, the type of community people mainly retired senior citizens. Health messages more difficult for those divisional officer. For the implementation of health promotion, we combined with the medical team. Through a fixed course and fixed way into the remote communities. Cause of the establishment of partnerships, volunteer training programs to help elderly people to get more healthy energy in remote communities.

#### Purpose/Methods

Cooperated by hospital and local groups, during the period of April to October, 2011. At least every two weeks for health lectures, fitness exercise and health measurement, according to the needs, we into the community for health examination for elderly, environmental protection station visit, Chung Yeung health care, through various activities to help isolated elderly people, the establishment of health promotion concepts, but also extensive contacts with the elderly to promote the dynamic and static activities to enrich old age.

#### Results

After six months of processing. We court regularly into the professional team go to this community and the concept of empowerment (Empower), to help local volunteers with basic professional skills, seminars for health, fitness to lead activities, diverse health activities, plans to end, one way to understand participation in mining results, namely 94.7% of the elderly are very satisfied, 57% of the elderly after returning home, there is the application of classroom learning, ongoing physical fitness activities.

#### Conclusions

Remote communities will appear near the bustling city, but residents living background were farmers, mainly retired, the opportunity to access the right health information is not high, but to lead the team by the Court, the elderly who have a different experience so fun and life, but also by the care activities, community elders healthy aging, is no longer a slogan, but a specific life goals can be implemented.

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## Session M2.4: Improving patients' mental health

### Italian glossary of mental health promotion

**MASTROENI Antonino, BARBATO Angelo, CIVENTI Graziella, COSTANTINO Antonella, DE AGOSTINI Walter, DE ISABELLA Giorgio, FONTANA Giancarlo, LORA Antonio, MONZANI Emiliano, SCRABBI Lucia**

#### Introduction

The Italian Glossary of Mental Health Promotion (MHP), an initiative of Directorate General of Lombardy Region, has been published in Italian language in September 2010. The Glossary was deemed to have been agreed by the Italian HPH network, as all consulted official regional representatives gave their overt or silent consent within the established deadline. On June 2011 the authors presented their work at the 19th International HPH Conference, held in Turku (Finland), announcing that an English version was under preparation.

#### Purpose/Methods

The Italian version had implied reviewing the official WHO sources, defining inclusion and exclusion criteria as well as the average extension of each definition. The translation methodology utilised professional translators providing a rather literal version. The authors reviewed the text from the point of view of fidelity to meaning of technical terms. The text was then re-examined by the original translators and finally sent back to the authors for the last editing work.

#### Results

The English edition includes a list of 54 terms or key-concepts, as well as the primary Italian version. In the same way the terms have been included either as specific to MHP field or because their meaning is specific when used in that field. Some non specific terms have been included – like in the Italian version - to allow using the glossary as a rather complete tool-kit for people with different cultural background, active in mental health promotion.

#### Conclusions

The glossary list of terms involves a wide range of disciplines, ranging over concepts like social capital, clinical governance, anxiety and depression, together with meditation and spirituality, happiness, hope or health gain. The current English edition aims to reach a greater community of English speaking professionals, policy makers, volunteers, executives - wherever located - willing to improve mental health and wellbeing for both mental health users and the wide community.

#### Comments

This issue has been edited with 2 annexes: the 1986 Ottawa Charter and the final report of 2005 Helsinki Conference on Mental Health of the Ministers of Health of European Union.

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## Mental Health Promotion Movie in Nine Taiwan Aborigine Languages for Victims of Typhoon Morakat Disaster

### NEOH choo-Aun

#### Introduction

August, 2009 Typhoon Morakat hits Taiwan and mudslides swallowed up Xiaolin Village, burying more than 400 residents alive. Morakot caused billions of dollars in agriculture and aquaculture losses. One study found that nearly 30% of the elderly people studied who experienced Typhoon Morakot developed significant PTSD symptomatology. The risk group were female gender, poorer self-perceived health, relocation, family death, and depression. Resettlement and rehabilitation programs after a disaster need to be more concerned with their psychological effects on victims.

#### Purpose/Methods

This project aimed to help the Taiwan indigenous people who experienced Typhoon Morakot in Taiwan who may suffered post-traumatic stress disorder, grief due to loss of family and friends, alcoholic, depression and other mental illness by making short health promotion movie to teach the indigenous people how to help themselves and their friends and relatives to relief their stress and seek for help. Stories and scenario in the movie are all true reflexion of the victims experienced the disaster.

#### Results

Health promotion movie in nine different aborigine languages were filmed and translated. These films will be examined by the specialists and scholar specialized in aborigine issue to make sure that the film will bring only help and not negative effect from the point of view of an aborigine before it is shown to the Taiwan aborigine publicly.

#### Conclusions

Typhoon hits Taiwan frequently and may be very devastating. We need to consider not only the physical need of the sufferers such as food, medicine, clothes and shelter, but must also take care of their psychological and mental need. Post traumatic stress and depression need time to take care of, and the best way is through movie that is more able to touch their feeling. The movie must be made from aboriginal standpoint too.



**Comments**

Making a mental health promotion movie especially for victims after a Typhoon disaster is very difficult and more difficult when need to translated into nine different aboriginal languages. But it is very important to the sufferers.

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## Brief Integrated Group Psychotherapy (IPT) for Patients with Schizophrenia of Day Care Unit: Preliminary efficacy study

**KUO Chun-Ya, CHANG Li-Ren, LIU Chih-Min, YEH Bao-Juan, TANG Tze-Chon**

**Introduction**

The group cognitive-behavioral therapy (CBT) is effective in the treatment of schizophrenia. The integrated group psychotherapy (IPT), which integrates neurocognitive and social cognitive remediation with psychosocial rehabilitation, is a group CBT-based program for schizophrenia. Patient with schizophrenia is noted with impairment of neurocognitive functioning and higher levels of behavioral organization, including social skills and social and independent functioning. In this study, we aimed at comparing the efficacy of IPT versus treatment as usual (TAU) in schizophrenic patients of a day care unit.

**Purpose/Methods**

In a 2010-04 almost 1:1 randomized trial, all patients with schizophrenia or schizoaffective diagnosis by clinical history, received evaluation for the treatment effects with and without a 12-week group IPT delivered by psychologists trained over one year with ongoing supervision. We measured those two groups of patients with standardized neuropsychological assessment, Positive and Negative Syndrome Scale (by clinical psychiatrist), and the scales for evaluating the mood symptoms and social skills before and after the intervention for successive 12 weeks.

**Results**

Because of the delayed clinical trial approval of Research Ethics Committee from National Taiwan University Hospital, the outcome and data analysis of this study, including the disease relapse rate, occupational recovery rate, neuropsychological findings, the comparison of Positive and Negative Syndrome Scale and other scales, will postpone to this July.

**Conclusions**

According to the previous related studies, the finding of neurocognitive function showed that compared to TAU group, group IPT might have significantly better in the scores for attention, verbal memory, and visual memory as well as for

Beck Anxiety Inventory scores. The result will be analyzed in July and is also expecting. Then, the effects of IPT will be known and decided whether those preliminary results need to be duplicated in a larger sample to validate the claim of those group IPT benefit.

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## Ethical aspects of compulsory psychiatric care

**ARLEBRINK Jan**

**Introduction**

A patient ordered into compulsory psychiatric care loses autonomy and suffers a serious violation of integrity. In many countries compulsory treatment of people with psychiatric disorders is regulated by law, and most countries have some type of specific legislation concerning care of these patients. Countries vary in the way they apply compulsory psychiatric care, and some countries completely lack legislation of this type. However there are ethical arguments in favour of such legislation.

**Purpose/Methods**

The study examines some important concepts relating to compulsory psychiatric care: Deemed compulsion: aimed at individuals incapable of making decisions concerning their own safety. However, there must be strong arguments for assuming that the person would have accepted the treatment had they been capable of making a decision about it. The treatment must also be terminated when the person regains health. Decision-making capability: means that the person possesses the internal capability to make an alternative decision to the one made.

**Results**

The study resulted in several concepts that reflect people's basic life situation: Interdependence: people's interpersonal relationships are characterised by mutual dependence, so we have responsibility for each other. Power and dependence: interdependence creates a power relationship between people, and we can use that power in a way that is positive for the other person. Ethical demand: The dependence and power between people gives rise to an ethical demand, i.e. to protect the person's life we have in our hands.

**Conclusions**

On the basis of ethical concepts that reflect basic life situations, we can justify compulsory care of people with serious psychiatric disorders who lack the capability to make decisions. Compulsory care limits the patient's autonomy and violates integrity. However, the purpose of the treatment is to restore autonomy and integrity by restoring the sick person to health – a process through which the person can take control over their health and improve it.

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## Session M2.5: Strengthening patient satisfaction and applying new technologies in health promoting health care

### Small Clinics CRM; A Key Factor in Promotion of Follow-up Care (A proposed framework for Iranian Healthcare System)

**KARIMZAD SHARIFI Behzad, MASSAH Solmaz**

#### Introduction

CRM is undeniably essential for any business in today's competitive world, and healthcare is not an exception in this regard. On the other hand, Continuing Care for maintaining good health for the citizens is one of the major needs of societies so as to improve the quality of life, decrease healthcare costs, and increase life span among people. Furthermore, more and more people are graduating in medical fields, and they need to compete in order to succeed in their jobs

#### Purpose/Methods

The significance of this study can be due to its simultaneous attention to the problems regarding two different parts of the society, i.e. patients and people on one side, and doctors and nurses on the other side. In other words, this study attempts to help solve both of the above-mentioned problems at the same time. This project is an applied research which utilizes an integrated approach (both quantitative and qualitative).

#### Results

The output of this research will be a CRM (Customer Relationship Management) or PRM (Patient Relationship Management) system architecture which will be design in collaboration with computer system experts as well as medical specialists and, after a total evaluation, it will lead to a network-based software. Such a system, above all, would improve healthcare business, and continuing care would be included in the natural process of doctor-patient relationship; thus, it reduces governments' responsibility for maintaining good health in societies.

#### Conclusions

This paper proposes a proper primary framework for small clinics CRM or Patient Relationship Management (PRM) for both individual physicians as well as the circle of cooperating physicians in Iran. Based on an analysis of the societal atmosphere of Iran, such an approach would play a key role in im-

proving the Follow-up care culture, and implication of healthcare CRM can be considered as a win-win strategy for people, community of physicians, and the healthcare system of the country.

#### Comments

In undeveloped countries, execution of concentrated governmental programs does not lead to good productivity. In such societies, it is recommended that a natural relationship between the parts of the business be at work and the atmosphere be devised in such a way that customers and service providers meet each other's needs in a business-like fashion. Implementation of health CRM is the key to make a logical relationship between healthcare business and the healthcare needs of the society.

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### Should Breast Density Be Considered When Designing Breast Cancer Screen Policy?

**HUANG Pai-Jung, JINN-MING CHANG, WE Chia-Hung, LI Yue, GWO Chih-Ying**

#### Introduction

Breast density has been found to be a potential indicator for breast cancer risk. In the United States, increased awareness of dense breast tissue and its impairment for the early detection of breast cancer with mammography has prompted many states to consider legislation. Connecticut, New York, Florida, Texas, Illinois and California have passed or are considering legislation to ensure that women receive the necessary information on breast density in their breast screening reports.

#### Purpose/Methods

The purpose of this study is to propose an information technology system for estimating 3D-based breast density. The proposed system can automatically identify the breast region from the torso, reconstruct the anatomical structure in a 3-D model, and estimate its breast density without human intervention. In particular, the images utilized for estimation are acquired by T1 non-enhancement Breast MRI. The non-enhancement MRI neither involves any radiation nor injects any contrast agent during screening.

#### Results

This study performed a comparison of breast density on the proposed system and medical doctors' judgment for 50 cases. The breast density estimated by the system show that 48 of 50 cases belong to the dense class (>50%). Our investigation also found that dense breasts are closely association with the development of breast diseases, including fibroadenoma, fibrocystic



change, cyst, atypical ductal hyperplasia, ductal carcinoma in situ, invasive ductal carcinoma, and invasive lobular carcinoma.

### Conclusions

The proposed system can evaluate breast cancer risk by 3D breast density estimation of T1 non-enhancement breast MRI. It is also found that the breast density degrees estimated by the proposed method approximately correspond to the human assessment. In comparison with the human assessment, the density degree and the automatic estimation method provide more objective and precise information about breast density.

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## The Development of Integrated IT Ward in an Academic Medical Center by Hospitalist

**LIN Yu-Feng, SHU Chin-Chung, HSU Nin-Chieh, HUANG Chun-Ta, TSAI Hung-Bin, TSENG Yu-Tzu, KO Wen-Je**

### Introduction

The use of health information technology (IT) has been promoted as having tremendous promise in improving the efficiency, cost-effectiveness, quality, and safety of medical care delivery in a healthcare system. Given the fragmented nature of health care, the large volume of transactions in the system, the need to integrate new scientific evidence into practice, and other complex information management activities, the limitations of paper-based information management are intuitively apparent. In this study, we would like to build an integrated healthcare IT ward in an academic medical center.

### Purpose/Methods

This study group was composed of clinical physicians (hospitalist), nursing practitioners, case managers, and software engineers. From the weekly IT meeting, we established the ideal conceptual framework in order to guide the development of effective IT programs into clinical action. By using "learning by doing" strategy, we accelerated the rate of adoption of this innovation. The principles of developing innovative IT system were (1) having a relative advantage over the existing system; (2) being compatible with daily practice needs; (3) Not being too difficult while applying; (4) having visibility in general practice.

### Results

Using a 36-beds ward running hospital medicine program as a trial place, we designed a modulated central control system, including central-control program, touch-paneled screen, real-time communication infrastructure, mobilized nursing station, embedded bed-side computer with soft phone, innovative IT

medical record, and several humanized interface to combine all the operating system. The most important of this plan is to achieve process reengineering.

### Conclusions

Information management is fundamental to health care delivery. Besides, implementation of computer IT is critical in increasing the accessibility of mission-critical information, automating labor-intensive and inefficient processes, and minimizing human error. From this study, we successfully provided a good model using newly established hospitalist system to build innovative health IT programs.

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## Session M2.6: Health promotion for hospital staff

**Factors associated with perceived stress among employees of a tertiary care hospital in India**

**GUPTA Anil K, GOEL Sonu, DEVNANI Mahesh, BHATIA Anju, NEHRA Ritu**

### Introduction

This study was done under a WHO sponsored project on health promoting hospitals conducted at the 2nd largest public sector health university hospital of India which is the first university hospital in northern India to adopt Health promoting hospital principals. We are in the process of data analysis and will be able to submit abstract in 5-7 days. kindly consider.

### Purpose/Methods

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health university hospital of India which is the first university hospital in northern India to adopt Health promoting hospital principals. We are in the process of data analysis and will be able to submit abstract in 5-7 days. kindly consider.

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## The study of Nurses' well-Being after Job Rotation

**SHU-LING CHIEN**

### Introduction

What's happened to nurses with job rotation? This answer is still unclear. Job rotation is a job design technique believed that it can keep employee to enhance their career development and job satisfaction as well as benefit to the organizational performance. However, the past research majorly focused on the rotation intention and its antecedents in Taiwan, that is, these most studies did not specify the employees who has accepted job rotation and evaluated their well-being.

### Purpose/Methods

The research purposes were to preliminarily explore the effective of job rotation by surveying the nurses' well-being (i.e. job satisfaction (JS) and the quality of life (QOL) ) and the antecedents. Data came from a valid sample of 182 nurses who rotated in past three years in seven hospitals in Kaohsiung from November 2008 to October 2009. Descriptive analyses, mean comparison test, and multiple regression analyses were conducted with SPSS 12. The  $\alpha$  level was .05.

### Results

The results showed that the nurses with job rotation had moderate job satisfaction (mean=71.78, SD=7.37) and the quality of life (mean=65.39, SD= 9.89). The departments (medicine, surgery > obstetrics and gynecology), gender (female> male), and hospital ownership (private> public) influenced the nurses' JS. In addition, marriage status (marriage> devote) had an effect on QOL. The relationship between JS and QOL was significantly positive ( $r=.298$ ,  $p<.01$ ). Finally, these with job rotation time less than 18 months had a positive relationship between the period of job rotation and workload JS.

### Conclusions

The major findings indicated that the nurses with job rotation had moderate JS and QOL and workload perception was higher as transferring to a new position at less than 18 months. It was concluded that the human resource department should care about nurses after job rotation, especially at the adjustment time to increase their well-being.

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## Enhancement of Interpersonal Communication skills. A Health Education Program for hospital staff: The experience of Greek HPH

**SCHORETSANITI Sotiria, PETROULIA Ioanna, TOUNTAS Yannis**

### Introduction

Communication is a core clinical skill, but few clinicians have received much formal training. Effective communication during consultations is the major determinant of the accuracy and completeness of data collection, influencing both the range and number of symptoms elicited, thus permitting a more precise assessment of the efficacy of treatment. Poor communication can leave patients uncertain about their diagnosis and prognosis, confused about the results of diagnostic tests, unsure about further management plans or the therapeutic intent of treatment.

### Purpose/Methods

The aim of the current project was to enhance doctor's communication skills, which are important for the essential interpersonal communication between doctors and patients, as well as for the prevention of health professional's burnout. The program was conducted in a Greek public HPH Hospital, and 25 doctors participated. A two day training seminar consisting of 10 hours of basic communicational principles, verbal & non-verbal communicational skills, body language, barriers in communication process, reflective listening skills and introducing/encouraging to communication.

### Results

The results of the current study were due to a self-completed evaluation form (5 point likert scale). The majority of the participants (88%) declared more efficient in confronting the demanding situations inside the hospital. The majority of participants (92%) expressed the need that more personnel should participate to this kind of programs and also that programs should be focused in specific thematologies as chronic pain. 80% of participants found the structure and components of the educative program extremely interesting.

### Conclusions

The ability to communicate effectively with patients is fundamental for clinicians to be optimally helpful. After a 10hours training, trained doctors felt secure to apply core communication skills in their relationship with patients. They agreed that this knowledge would help them reinforce numerous other important and meaningful health outcomes, such as adherence to drug regimens and diets, improvements in physical, functional and psychological well-being. It is suggested to be conducted to a larger number of doctors and be re-evaluated.





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## Nutritional Status of Health Workers at the Ministry of Health Headquarters in Nairobi, 2010

**SHISIA BELINA, NTHUMBI MONICA, OIYE  
SHADRACK, MANYA AYUB**

**Introduction**

There is an increasing trend of obesity among urban populations in Kenya. While health related attrition is a human resource issue of concern in the health sector, there is paucity of data on key influencers of workers' health. This study sought to establish the nutritional status of health workers at the ministry of health headquarters in Nairobi. These workers are exposed to urban life that is characterized by increased consumption of energy dense foods and diminishing physical activity opportunities.

**Purpose/Methods**

This was a cross-sectional study in which a representative sample of 217 health workers was interviewed. Their height and weight measurements were taken to compute and classify Body Mass Index (BMI) according to WHO recommendations. Central obesity was determined by Waist Circumference (WC) measurements and defined as WC $\geq$ 88cm for females and WC $\geq$ 102cm for Males. Demographic, social and economic indicators were cross tabulated to establish any associations with obesity where  $P < 0.05$  considered statistically significant.

**Results**

Health workers' mean BMI was 26.4kg/m<sup>2</sup>. Females had a higher BMI (27.5kg/m<sup>2</sup>) compared to males' 25.7kg/m<sup>2</sup>. Of all respondents, 61.8% were overweight (BMI  $\geq$ 25) while 2% was underweight. Older age ( $\geq$ 40 years) was significantly associated with obesity by BMI ( $p=0.002$ ) and so was car ownership ( $p=0.004$ ). Central obesity was found in 27.5% of males and 63.5% of females. Significant associations were found in males who owned cars, ( $p=0.042$ ) females aged above 40 years ( $p=0.006$ ) and parity of  $\geq$ 3children ( $p=0.008$ ).

**Conclusions**

A significant proportion of health workers have an unhealthy weight and therefore susceptible to non-communicable diseases (NCDs). It is imperative that the workers show leadership by taking care of their own health in order to be effective champions of NCDs control. Workplace programs should therefore be instituted to support healthy lifestyle promotion among ministry of health staff. Further research on other NCDs related risk factors is recommended.

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## Ergonomic awareness in workplace

**CHUA SHUZHEN, NG SHIN HUEY,  
BASKARAN DONABEL**

**Introduction**

Work related injuries have always been a major concern in organizations in Singapore. This is especially true in hospitals where work related injuries could be of the high cause of absenteeism in work and medical claims. Ergonomics is the study of how our bodies interact with the environment when performing an activity. Ergonomic programs are therefore set up to reduce risk factors of work-related injuries to improve workers' health, morale, productivity as well as reduce rate of absenteeism and medical claims.

**Purpose/Methods**

Kandang Kerbau Women's and Children's Hospital (KKWCH) has conducted numerous Ergonomics talks and workshops since June 2007. The talks were conducted quarterly throughout each year and workshops on specific departmental requests. They are targeted to all staff. The talk was also sent out as videos for staffs that were unable to attend during the respective timings. The talk includes ergonomic and postural checks to prevent injuries during work, good lifting techniques and exercises. The number of work related injuries occurred among staff were reported and collected in statistical software.

**Results**

Collation of data is still undergoing.

**Conclusions**

Organization like KKWCH has shown an increasing awareness and benefits of conducting ergonomic programs. Effort has been made in KKWCH to promote ergonomic awareness among staff. However, there is a need for more specific collection of work related injuries data among staff to evaluate the true effectiveness of ergonomic program in KKWCH. Therefore further evaluation of the ergonomic program is desired and warranted.

**Comments**

Collation of data is still undergoing. Analysis of the data will be done once collation of data is finished.

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## Effect of weight-reduction program on physical fitness in hospital employees

**LAI YUN JU**

### Introduction

Sedentary working style and unhealthy eating habit, common in modern people as well as in hospital employees, are important risk factors of low physical fitness and obesity-related comorbidities. The objective of this study was to measure the impact of weight reduction program on four physical fitness components of hospital employees, including cardiovascular fitness, body composition, flexibility and endurance.

### Purpose/Methods

Physical fitness were measured on Nov. 2010 and again on Oct. 2011. Three physical fitness test were performed, including sit-and reach test, curl-up test and 3-minutes step test. Three months weight-reduction program, consists of 10-minutes daily gymnastics, education curriculum, and allowance for healthy-calorie lunch box, was carrying out between May to Jul 2011. A paired-t test determined the significance of difference between every physical fitness test before and after the weight-reduction program.

### Results

A total of 698 employees received first physical fitness testing. There were 24.8% employees overweight or obese. Besides, 58.31%, 37.47% and 58.84% employees on sit-and reach test, curl-up test, and on 3-minutes step test categorized as 'fair' and 'Needs improvement'. Among the 698 employees, 379 persons measured physical fitness after 3 months weight-reduction program. Body weight decreased significantly (mean=0.67,  $p<0.0001$ ) as well as BMI (mean=0.23,  $p=0.0003$ ). Sit-and reach test (mean=0.58,  $p=0.2593$ ) and curl-up test (mean=0.47,  $p=0.0546$ ) were not improved significantly. Nevertheless, 3-minutes step test showed significant improvement (mean=1.92,  $p<0.0001$ ).

### Conclusions

Physical fitness of most hospital employees showed below normal. Multidimensional weight-reduction program can improve physical fitness on hospital employee, especially the cardiovascular fitness.

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## Session M2.7: Studies on patient satisfaction

### The satisfaction differences after stratified care project for Hansen's disease patients

**WU Li-ling, SU Chih-yuan, YEI Chien-Yu, SU Tsung-WEI**

### Introduction

Hansen's disease is a chronic infectious disease caused by the bacteria *Mycobacterium leprae*. Although the infection is responsive to treatment, disabilities due to neuropathy are not reversible which requires lifelong care and rehabilitation. Even more, stigma of leprosy is worse than disease itself. Lo-Sheng Sanatorium was built in 1930. Residents there had more handicapped rate as compared with the other leprosy institutions.

### Purpose/Methods

We designed a stratified care project for totally 200 handicapped patients in Lo-Sheng Sanatorium since May. 2011 to Nov. 2011 to understand the care demands and satisfaction. The modified scale of activities of daily living (ADL), the modified scale of instrumental activities of daily living (IADL), WHO disability grades, Care Needs Assessment Scale, and Well-being Scale were evaluated before and after stratified care project.

### Results

After stratified care project Well being scale declined from  $88.53\pm10.76$  to  $83.01\pm10.01$  ( $p<0.000$ ). Before the project, the scores of life satisfaction, relationship, self confidence, health status have similar results. After the project, more declination in self perception in health and self confidence, but the rating of the life satisfaction items increased to  $3.06\pm0.56$  ( $t=3.94$ ,  $p<0.000$ ). The rating of the security and safety items increased to  $3.01\pm0.62$  ( $t=-6.01$ ,  $p<0.000$ ).

### Conclusions

Through stratified care project, we analyze the care demand and well-being among Hansen elderly. These results may be the important references for long-term care promotion not only in Lo-Sheng Sanatorium but also in Taiwan.

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## A Study of the Satisfaction of Hospitalized Patients – An Anonymous Public Hospital Example

**SZU-HAI Lin, JUI-SHENG Sun, PO-HAO Chiu, TING Li**

### Introduction

In the recent years, the medical service industry has entered an intensely competitive era, where raising the quality standards has become the most important strategy, which needs an understanding of patients' needs and fulfilling those needs in order to gain their satisfaction, as a result, the medical service industry has begun to seriously consider the concept of Patient-centered service.

### Purpose/Methods

This study targets on hospitalized patients, understanding the basic situation behind the patients' stay, their overall satisfaction with the public hospital, and makes suggestion to raise the medical and service quality. Patient satisfaction is measured by: medical treatment procedure satisfaction, staff services satisfaction, waiting time, environment and facilities, and patient safety. Survey period is from 2011/9/7 until 2011/9/12. Total 250 questionnaires were distributed and received, recovery rate 100%. SPSS 14.0 was used for descriptive analysis and cross-table analysis.

### Results

Overall satisfaction of hospitalized patients with the general medical treatment averaged at 93.1%, medical staff service satisfaction averaged at 84.5%, waiting time averaged 85.6%, environment and facility rated 58.7%, and patient safety 89.7%. In patient safety, 36.0% answering that the medical staff matches the patient name and patients prior to providing medicine or giving shots. In waiting time, 42% for reasonable waiting time for the period between being accompanied into the ward and arrival of the physician for medical examination.

### Conclusions

From the results, the highest rating was in patient safety, [the medical staff matches the patient name and patients prior to providing medicine or giving shots], representing that staff pay attention in matching patients' ID, preventing mistakes. In the waiting time category, [Day of hospitalization, waiting for medical staff reception] and [During the hospitalized stay, period of waiting for physician examination], representing that medical staff and physician have a strong sense of time, not letting patients wait too long.

### Comments

(1)Quality of Environment: Temperatures should be adjusted accordingly. Periodically broadcasting this No-Smoking policy to protect members' health. (2)Ward Environment and Equipment: Ward rooms should have regular scheduled maintenance and record dates for medical equipment. Medical equipments, regularly check if equipment is operating normally, quickly reporting. (3)Ward Food: Hospitalized patients respond that food is too salty, not convenient for patients to ingest; culinary

skills should be improved for the staff members in charge of food preparation.

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## The survey of the satisfaction of the hospital outpatients— a hospital example

**SZU-HAI Lin, JUI-SHENG Sun, PO-HAO Chiu, HUEI YUN Shiu**

### Introduction

With the changing of social patterns, to further satisfy the public's expectations, and in patient-centered core values thinking we shall think of the direction from the customer's perspective, any changes are to be emphasis on strategy, e.g. how to integrate existing resources and overcome difficulties the other dimensions for optimum service; how to consider the transaction costs and the construction of "optimal patient service quality". In this study, as a hospital outpatient study to understand the satisfaction with outpatient services, distribution of basic characteristics, satisfaction conditions of outpatient to master the public demand for medical services. To provide a reference to improve the hospital based on research results and management implications of the proposals.

### Purpose/Methods

In this study, take a hospital clinic patient as the object of study, the investigation and analysis including four aspects: satisfaction with medical procedures, the staff of the service satisfaction, waiting time and the hospital facilities and medical safety. A total of 400 questionnaires were handed out from September 9, 2011 to September 15, 2011, 400 were returned at the rate of 100%. SPSS 14.0 was used for descriptive statistics and chi-square test.

### Results

We found from the results of descriptive statistics that it characters women as the demographic characteristics, college as the education background, housewives as career, Clinch as the living place. Percentage of the four dimensions of satisfaction: satisfaction with the medical process dimensions of the percentage of 81.0%, the attitude of the staff satisfaction constructs percentage of 82.6%; satisfaction with waiting time dimensions of the percentage of 62.1%, the hospital environment and facilities dimensions of satisfaction percentage was 77.1%. Patient satisfaction with the attitude of the staff constructs the highest percentage was 82.6%, with the highest option for the volunteer staff friendly and good attitude is the highest percentage of 89.6%; minimum bid option for outpatient business attitude of the staff friendly and good percentage of 74.2%. Dimensions of waiting time for the minimum percent-

age of 62.1%; the lowest option is to wait for doctors to see the doctor a reasonable percentage of the time was 51.6%.

### Conclusions

The out-patient service satisfaction study showed that waiting time to see the doctor and physician time, blood tests and unreasonable, washroom cleanness and parking facilities and other hospitals need to be enhanced. Unreasonable waiting time easily leads to an detailed enough physician consulting, therefore we recommend the hospital for this problem playing in the waiting area of health education videos related illness. In terms of outpatient washroom, cleaners should be more than stepped up patrols to supplement their regular supplies, it is recommended that the hospital parking inconvenient aspects of patient hospital treatment may be more advocacies for public transport or take free shuttle bus.

### Comments

(1) The attitude of some healthcare workers: the majority of outpatient appointments to see the doctor and clinic to reflect when the poor attitude of medical personnel, medical staff are hoped to take the initiative to enhance affinity to patients; some patients believe that doctors are too busy, too many numbers to see the doctor, treatment time is too short, resulting in asking about her condition is not detailed enough, it is proposed in the waiting area playing videos related to health education.(2) The hospital internal environment: an excessive number of patients likely to lead to poor ventilation, air-conditioned waiting areas which should be adjusted with the number of British, to maintain indoor air quality; patients with marked route planning for the hospital is unclear, leading to the examination room is not easy to find, planning clinics should be strengthened between the subjects marked route to help patient identification; some patients do not reflect the complete washroom hygiene products, cleaning staff should step up inspections and to supplement its supplies; children's play area is likely to cause childhood diseases, cross infection, the recommended daily disinfection or remove the play area.(3) The external hospital environment: As the motorcycle frame space is limited parking, the proposed patient hospital treatment may be more advocacy for public transport or take free shuttle bus; car parking stairs for the elderly and disabled people inconvenience, it is recommended should provide the lift; big door of the hospital, "little park" has cigarette butts, and clean the need to strengthen the proposed smoking signs posted more advocacy in order to safeguard the health rights of the patient's family.(4) Outpatient Services: the number of outpatient physician can easily lead to excessive load, proposed to adjust the time of registration, control and increase the number of evening clinic; obstetrics and gynecology, pediatrics and otolaryngology should be re-plan their waiting area, to avoid patients, women (pregnant women) and children's diseases, cross infection.

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## Session M2.8: Health promotion and quality of care II

### Sexual assault one stop service

**CHAN Chying-Chyuan, CHUANG Ling-Shuan, CHANG Ling-Yu, LIN Su-Fei, TSAI Chia-Jung, LEE Shaio-Yun**

### Introduction

A lot of sexual assault victims need to report it via multi-processes, statements, and the experience of the psychological torment. In order to make Taipei Medical Institutions deal with domestic violence and sexual assault medical protection procedure, we provide the victims with a secret, secure, warming and healing environment of the conversation.

### Purpose/Methods

Taipei City Hospital ZhongXiao Branch is the first institute which develop one-stop sexual assault medical service with Woman's and Children's Portection Division of Taipei City Police Department and Domestic Violence and Sexual Assault Prevention Center together. After medical forensic examination, the Prosecutor in person to command police and social policy colleagues for interrogation in the same place. During interrogation, the entire process of voice and video have been recorded into CD which can provide to the prosecutors and judges.

### Results

Total medical forensic examination and interrogation time in one stop service were less than the time in non-one stop service. The prosecution rate in one stop service is higher than non-one stop service. The satisfaction index in one stop service is higher than non-one stop service.

### Conclusions

Unlike piecwise processing model in the past, the police, health administration and social affairs officers can be integrated on the site. To learn more about the situation of case and to provide victim service are oriented. Except to avoid victims hurting twice, it can contribute to actual situation and increase the sense of security with the trust.

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## Project to Improve the Effect of Out-patient Health Service for the Climacteric Women

**CHANG Chih-Yau, WANG Chin-Hsiang**

### Introduction

Menopause or climacteric is a transitional period that causes significant alterations for most women. Although this imminent phase forcefully challenges women in physical, mental, and emotional states, the current rate of gynecological outpatient follow-up for climacteric condition at our Regional Teaching Hospital is only 56.7%, indicating a high number of women choose to not attend follow-ups despite their uncomfortable conditions. Thus, a comprehensive health service is critical for climacteric women.

### Purpose/Methods

The purpose of this project was to design and develop a complete health service for climacteric women with the following objectives: Improve the rate of outpatient follow-ups, increase knowledge regarding proper health care / Health information Knowledge, and reduce the number of patient complaints. We provided individual case managers, standard operating procedures, private consultation environments, integrated medical specialties outpatient service (psychiatric, gynecology and endocrinology), specialties referral procedure, and group education for climacteric women at outpatient department follow-ups.

### Results

After implementing complete outpatient health services to climacteric women for nine months, the rate of outpatient visits increased from 56.7% to 87.1% and the mean score of knowledge regarding proper health care / Health information Knowledge increased from 57 points to 88.5 points. Additionally, the number of patient complaints decreased from 28 (3.9%) to 2 (0.3%). Since the start of this new health service, approximately 25 to 30 climacteric women made monthly visits to the integrated medical specialties outpatient department.

### Conclusions

A complete outpatient health service is beneficial to all climacteric women since patients received higher quality hospital care and obtained an increased understanding of knowledge regarding proper health care / Health information Knowledge, both of which reduced the number of patient complaints.

### Comments

The integrated medical specialties outpatient department was difficult to establish without the Director, so full support from the hospital is vital to this project. We intend to promote this comprehensive health service to the general public to increase awareness and achieve our target objectives.

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## Patient experiences in the development of a SHARE model for clinical nursing Practice in Taiwan.

**HSU Tzu-Chuan, JANE Lee-Hsieh**

### Introduction

To enhance the quality of nursing care, an Adventist hospital in northern Taiwan is committed to implementing the SHARE model in clinical practice. The nursing department of this hospital defines the five components of SHARE as the following: "S: Sense people's needs before they ask;" "H: Help each other out;" "A: Acknowledge people's feelings;" "R: Respect the dignity and privacy of others;" "E: Explain what is happening." However, most of the nurses could not provide appropriate examples of caring behavior of the SHARE model.

### Purpose/Methods

The purpose of this study was to explore patient experiences of caring by nurses in this Adventist hospital in order to identify concrete caring behaviors coincide with the definition of the five components of SHARE. This study utilized qualitative methods to conduct in-depth interviews with 12 patients, aged 34-75 years, who were hospitalized on different clinical units (medical, surgical, general, obstetrics and dialysis room) for at least three days. Researchers used content analysis to analyze and categorize the data into each of the five components of SHARE model.

### Results

Specific caring behaviors and anecdotes from patients' interviews were categorized into the five components of SHARE model. These findings were utilized to develop a guide called the SHARE Model for teaching caring to clinical nurses in this hospital. This model was written from the patient's point of view, in words taken directly from patients during the interviews. For example: Let me know through your behavior and speech that you understand what I am going through after examinations and therapy. Such as: 'Are you feeling dizzy?' 'You look cold. Can I get you a blanket?'

### Conclusions

This research explored the meaning of caring from hospitalized patients in Taiwan through in-depth interviews and provided the foundation for the context of the SHARE model, a guideline for teaching caring to nurses.

### Comments

Implementation of this research project is completed, the patient's expectations of nurses caring, empathy and respect. With the implementation of care programs, allow nurses can have caring quality. In the workplace can show characteristics of nursing care, order to provide humane nursing care to.

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## East-West-Native Integrated Medicine Health Promotion as Option to Reduce Need of Western Medicine Health Care for Taiwan Indigenous people and other Austronesians to Overcome Social Determinants of Health

**NEOH Choo-Aun**

### Introduction

Poverty is only one of the factors in explaining poorer levels of health among Taiwan Indigenous and other Austronesians. Yet differences in health also follow a society that belief Western Medicine Health Care as the only option of health care. This make the indigenous people as forever a second class citizen and lack control over their own life and health. When provide medical service, traditional aboriginal medical knowledge has to be factored into any discussion of cultural safety.

### Purpose/Methods

Pingtung Christian Hospital work together with National Pingtung University of Science and Technology to set up a new Center for Austronesian Medical and Agriculture Research 2011.Oct. 24. The center will combine special industries promoted by the government of the southern county, the Pingtung Agricultural Biotechnology Park and a medical team from Pingtung Christian Hospital in researching traditional Austronesian herbal medicines.

### Results

The new center signed a cooperative memorandum of understanding with Pingtung Christian Hospital to study and promote indigenous traditional medicine, Wutai Township and U.S.-based company Young Living Essential Oils. The center will assist manufacturers based in the Pingtung Agricultural Biotechnology Park, work on utilizing organic agricultural raw materials produced in Pingtung to develop a range of new goods, including essential oils, aroma therapy and health care products. This will solve indigenous poverty problem and promote traditional indigenous medicine.

### Conclusions

Indigenous people are knowers, doers and givers of health and healing and so must be respected as their own witnesses. We conclude that health promotion through East-West-Native Integrated Medicine is an option to overcome social determinants of health and providing options for policy-makers to strengthen their governance capacity to systematically act on social determinants of health and reduce need of Western Medicine Health Care in Taiwan indigenous people and other Austronesians as well in the future.

### Comments

Western Medicine alone can not solve all health problem, East-West Integrated Medicine also not enough, we need to include

all different traditional medicine of all races and countries in order to manage illness that Western Medicine alone can not achieve, we thus proposed an East-West-Native Integrated medicine for health promotion for the whole world

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## The Inspirations of Apple CEO Steve Jobs: Innovation, Love, Death

**CHEN Shih-Hsien**

### Introduction

Taitung St. Mary's Hospital has gone through several crises of bankruptcy. For lack of manpower, money, specialty and equipment, the hospital has actively chosen to turn to "hospice and health promotion". In this poorest county in Taiwan, with the least resources and the shortest life span, the hospital has led the way to a brand-new business different from any other clinic and hospital, and with good results and with brilliant prospects.

### Purpose/Methods

1. To stick together the consensuses of the staff: The hospital has decided to establish the unique hospice in Taitung district, to widen the scope of "home care service" and to focus on the care of diabetes and the elders. 2. To create job chances to people: The hospital has also decided to run the "health restaurant", to set up a platform of interchange, to participate in the disaster rescues, to establish farms, and to make greater influences on people.

### Results

In the aspect of quality, we have employed more professionals and have used innovative running strategies, have concretely enhanced the quality of medical care and have successfully spread the ideas of health promotion. In the aspect of quantity, in comparison with seven years ago, we have created more than triple job chances. In other words, we have provided as many as fifty thousands of job chances.

### Conclusions

In the fast changing time, we need to have different thinking and the capability to cope with the changes. We should grasp every possibility and try our best as Steve Jobs stuck to going on because of "love" when he was facing failure and death. The medical care is not only to "treat diseases" and the hospital should not only "cure patients", they are supposed to focus on "people" and to step into the communities.

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## Session M2.9: Reducing health risks in community settings

### Exploring the health-related quality of life among women with intimate partner violence

**WEI Fang-Chun, TSAI Tzu-I**

#### Introduction

Intimate partner violence is an important social issue causing negative impacts on health of victim women. The purpose of this study was to understand the health-related quality among women who experienced intimate partner violence.

#### Purpose/Methods

This is a cross-section correlation descriptive design via purposive sampling of women who ever had experience of Intimate partner violence. Data was collected on a self-administrated questionnaires composed 6 parts: social desirability, history of disease index, brief conflict tactics scale, interpersonal support evaluation list, health-related quality of life(short form-36), and demographic characteristic.

#### Results

A total of 218 questionnaires were validated. The results showed that the health-related quality of life among abused women were lower than the normal average in Taiwan. The multiple regression analysis indicated that the main predictors of Physical component summary (PCS) were seek social welfare and moderate mental violence which explained 17.6% of total variance. The predictors of Mental component summary (MCS) were mild and moderate mental violence predicted which explained 15.5% of total variance. Tangible social support is a predictor of degree of happiness which explained 10.7% of total variance.

#### Conclusions

The findings in this study highlight that abused women have to face more serious mental health problems than physical. Health care service, mental consolations and reliable referral system are needed to serve abused women. The findings also can be used to government authorities in policy making to improve abused women quality of life.

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## Community on-site screening program select more patients with chronic kidney disease comparing to hospital-based screening program. A cohort study of 4043 patients in Tanzih Township in Taiwan

**CHEN Yi-Shin, FAN-CHIANG Yu-Jean, TU Ya-Hsun**

#### Introduction

The prevalence of chronic kidney disease (CKD) is high in Taiwan. Proteinuria may identify patients with CKD. Motivation of receiving screening program in general population is weak, especially for aged people. Accessibility of community on-site screening program may further encourage patients to receive examination, including high risk group. In this study, we compare two groups of patients who receive screening program in hospital and in community and try to identify different clinical characteristics between these two groups.

#### Purpose/Methods

4043 patients were included in this study. The examinations included hemoglobin, blood urea nitrogen (BUN), serum creatinine (Cr), uric acid, fasting blood sugar, cholesterol, triglyceride, and urine dipsticks. Age, gender, body weight, height were also recorded. The continuous variables were compared with t test and categorical variables with Chi-Square test.

#### Results

Fasting blood sugar is higher in hospital group(106.81 vs 103.34 mg/dL, p 0.002). Cholesterol and triglyceride are higher in community group ( 193.82 vs 185.52mg/dL, p<0.001; 142.93 vs. 127.27mg/dL , p<0.001). Higher proportion of proteinuria in community group(30.3% vs 24.1%, p<0.001). Age is correlated to many factors during this study. After adjusting for age, cholesterol and triglyceride, BUN is higher in community group.

#### Conclusions

Proteinuria is more prevalent in community group comparing to hospital group. Dyslipidemia is more common in community group. Take advantage of accessibility in community screening program may improve clinical outcome of these patients after early referral and timely education.

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## Through the Integrated Health Screening to Enhance the Preventive Health Services and Performance of Community

**HSIEH Hung-Yu, CHOU Lih-Lih, LEE Yu-Chuan, SHYU Rong-Yaun**

### Introduction

Cause of death in people has been into cancer and chronic disease. How to effectively reduce the incidence and mortality rates as an important public health issue. Although the government provides free health examination and cancer screening for adults, there is still a lack of medical resource utilization and follow-up about abnormal data. Therefore, our hospital cooperated the Government with "Integrated health screening of community", tour the foothold of Xindian and Chunghe district in community, provide the integrity screening services.

### Purpose/Methods

Processes: Before the examination, combined with the bureau health nurse staff and community groups discuss the advertise about this program. Mobilize the hospital medical and nurse care, administrative and volunteer support to on-site manpower. Two weeks after the examination, we arrange the family medicine doctor, nurses and health educators to explain the examine report at same area, and after that, the telephone follow-up by the case manager to confirm whether the abnormal people to hospital for further diagnosed.

### Results

We finished the seven integrated health screening in 2011, total of 1459 subjects which 1283 (87.94%) did not receive preventive health care services for more than 3 years. We screening 875 new abnormal cases, 718 (82.06%) received follow referrals. Diagnosis results are summarized as follows: cancer (1 prostate cancer, 1 colon carcinoma in primary. Chronic diseases (164 with hypertension, 38 with hyperlipidemia, 36 diabetes mellitus and 36 with chronic kidney disease 36).

### Conclusions

By cooperated with hospitals, bureau health and community groups, people can accept a complete, convenient health screening services. Patient center and telephone interview mode to enhance the concept of self-health management, effective health care system interface resources. We hope continue to promote this project, can enhance disease health education, the development of relevant health promotion programs and implement the preventive health care of community.

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## Comparison Net Benefit of Health Examination Program between Outreach and Opportunistic Approach for Landseed Hospital.

**CHANG Huan-Cheng, CHEN Shu-I, WANG Mei-Chin, CHEN Ya-Ping**

### Introduction

As many developing countries in Asia are faced with increasing incidence of cancers and other chronic diseases, population-based mass screening for early detection of these diseases has become an important issue. According to many evidences, outreaching multi-disease screening in community is more beneficial for equity and participation than opportunistic approach that people utilize screening service in hospital actively in Taiwan. However, outreach approach is more costly to operate this program from healthcare provider, including inputting various kinds of resource. Recently, the cost-effectiveness of several mass screening for cancers and chronic diseases had been explored. Nevertheless, there is little evidence on the valuation that clients utilize health examination program for these kind of approach.

### Purpose/Methods

From hospital perspective, we carry out a pilot study to demonstrate the feasibility of the contingent valuation (CV) approach, willingness to pay (WTP), to identify net benefits gained from disease screening in outreaching or opportunistic approach. This economic evaluation was conducted a micro-level cost-benefit analysis using cost data on hospital input and outcome data individual clients. The costs of two approaches were collected included direct cost and indirect cost in 2010 annual data from interview two directors who were in charge of the community-based and hospital-based screening program. The benefit assessment with ex post WTP were using payment card questionnaire by face-to-face interviews. The subjects of this study participated in whether outreach or opportunistic screening and were willing to join this study in 2011. In our study, eligible population aged above 30 years for outreaching approach and aged above 40 years for opportunistic approach were participated by health examination program.

### Results

From provider perspective, we calculated the annual of total cost (TC) which was total direct cost (DC) plus total indirect cost (IC) minus total insurance reimbursement (IR) in 2011. Although hospital gained more insurance reimbursement for community-based screening, the TC of outreach approach (\$124,229 US dollars) is 1.9 times as the TC of opportunistic approach (\$65,311 US dollars). In benefit analysis, we totally interviewed 514 people who participated in screening program in hospital or community sites. The outreach group tends to be more female, lower education, elder, and lower annual household income than opportunistic approach. Nevertheless, it was no significant difference on average overall service packet of WTP per person between outreach group (\$37.9 US dollars) and opportunistic group (\$40.7 US dollars). The annual total benefit of





outreach program (\$195,153 US dollars) is 1.3 times as opportunistic approach (\$149,108 US dollars). Both approaches of screening programs have positive net benefit value, but opportunistic approach is larger than outreach approach.

### Conclusions

Our study indicate that outreach and opportunistic of multiple disease screening have positive net benefit from provider perspective. Although outreach approach is more costly, the program has more benefit from community residents valuing even they are lower income than opportunistic group.

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## Session M2.10: Miscellaneous

### The Promotion Program of Health Rights in Taiwan Tzuchi Hospital: Helping Poor Patients Access Welfare Resources

### CHANG Jian-Chung

#### Introduction

There are about 250,000 persons under poverty line in Taiwan. Each local government also budgets for subsidizing their medical and care expenditure when they take the medical treatment. However, these welfare resources are not always accessible to them because that those are frequently the ones, low educated, or the elderly, who lack enough social networks to obtain the information. Accordingly, The social workers in Tzuchi Hospital offers the services applying the welfare resources for the poor patients.

#### Purpose/Methods

We offers a series of services to the poor patients to apply the welfare resources provided by the local governments. It includes the teaching about the tips how to apply the allowance program of BNHI. And when they need to have dealings with the officers of BNHI for the application, they will be accompanied by the volunteers in Hospital. What the Hospital aims is to protect the rights to the medical treatment, which the poor patients as citizens are entitled.

#### Results

Every year, the Taipei Branch helps hundreds of patients to successfully obtain the medical treatment, and the amount of the applied allowances and subsidies is about several million dollars.

#### Conclusions

The main goal why Tzuchi Hospital is established is to promote the poor patients' equal access to the quality medical services.

Since being established, Tzuchi Hospital has tried to understand the difficulties these disadvantaged patients encounter, and provide what they need immediately as well as in the long run. The Hospital believes that such provisions will make medical resources distributed more equally.

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### Migrant Workers Health Promotion by Weekend Free Medical Service - Use community based hospital facilities and Close cooperation with interagency partners

### LEE Jiyeoun, KIM Chang-Hee

#### Introduction

1. The present condition of immigration in South Korea(2010) - 1,208,544 migrants stay, 174,049 non-registered migrants(14.4%) 2. The present condition of immigration in Paju City, Gyeonggi Province - 8,726 registered migrants, 972 inter-married immigrants 3. Formal request was made by Paju-city migrant workers protection group and the free medical services has been provided since 2007 4. Migrant workers have difficulties getting medical services on weekdays because they work 6 days a week. We can make health care using public hospital facilities and professionals

#### Purpose/Methods

1. Free Medical service - Surgical, Medical, Neurological, OB/GY, Dental. 2. Follow-up services: registration and management of chronic disease patients - Hospitalization: if needed, connect with businesses supporting medical services for migrant workers and neglected people supported by Ministry of Welfare, considering the criteria for support. 3. Making use of government aids - Run businesses supporting medical services for migrant workers and neglected people (supported by Ministry of Welfare). - If hospitalization is needed, support hospitalization of illegal migrants and the homeless and perform surgery.

#### Results

1. Results from 2011 free medical services: total 567 people, cost \$11,638.26. 2. Treatments: Medical examination, Surgical dressing, take medicine and injection, X-ray, sonogram, CT, EKG, treadmill test, physical therapy, etc. 3. Participants from community organizations: total 529 people. 4. Results from community organization support: total 1,075 people - disease prevention promotion(153), supporting meals(362), drinks(400), interpretation(95), music concert(65). 5. Support from Ministry of Welfare(supporting hospitalization) - migrant workers and neglected people in need of support for medical expenses: total 20 people.

### Conclusions

1. Migrant workers can have an easy access to the medical services by utilizing the public medical services during weekend. Medical professionals provide services, which improves the quality of medical services by offering various examinations such as X-ray, Blood test, CT, EKG, and Exercise stress test. 2. Protect the health of migrant workers and intermarried immigrants and improve the quality of life. 3. Create sense of closeness in the community by offering free medical services. 4. Provide a model for cooperation with interagency.

### Comments

1. To provide steady examinations and treatments for immigrant workers who have no health insurance coverage 2. To encourage participation through connection with Paju City community interagency 3. To improve satisfaction of people who participate in weekend free medical services

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### Conclusions

Subjective poor sleep quality and poor daytime function should be taken into consideration in the management of climacteric women seeking medical advice.

### Comments

Subjective poor sleep quality and poor daytime function should be considered for the health promotion and healthcare in the climacteric women.

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## Quality of life and Sleep Quality Amongst Climacteric Women Seeking Medical Advice in Taiwan

**WU Hsien-Chang, LAI Jung-Nien, HWANG  
Jing-Shiang**

### Introduction

To investigate the impact of the subjective sleep quality and quantity on health-related quality of life amongst women between the ages 40-60 years, seeking medical advice (SMA) in Taiwan.

### Purpose/Methods

A total of 1098 climacteric women were drawn from two hospitals and each subject was asked to fill out a World Health Organization Quality of life (QOL) questionnaire. In addition, the Pittsburgh Sleep Quality Index was employed to evaluate the sleep quality and quantity of the climacteric women. Multiple linear regression analysis was employed to construct a model for the QOL outcome variables.

### Results

The mean scores for the physical and environmental domains were significantly lower than those of the premenopausal women, as were the overall quality of life and general health for perimenopausal women. Although usual quantitative sleep parameters did not significantly predict QOL in the climacteric women, after controlling for demographic factors, severity of the menopausal symptom, and menopausal status, subjective sleep quality and daytime dysfunction were found to be major determinants of the scores in different QOL domains.



## Session P1.1: Health promotion for babies, children and parents

### Promotion of newborn hearing screening in Taiwan and its efficacy

**LIN Hung-Ching**

#### Introduction

There is scientifically a rationale for universal newborn hearing screening. It emerged since 1990 in U.S. So far, newborn hearing screenings are conducted in nearly all U.S states & around all over the world more than 58 countries. It was performed since 1998 in Taiwan. The purpose of this paper is to retrospectively study the past and present status of newborn hearing screening in Taiwan.

#### Purpose/Methods

In middle 2011, Bureau of Health Promotion (Taiwan) investigated the status of newborn hearing screening of major 390 hospitals (or clinics) with baby birth in Taiwan.

#### Results

Among 390 hospitals (or clinics) investigated, almost all the hospitals had conducted newborn hearing screening. The coverage rate of screening programs is near 100%. The estimated rate of screened babies is > 50% (100 thousands/ 200 thousands). The screening tools are automatic auditory brain-stem response (AABR) in the majority and otoacoustic emissions (OAEs) in minority. The budget of its screening will be afforded by Bureau of Health Promotion (Taiwan) in 2011. Clinically, there are still three major problems of newborn hearing screening left. The first one is false (-) in each hearing screening tool. False (-) can occur in case of auditory neuropathy when using OAEs and also in reverse slope loss when using AABR. The second one is loss of follow-up due to subtle clinical symptom/sign of mild to moderate hearing loss. The last one is limited & uneven resources of auditory rehabilitation program.

#### Conclusions

There are enough scientific evidences to mention the importance of universal newborn hearing screening. The guidelines of newborn hearing screening in Taiwan had been made in 2004 & the consensus of newborn hearing screening in Taiwan also had been made in 2008. By the continuously coordinated efforts from ENT, pediatric and audiologists hearing-speech experts. Hopefully, the coverage rate of newborn hearing screening in Taiwan can reach 95 % soon. Consequently, early detection & intervention of congenital deaf babies can be well done before 6 months old.

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## How do Antenatal classes work? A customer satisfaction survey in Trento -north Italy

**SILVANO Piffer, LIVIA Bianchi, MICHELA Berlanda, ENRICO Nava, SANDRA Chighizola**

#### Introduction

Antenatal classes(AC) improve women's Knowledge, competence and pregnancy outcomes. AC attendance is a recommended practice by the Italian Comprehensive Mother-Child Health Promotion Project (POMI). Present paper reports on preliminary results of a study aimed to appraise the quality of AC in a sample of pregnant women attended the Family Planning Centers (FPC) of Trento Health District (north Italy) in 2010. This study represents the first step of a specific project aimed to improve quality and coverage of AC.

#### Purpose/Methods

A consecutive sample of 100 pregnant women attending FPC was given a self administered questionnaire at the end of their AC. Each woman had to fill it after birth and give back to FPC, on the first post partum meeting. Questionnaire explored pregnant women's point of view about four main criteria: accessibility, internal climate of AC, relationship with health workers and the correlation between what they learned during AC and what they experienced on and after birth

#### Results

Accessibility to AC is reported as problematic by 17% of mothers, above all for the opening hours; internal climate is reported as problematic only by 1,0%; physical indoor environment has to be improved by 33,0%; the maximum pleasure is for midwife (82,5%) and the minimum for health visitors (58,5%); for 77,0% there is a satisfactory correlation between what they learned during AC and what they experienced after. There are any statistically significant differences according age, parity and citizenship.

#### Conclusions

These preliminary results give us a global satisfactory picture of the situation and allow us to define a concrete action plan for improving the perceived quality of AC, regarding in particular accessibility, physical indoor environment, health professional interaction and course topics. We also hope, addressing these aspects, to improve the AC coverage specially in primiparous mothers which is, at the present, below the desirable standard.

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## Developmental assessment of very low birth weight premature infants: enhancing the quality of early intervention and perinatal health care services

**CHENG An An**

### Introduction

Very low birth weight (VLBW) premature infants are at high risk for developmental delays or disabilities. To help these infants, the Premature Baby Foundation of Taiwan set up a joint follow-up team in October 1995. In this project, VLBW premature infants were monitored periodically for development and physical examinations before age five. In NTUH, the Clinical Psychology Center started its cooperation with the Division of Neonatology in 2011, so that full-time rather than part-time clinical psychologist could provide development assessment services.

### Purpose/Methods

For the infants and young children before age 3, the assessment tools used are the Bayley Scales of Infant Development-2nd edition and the Bayley Scales of Infant and Toddler Development-3rd edition. For the five-year-old children, the assessment tool is Wechsler Preschool and Primary Scale of Intelligence-Revised, Chinese version. During the assessment, clinical psychologists not only collect norm-referenced, quantitative information, but also collect qualitative observations of infants and young children's behavioral patterns, parent-child interactions, etc.

### Results

Since May till November of this year, there are 163 cases completed in the developmental assessment. Around 25% are borderline development or development delayed. The overall assessment results help clinicians to evaluate the need for further treatment or referral to early intervention systems, and help parents to understand their children's developmental status, their strengths and weaknesses in their abilities. After assessment, parenting counseling will provide parents with ideas about caring and teaching their children for improving parent-child interactions.

### Conclusions

The regular follow-up developmental assessment contributes to these high-risk children to improve health care and development opportunities. The clinical psychologist plays an important team role in caring for premature children.

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## Acupressure for Post-partum Constipation: A Systematic Review

**WANG Pi-Ling, FANG Yueh-Yen, TSAI Chia-Mei**

### Introduction

Constipation is a common problem encountered by pregnant and post-partum women. Among post-partum women, especially for those who had received cesarean sections, excessive gastrointestinal gas caused by constipation may lead to delayed wound healing, nausea, vomit, decreased appetite, and discomfort. Although the theory of traditional Chinese medicine supports the use of acupressure to relieve constipation, it is indispensable to systematically examine the effectiveness of acupressure on post-partum constipation.

### Purpose/Methods

The purpose of this study was to review current evidence in acupressure therapy targeting on alleviating post-partum constipation. We systematically searched articles on acupressure therapy to investigate the effect of acupressure on the post-partum constipation. Three English (PubMed, Medline, and CINAHL) and four Chinese (CEPS, CKNI, CJN, and CETD) databases were used to search both English and Chinese literature published up to November, 2011. Data were extracted by three reviewers independently. The Jadad scale was used to evaluate study quality.

### Results

Eight relevant articles were identified and included in the current study. All included studies presented that acupressure brought positive treatment effects on relieving post-partum constipation. Ways of alleviation included increased bowel sound, shorter time of defecation, and complete relief of post-partum constipation. The acupressure sites used across studies were between 1 to 10. Three most commonly used acupressure points were Tian shu (ST25), Zusanli (ST36), and Zhong wan (RN12).

### Conclusions

Effectiveness of applying acupressure to relieve post-partum constipation was supported by all studies reviewed. Application of this pain-free method may bring benefits to the constipation sufferers with lower medication related complications. It is suggested that evidence-based acupressure protocols to be developed for an effective, standardized operation in the future.

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## Avoiding aggressive diet intervention for small for gestational age infants

**WANG I-Jen, CHEN Pau-Chung, HSIEH Chia-Jung, HO Wen-Chao**

### Introduction

Fetal environment has been suggested to program risk of allergic disease in later life. Obesity in children has been reported to be associated with increased atopy. However, little is known about the combined effects of fetal growth and overweight on atopic disorders.

### Purpose/Methods

In this study, we evaluated whether fetal growth status and later body mass status were associated with development of atopic dermatitis (AD) and allergic rhinitis (AR). A mass screening survey of allergic diseases for 171,395 junior high school students was conducted in Taiwan. Body mass index (BMI) of students was calculated from reported height and weight. The nationwide 10% random sampling of students who completed the standard video questionnaire of International Study of Asthma and Allergies in Childhood (ISAAC) were analyzed. Record linkage from medical birth register was performed for birth factors of live-born singletons.

### Results

A total of 74,688 subjects were recruited. There were 7.6% students ever with physician-diagnosed AD while 22.35% ever with AR. Birth weight < 3,000g and BMI  $\geq 21$  kg/m<sup>2</sup> were associated with increased risk of AD and AR. After stratification by BMI, we found that low birth weight or small for gestational age (SGA) and high BMI at school age was associated with increased risk of AD and AR. BMI showed significant interactive effect with birth percentile on AD (p for interaction=0.002 for boys 0.237 for girls) and on AR (p for interaction<0.0001 for boys and 0.029 for girls).

### Conclusions

Those who were born SGA and showed catch-up growth to obesity may increase the risk of developing AD and AR. Examining post-natal feeding practices and regulating the availability of surplus calories for SGA infants may be important.

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## The use of the correct positioning of Nest for Premature infants in the Intensive Care Unit.

**YEN Ai-Lun, CHANG Yu-Chen**

### Introduction

Support of premature infant imperfect technical or equipment physically, premature infant's inappropriate body positioning, there will be decreased heart rate and blood oxygen, and even respiratory distress. Based on uterine environment, to support the infant's position by setting boundaries to limit their activity, which minimizes energy expenditure and promote muscle tension, which in turn increases a preterm infants' sense of security and physical stability.

### Purpose/Methods

This study is based on the concept of Developmental Care with modifications made in the ICU to sustain a premature infant physical stability and neurodevelopment. The development of premature infant supportive care and individual nest placement of education and training, as soon as possible so that premature infant using the kangaroo bag, build nests positioning of premature infant in specialist care routine.

### Results

After modifications, premature infants saw significant improvements, maintaining heart rates of 132-145 beats/min and oxygen saturations at more than 95% concentration. The ICU Nurses, nest positioning of premature infant's knowledge 60.5 points improved to 92.5 points, premature infant the correct positioning nest 56% upgrade to 86.7%.

### Conclusions

Promote Developmental Care to support premature infants at different stages of individual development, meanwhile promoting the importance of Developmental Care of high-risk newborns to medical staff and parents. However, the significance of changes in the clinical response relating with factors such as: birth gestational age, total length of hospital stay, etc., should be further explored in depth.

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## Reducing the Incidence of Feeding Difficulties in Preterm Infants

**SHAO-CHUN Chang**

### Introduction

Preterm infants' eating ability is considered to be an index to assess the overall health and neurological development of infants' maturity, but feeding difficulties of the preterm infants often make their parents feel pressure and therefore prolong the infants' stay in the hospitals. By using non-nutritive sucking in preterm children oral motor training method, it allows premature infants' oral intake possible; therefore feeding efficiency is increased, whereas the incidence of feeding difficulties are reduced and hospital stay is shortened.

**Purpose/Methods**

Non-nutritive sucking and oral stimulation intervention measures to assist the premature infants to eat by mouth as soon as possible to enhance the confidence of parents' care, reduce frustration, to shorten the hospital stay.

**Results**

Through behavioral assessment and oral stimulation, non-nutritive sucking intervention, among the enrolled 20 preterm infants only one infant's feeding time is over 30 minutes, three have problems of large amount of spilling milk, and 20% of the infants have difficulty in feeding problems. By the end of the project, feeding difficulty rate in preterm children has reduced from 47% to 20%, the time of oral feeding in preterm infant has improved to average of 32 weeks and five days, while eating entirely by mouth has improved to average of 34 weeks and plus/minus three days.

**Conclusions**

Premature infants due to physiological malfunction may face difficulties when eating in sucking, swallowing, breathing or heart and lung problems. The use of non-nutritive sucking and oral stimulation can help premature infants from a poor environment or factors to develop normal physiological function.

**Comments**

To promote breast-feeding, pacifier use in Taiwan hospitals is banned. However, it should be considered that premature infants with normal neonatal difference require additional support and assistance to help their physical development.

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## Experiences and Perceptions Toward Medical Interventions Among Women at the Labor Stage

**KUO CHIH-JUNG**

**Introduction**

In Taiwan, childbirth is viewed as a highly risky process, and the change in the role of midwives from one of an assistant to one of responsibility during this process has enhanced the medicalization of childbirth. Along with advances in medical technology, healthcare professionals tend to rely on medical equipment for providing information about childbirth, but do not provide sufficient support and recognition toward childbirth. Therefore, an understanding of women's perspectives on childbirth and toward medical interventions would serve as an important reference in improving clinical services. The purpose of this study is to examine the experiences and perceptions toward medical interventions among women at the labor stage.

**Purpose/Methods**

This study conducted in-depth interviews of 10 participants using the oral history method. Narrative analysis was used to analyze the collected data. Focusing on their experiences with pre-labor hospitalization, this study describes women's perceptions toward medical interventions during the labor stage, and identifies common and varied characteristics among the stories.

**Results**

This study summarizes women's experiences and perceptions toward medical interventions during the labor stage as follows. (1) Fetal monitoring is a priority in labor care. (2) Taking medicine is the only way to reduce pain. (3) Women are tied to the bed, which limits their activities. (4) Frequent vaginal examinations produce discomfort. (5) Women feel helpless for having to exert energy while lying on the bed.

**Conclusions**

Medical interventions which seem reasonable to healthcare providers could be painful to the women who receive them. Increasing medical interventions for delivery raises the power of influence of physicians during this process. Women's experiences in childbirth reveal the current state of medical services in Taiwan under its healthcare delivery system. During the delivery process, maternal and fetal safety is no longer an issue. The most important consideration during the process is avoiding unreasonable medical interventions and services which women do not want.

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## Umbilical cord care using natural drying alcohol disinfection is comparable to the umbilical cord fall off early

**LI Hsin Tzu, TSAI Yi Lun**

**Introduction**

Umbilical cord care and domestic care to the prevention of alcohol in general to the umbilical cord infection, umbilical cord care back foreign research shows that even a simple natural drying method can be used to promote the umbilical cord fall off and no increase in early risk of infection, causing I want to explore further.

**Purpose/Methods**

Umbilical cord care using natural drying method is better than alcohol disinfection to reduce the number of days off the umbilical cord. Approach to EBN search Pub Med, ProQuest Nursing Journals, GOOGLE academic databases, and to nature dry, clean cord care, alcohol and other keywords.



### Results

Randomized clinical trial will use 70% of healthy newborns into the umbilical cord care and use of alcohol, natural drying method, using natural drying method that can really fall off 2-3 days ahead of the umbilical cord, umbilical cord infection and sepsis and did not occur (Chamnanva et al; Shoaib et al., 2005; Shafique et al., 2006). Preterm children in the same week shortened 3 days (Evens et al., 2004). Therefore, the natural drying than alcohol off the umbilical cord care can reduce the number of days 2-3 days

### Conclusions

Natural drying method can indeed reduce the number of days off the umbilical cord 2-3 days, and this practice for the full-term infants are applicable to premature infants, newborn skin in addition to reducing alcohol harm, but also can reduce health care costs.

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## An investigation into the effect of new parents performing neonatal massage on levels of parent satisfaction with the attachment relationship between parents and their infants

HSUEH Huei-Chen, HSU Tzu-Chuan

### Introduction

Neonatal massage helps mothers increase their confidence in nurturing to improve bonding and promote attachment between parent and child. This is helpful in the building of trust between the infant and the caregiver. Clinically, it is often observed that new parents become bewildered with the crying and fussing of the infant. They often experience anxiety and frustration when caring for the baby, and begin showing contradictory feelings of love and concern that the baby might be harmed. This research aimed to integrate neonatal massage into new families. It is hoped that high quality neonatal care may be available to infants, and the goal of family health promotion may be attained.

### Purpose/Methods

**Purpose:** To investigate the influence of parents performing neonatal massage in the early stages after delivery on levels of satisfaction with attachment levels for first-time parents. The results could be used as reference for clinical nursing staff. This would then serve to realize the family-centered goal of nursing. **Methods:** This research design was based on a quasi-experimental study. Samples were obtained by purposive sampling from first-time parents and neonates within five days

of birth. A total of 70 groups of first-time parents and full-term neonates of gestational age  $\geq 37$  weeks, weight  $\geq 2500$ g, without other comorbidities were recruited for this study with parental consent by parents without mental disorders. The parents in the experimental group were subjected to neonatal massage training in addition to standard infant care. Prior to discharge, they needed to be able to display their competence in massage. After returning home, parents had to continue neonatal massage once daily for 30 days, for 15 to 20 min each time. The control group was only trained in standardized infant care procedures. This research design would enable the researcher to compare the effect on levels of satisfaction with parent-child attachment between the two groups. Within one week of discharge, the experimental group was followed up by telephone over their implementation of neonatal massage. This continued for 15 days. At the end of the experiment and at the follow-up consultation of the infant after 30 days, a self-designed structured questionnaire of a total of six questions was employed for data collection. In addition to information on basic attributes, measurement was performed with structural questions from a 5-point Likert scale.

### Results

Questionnaire recovery rate was 92.86 %. The results showed that 30 experimental groups showed an average overall attachment satisfaction score of 4.68, whereas 35 control groups showed a score of 3.92. The rate of improvement was 15.2 %. The statements with which the respondents attributed the most satisfaction were, in order: (1) "I feel that the baby enjoys it when I touch, hug, look at, and talk to it"; (2) "I often touch, hug, look at, and speak to the baby"; and (3) "When the baby cries, I take the initiative to check on it." The most significant improvement was in "I often touch, hug, look, and speak to the baby," which increased by 25 %.

### Conclusions

Through massage, the parent increases physical contact with the baby. This effectively improves cognition in the suggestive behaviours of the infants. This also improves their confidence in their roles as competent parents. In the process of care giving, the couple is able to feel the achievement and contentment of becoming a parent. Attachment relationships could be improved by the establishment of a deep emotional bonds and communication between parent and child. During neonatal massage training, parents are guided not to use excessive strength or complicated techniques. The time, frequency, and location of the massage could be adjusted according to the infant's needs. This would aid in strengthening the motivation for massage by the parents and achieve the goal of family health promotion and the family-centered nursing to protect the rights of the infant.

### Comments

\*Incorporate neonatal massage training into parenting and training programs for medical staff; include massage as a support treatment in prescription policy. \*Relevant regulations on neonatal massage should be formulated by health authorities; guidelines on the support and management of the neonatal massage must be set forth as regulations for health care personnel.

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## The effectiveness of parenting workshop promoting initial study

**LYU Ji-Yan, CHANG Yu- Ting, CHANG Rui-Yun, WANG Chang-Tao, CHUNG Hui-Chun, CHANG Shu-Chuan**

### Introduction

Declining birthrate and shorting postpartum hospital stay give rise to a big challenge for nurses, lying-in women and families to get completeness postpartum nursing and newborn babies care. For this reason, prior knowledge of prenatal, childbirth, postpartum, and baby care, will effectively assist to welcome new family member and to improve nursing satisfaction.

### Purpose/Methods

By Parenting Workshop activities, parents-to-be can attend and learn knowledge about prenatal, childbirth, postpartum, and baby care together. Routinely Parenting Workshop activities at warmly recreation area beside the obstetrics and gynecology wards station. Physions present the way to cope with discomfort during pregnancy, the importance of prenatal care, the benefits of breastfeeding, and the importance of neonatal vaccination. We also demonstrate relaxation techniques during childbirth, neonatal bathing, changing diapers, etc. Then invite parents-to-be practice personally and share their learning harvest after class.

### Results

During year of 2010, total 10 sessions of Parenting Workshop Activity with 168 people attendance, including mothers-to-be 120 people, brothers-to-be 41 people, and other family members 7 people. Satisfaction questionnaire after activity, achieve up to 94.9%.

### Conclusions

Prenatal, childbirth, postpartum, and baby care knowledge provided by medical personnel can improve parents-to-be knowledge and establish familiar with medical personnel to raise postpartum nursing satisfaction.

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## The effects of cold packing on relieving episiotomy wound pain

**SU Mei Ling, LU Yu Ying, GAU Meei Ling, LIN Kuan Chia**

### Introduction

Postpartum women who perineal wound pain, daily activities affect postpartum, urination and defecation flow, and therefore can not concentrate to take care of newborns, postpartum recovery time and the resulting impact on parent-child interaction. The purpose of this study was to examine the effects of application of cold packs on relieving episiotomy wound pain.

### Purpose/Methods

A quasi-experimental, repeated measures design, with intervention and comparison groups, was used. All subjects for this study were recruited from regional teaching hospital in north Taiwan. The four points for outcome testing included 4 hours after childbirth (pretest), 12, 24, and 48 hours postpartum (posttests). Research tools included maternal demographic information sheet, Visual Analogue Scales for pain, Brief Pain Inventory Short Form, and REEDA for episiotomy wound assessment.

### Results

Results showed that there were no differences on the participants' demographic and obstetrical characteristics between two groups. The ANCOVA analysis found a difference between two groups in time of the first-time urination after childbirth ( $p < .05$ ). The GEE revealed significant differences on level of pain, influence of pain on daily activities, breastfeeding and mother-baby interactions, scores on the satisfaction with pain management at 12, 24, and 48 hours postpartum ( $p < .05$ ) between two groups except for episiotomy wound healing.

### Conclusions

This study suggested that in antenatal clinics, providing perineal pain related care and guidance; routine postpartum perineal care measures included cold packs on episiotomy wound, and within 24 hours of delivery increased cold packs time and frequency.

### Comments

This study showed that application of cold packs on perineum was more effective in relieving episiotomy wound pain; decreasing influences of pain on daily activities, breastfeeding, and mother-baby interactions; increasing participants' satisfaction with pain management; and resulting in earlier first-time urination after childbirth than did taking oral pain medicines along. The ice pack is convenient to use and therefore can be widely used in clinical.

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## Innovative tool of game therapy – “Butter Lion” a modified percussor

**HSIEH Shu-Hua**

### Introduction

Bronchopneumonia is common seen in pre-school children. Chest percussion and steam inhalation are necessary treatments for them. To reducing children's fear, therapeutic game is more useful for that.

### Purpose/Methods

The aim of this project is increasing the acceptance of chest percussion and numbers of percussion by modified percussor. Pediatric percussor, brush handle and cute cartoon pictures are used to modified as a toy percussor named "butter lion". Accompany with therapeutic game environment, "butter lion" is playing an important role. Percussor with handle is easy to use and more comfortable.

### Results

After modified percussor "butter lion" involved, the length of stay is shortening from 6 days to 5 days.

### Conclusions

This innovation tool of chest percussion is successful making children accept percussion therapy. Therefore, it can make children and families reactive more and stay closer.

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## The clinical evaluation of video-based method on kangaroo care for mother of premature infant

**TUNG Tao-Hsin, SHIH Hui-Chuan**

### Introduction

The benefits of the kangaroo care to premature children are not only more stable physiological conditions to promote growth and development, positive behavioral development, reducing hospital infection rates, but also can promote parent-child attachment, the success of breastfeeding, increase parental confidence and enhancing the satisfaction of mothers in pre-term children.

### Purpose/Methods

Through video-based Kangaroo care program increased the implementation the will and action of kangaroo mother care, and increased the proportion of kangaroo care for mother of premature infant. The nursing care guide CD-ROM contained

description kangaroo care, the advantages of advance preparation and precautions. The watching time was about 10 minutes to reduce the mothers feel tired and reduce the willingness.

### Results

Implementation results found for kangaroo mother care, cognition, parenting confidence, parent-child attachment relationship, hospital pressure, the proportion of breastfeeding, and satisfaction were significantly improved.

### Conclusions

Proposed that in future video-based health education could be regarded as a model to guide clinical nursing care.

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## Effect of Foot Orthoses on motor performance and balance in Children with Flexible Flatfoot During a 6-month Period

**LIN Won-Jean, CHEN Li-Rong**

### Introduction

Children with flat foot are commonly seen. However, it is always controversial to treat it or not. It was noted that the symptoms of flat foot including easily falling down or poor endurance were improved after wearing orthopedic shoes. Another study showed good effect of eliminated symptoms of local pain and improvement in gait pattern, without changing any structure of foot. There is less report about relationship between foot orthoses and the improvement of flat foot with poor balance and motor performance.

### Purpose/Methods

Finding out the influence of foot orthoses on motor function and balance is the purpose of our study. We obtained samples of 5-12 years old children with flat foot at our hospital. They were randomly divided into two groups. One group had the foot insoles within heel-supportive sneakers; another group had the same sneakers without arch support. Data was detected by Bruininks-Oseretsky Test of Motor Proficiency (BOTMP) and Biodex stability System (BSS). We collected data of baseline and 6 months later.

### Results

19 children were collected in our study. Five were girls and 14 were boys. Eight children were in insole group and 11 children were in without-insole group. Data shows that the scores of BOTMP significantly increase in insole group after wearing for half year ( $P < 0.05$ ). Data of athlete stability index medio-lateral in BSS also became better after 6 months ( $P = 0.003$  in insole

group,  $P=0.017$  in without-insole group). However, there is no significant difference between two groups in BSS data.

### Conclusions

Our research suggested that foot orthosis usage for 6 months can improve motor performance in flat foot children, while life quality may also be better. Moreover, to educate the parents how to choose better sneakers with heel support for their children is more important, which may also had effect of their balance.

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## Reduces the time of the wellbaby clinic seeing a doctor

**CHIA-LING HSIEH, WEN-CHUN LIU, CHIN-HUI HUANG**

### Introduction

Visiting time, it is an important indicator for patient's satisfaction and the quality of hospital services, so this project was to use interdisciplinary cooperation to reduce visiting time, and the same time to improve the family satisfaction.

### Purpose/Methods

Therefore, pediatricians and the information sector cooperated to make the form of information, to manufacture the protective seat belt for injection chairs, to purchase the additional waiting chairs, to change the nursing instruction model, to increase a notice poster about off the hat and coat first in waiting area, and to product a "may occur reaction after vaccination and how to dealing with" care guidance leaflet and poster on display outside the injection room for the convenience of families to seeing. After the analysis, we found that the lack of an information form, the insufficiency of family member's cognition, and the lack of the nursing instruction guidance. These led to visits lasted 69 minutes and the family satisfaction to spend time of out-patient service was not satisfied with 2.77 points.

### Results

The result, the visiting time down to 55 minutes, the family satisfaction more elevated to 3.16 points.

### Conclusions

To use interdisciplinary cooperation make the form of information, to innovate and design the protective seat belt for injection chairs, to buy the safe and colorful waiting chairs, and to use the diverse nursing instruction model. It is not reduce the visiting time and to improve the family satisfaction, but also reaches the quality of hospital services in hospital first vision of reputation.

## Exploring the effects of music in reducing anxiety for antenatal women with high risk pregnancies

**TSAI Shuo-Shin, LEE Fu-Hui, LIN Li-feng, CHAO Shu-Yuan, LUO Yueh-Yun**

### Introduction

Hospitalization will cause significant stress and load to the antenatal women with high risk pregnancies and their family. Anxiety is a common reaction for women with high risk pregnancies. In addition to general medical treatment and nursing care, music intervention is widely used as a complementary care and has been used to reduce the anxiety of hospitalized patients that the effects are worthy of recognition in foreign and domestic research.

### Purpose/Methods

A single-blinded and quasi-experimental design is used and all cases are collected from a regional teaching hospital in southern Taiwan. The experimental group ( $n = 30$ ) takes a 30-minute music session in the morning of one day, the control group ( $n = 30$ ) wears coverage headphones and bed rests for 30 minutes. Variables included physiological indices (vital signs, blood oxygenation, fetal heart rate), and anxiety (Visual Analogue Scales).

### Results

Major findings of the study show that music intervention therapy could decrease the anxiety level of the experimental group, including physiological and mental indices. The physiological indices are composed of three parts, including temporal artery temperature of mothers ( $t_{29} = -4.205$ ,  $p = .000$ ), respiration rate of mothers ( $t_{29} = 3.972$ ,  $p = .000$ ), fetal heart beat of fetuses ( $t_{29} = 4.293$ ,  $p = .000$ ), and the mental index is Visual Analogue Scales-Anxiety ( $t_{29} = 6.521$ ,  $p = .000$ ).

### Conclusions

It is concluded that listening to music could reduce the anxiety of antenatal women with high risk pregnancies. The study found that serving a reference for health care workers using music to provide cases with a non-invasive complementary intervention.

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## Non-nutritive Sucking and Oral Sucrose Relieve Neonatal Pain during Intramuscular Injection of Hepatitis Vaccine

LIAW Jen-Jiuan, ZENG Wen-Ping

### Introduction

Newborns are subject to pain during routine invasive procedures. Pain caused by immunization injections is preventable, but remains untreated in neonates.

### Purpose/Methods

The study purpose was to compare the effectiveness of three nonpharmacological pain-relief strategies on newborns' pain, physiological parameters, and cry duration before, during, and after hepatitis B intramuscular injection. In this prospective randomized clinical trial, we enrolled 165 newborns (gestational age >36 weeks). Infants received intramuscular injections and were randomized to three treatment groups: non-nutritive sucking (NNS), 20% oral sucrose, or routine care. Pain was measured by the Neonatal Facial Coding System, physiological signals by electrocardiogram monitors, and cry duration by stop watch

### Results

Pain was significantly lower among infants in the NNS ( $B = -11.27$ ,  $p < 0.001$ ) and sucrose ( $B = -11.75$ ,  $p < 0.001$ ) groups than in controls after adjusting for time effects, infant sleep/wake state, number of prior painful experiences, and baseline pain scores. Infants in the NNS and sucrose groups also had significantly lower mean heart and respiratory rates than controls. Cry duration of infants receiving sucrose was significantly shorter than those in the NNS ( $Z = -3.36$ ,  $p < 0.001$ ) and control groups ( $Z = -7.80$ ,  $p < 0.001$ ).

### Conclusions

NNS and oral sucrose can provide analgesic effects and need to be given before painful procedures as brief as a 1-minute intramuscular injection. Sucrose orally administered 2 minutes before injection more effectively reduced newborns' pain during injection than NNS. Both nonpharmacological methods more effectively relieved newborns' pain, stabilized physiological parameters, and shortened cry duration during intramuscular hepatitis injection than routine care.

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## Group discussion and training: health promotion mother and children

MAHAMED fariba, MOUSAVI - Abd Mohammad, MALEKZADEH - John Mohammed

### Introduction

Improving mothers and babies' health and creating a sense of calm in mother and child is the primary goal breastfeeding. Insufficient consideration of exclusive breast feeding up to six months, the lack of adequate continuity of breastfeeding up to two years old. This study was performed aiming at determining the effect of combination of approaches to group discussion and learning skills on developing the ability of nursing mothers in the use of proper breastfeeding techniques. Breastfeeding as a full method of feeding children has been recorded in the World Health Organization and UNICEF. Therefore, it is necessary to recognize the cognitive behavioral factors which encourage beginning to breastfeed so that based on these factors an appropriate interventional program should be designed for pregnant women to provide causes of effective breastfeeding for them

### Purpose/Methods

This study was conducted for the purpose of educational intervention in promoting proper breastfeeding. In this Semi-empirical study, the intervention group consisting of 129 pregnant women referred to Shahid Dastgheib health center of Yasuj who were selected randomly, were trained in 12 groups and each group during four sessions (each session 1.5 hour) by the approach of group discussion and learning skills through showing movie. The educational topics included display of the common breast-feeding techniques, their strengths and weaknesses, showing proper breastfeeding techniques with help of movie and the exercises with doll. The control group including 129 subjects at the other health center was randomly selected who achieved Breastfeeding training according to the previous common approach. After the intervention, the data regarding the "body condition" techniques, was observed and filed by the researcher through the breastfeeding observation check list and with help of displaying mother with infant mannequins. After the intervention, the data regarding the "body condition", "reactions or responses", "bond between mother and child" and "sucking" were collected and classified at the parturition time in the hospital and by Midwives and then the data were analyzed through.

### Results

The results showed that after the intervention and at the parturition time 79 subjects were observed from the group of and 129 participants in the program to investigate the correct approach of breastfeeding techniques. In the control group, the average score for the performance of the "body condition" changed before and after the intervention and demonstrated a statistically significant difference ( $p < 0.000$ ). Comparison of both intervention and control groups in the field of score of the

performance of the "body condition" after the intervention, respectively 4.09 and 3.58, "reactions or responses" after the intervention, respectively, 4.53 and 1.05, "bond between mother and child" after the intervention, respectively 2.43 and 0.99 and "sucking" after the intervention, respectively 5.11 and 3.17, shows that among all these, the changes were significant.

### Conclusions

Based on this study, women who undergo pregnant effective educational interventions in the field of breastfeeding are more successful in postpartum breastfeeding than women who have not participated in any interventions.

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## Factors Associated with Breastfeeding Among Hospital Employees in Taiwan

**KUO Su-Chen**

### Introduction

Taiwan implemented breastfeeding promotion program since 1992 in response to global advocacy of breastfeeding. Baby-Friendly Hospital Initiative in Taiwan was launched in year 2001 with modified WHO/UNICEF standards. Although employment clearly affects the continuation of breastfeeding, previous research has not examined the breastfeeding supports within hospital work environments in Taiwan. A few health care facilities offer some workplace breastfeeding support, but little is known about the specific types and amount of support that are offered.

### Purpose/Methods

The purpose was to identify the factors associated with continue breastfeeding among hospital employees in Taiwan. A cross-sectional survey design was used. In mid 2010, a total of 503 female hospital workers who delivered their infants within one and half year and the age of their infants were at least 6 month from 24 hospitals were recruited. Factors associated with breastfeeding more than 6 months were investigated by using stepwise multiple logistic regression models.

### Results

Rates of breastfeeding were 55.1%, 62.2%, 60.0%, 47.9, 39.2 and 26.2% for in-hospital stay, the first-, second-, fourth-, sixth-month and beyond sixth-month postpartum, respectively. Breastfeeding more than 6 months was significantly associated with educational levels (OR = 3.84; 95% CI = 2.19, 6.74), breastfeeding attitude (OR = 1.18; 95% CI = 1.09, 1.28), workplace with breastfeeding room (OR = 8.23; 95% CI = 1.31, 51.69) and perception of workplace breastfeeding support (OR = 1.08; 95% CI = 1.05, 1.12).

### Conclusions

Among the factors determined by multiple logistic regressions, regarding establishing breastfeeding friendly workplace, workplace with breastfeeding room and perception of workplace breastfeeding support were two important factors, which need to be emphasized for the launch of breastfeeding promotion policy for public health authorities.

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## Breastfeeding experience in Taipei City Hospital ZhongXiao Branch

**CHAN Chying-Chyuan, CHUANG Ling-Shuan, CHANG Ling-Yu, LEE Shaio-Yun, LEE Ching-Yu**

### Introduction

Breastfeeding is recommended that mothers breastfeed for six months or more, without the addition of infant formula or solid food. Human breast milk is the healthiest form of milk for babies. Breastfeeding promotes health and helps to prevent disease. Experts agree that breastfeeding is beneficial, and have concerns about artificial formulas but there are conflicting views about how long exclusive breastfeeding remains beneficial.

### Purpose/Methods

For advocating breastfeeding, we will tell the mother about the benefit of breastfeeding and education her how to breastfeeding in gestation age 28 weeks. After delivery, we provide mother and baby skin to skin in 30 minutes and 24 hours room in and breastfeeding in the hospital days. After the mother goes home, we will follow up on the first month and the second month by telephone.

### Results

After the two years advocating, we found the skin to skin rate is 99%, the room in rate is 44.4%, breastfeeding rate is 87.3% in hospital days, 76.1% after delivery one month, 63.7 after delivery two months.

### Conclusions

The World Health Organization (WHO) and the American Academy of Pediatrics (AAP) emphasize the value of breastfeeding for mothers as well as children. The benefit for the infant include greater immune health, fewer infections, reduced sudden infant death syndrome, less diabetes, less childhood obesity, less tendency to develop allergic diseases. Benefits for mothers include bonding, hormone release, weight loss, natural postpartum infertility. We provide a comfortable environment and an accurate guide for breastfeeding. In our data shows we has successful breastfeeding rate in Taiwan.



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## Promoting Strategy in Providing a Baby-Friendly Environment

**HUANG Jen-Chieh, HO Bi-Yi, CHANG Yu-Yu, LIN James Che-Yu, CHANG King-Jen**

### Introduction

Due to Taiwan's rapid industrial and commercial growth and advancement, employment rate for women has been escalating throughout the years. The method for feeding babies has been gradually shifted from breastfeeding to the use of milk powders and other commercial products, and the rate of breastfeeding has decreased from 95% in the 1960s to 24.03% in the 1990s.

### Purpose/Methods

In addition to implementing the ten steps to successful breastfeeding for hospitals, our hospital has constructed a systematic framework to deliver services targeting mothers, hospital, and the environment. These services included providing maternal and child health education classes, implementing TRM, establishing a friendly breastfeeding environment using methods of QCC, and constructing key indicators and monitoring feedbacks for constant improvements.

### Results

In 2011, the rate of "rooming in" following natural birth was 19.85%; the rate of more than 20 minutes of skin to skin contact immediately after birth was 98.88% for natural birth, and 94.03% for cesarean birth. Prior to promoting the baby-friendly hospital initiative, the breastfeeding rate has increased from 65% in 1990 to the current rate of 97.91%, and breastfeeding rate two months after delivering is 92.76%

### Conclusions

Our hospital provides prenatal and postnatal follow-up services, monitors key indicators and reviews policies quarterly to provide timely feedbacks on the effectiveness of the program, and utilizes methods such as TRM and QCC to adjust and enhance services. In the future, our hospital plans to continue improving and maintaining the excellent standard of a baby-friendly hospital.

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## Breastfeeding in rural area

**CHO Ju-Yu, HUANG Shu-Min, MU Chia-Fen, HSU Chao-Yu**

### Introduction

Human breast milk contains a lot of nutrition, and is the healthiest form of milk for babies. We encourage mothers to have breastfeeding for at least 6 months after delivering. Puli is located in the rural area of central Taiwan. The objective of this study is to investigate the breastfeeding rate in rural area.

### Purpose/Methods

During November 2011, 86 female participants were provided the questionnaires. Breastfeeding situation was asked. There were 14 questions to be answered.

### Results

Fifty-seven participants had children. Of them, 51 (89.5%) participants had breastfeeding before. There were no significant differences between breastfeeding or not in race, age, education and occupation.

### Conclusions

Breastfeeding can promote health for infants, breastfeeding should be encouraged.

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## Supporting Mother-Baby-Friendly Initiatives via Baby Web Nursery

**CHAN Mark K., LEE Wells**

### Introduction

Jen-Ai Hospital - Tali (JAH) was the first hospital in Taiwan to introduce Baby Web Nursery website to help parents bond with their friends and family, as well as hospital staffs. With the advent of various technologies available on the Internet, JAH wanted to come up with innovative ways to provide new services and information about "Mother & Baby-Friendly" initiatives, so that support system can be developed between the hospital & the parents.

### Purpose/Methods

Extensive on-line research and study were conducted, before launching this project. Working closely with various departments, the hospital is now able to send SMS & MMS messages, provide a message board, 60 photos, 6 videos embedded using YouTube technology and 1 electronic file of the baby that the parents want to share with the public. Information related to "Mother & Baby-Friendly" initiatives, monthly e-newsletters,

follow-up visit / phone call related to breastfeeding, etc. are all available on the website.

### Results

Baby Web Nursery has now over 2,200 babies to date, with 6,600+ messages received from 43 different countries; 3,950+ photos; 900+ YouTube videos; and 80+ electronic files of the babies that are born at the hospital. Members grew from a low of 29.1% of the parents in the beginning to a high of 85.7% in recent months. In 2010, JAH was also honored to be ranked #1 amongst all Taiwan hospitals in "Mother & Baby-Friendly" initiatives.

### Conclusions

It is the hope of JAH that all the hospitals in the world will one day offer similar "Mother & Baby-Friendly" services like the Baby Web Nursery to all parents, as advanced technologies on the Internet becomes the norm in the future. With the continued development of the broadband access and camera phones, various usages in the healthcare setting are anticipated in the near future, so that the relationship between the hospital & its patients can be further developed.

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## Importance of Gender Difference in Health Promotion by Family Caregivers

HSU Shwu-Miin, TU Shu-Yun

### Introduction

The purpose of this study was to explore the important of gender difference in stress and coping behavior of family caregivers. During Jan 2008 and Nov 2010, twenty of family caregivers who had been taking care of an elderly family member at home were included in the study

### Purpose/Methods

This study examined dataset collected from family caregivers of home care patients. Dataset were drawn from semi-structure emerged derived from in-depth interviews. The subjects were informal caregivers of older adults aged 65 or above who had serious level of dependency. Inclusion criteria of subjects consisted: (1) average age of fifty-eight years old, (2) taking care of an elderly family member at least three months prior to the time of study. (3) A large portion of subjects were son and daughter.

### Results

Our results demonstrated that most difficulties perceived by the both male and female caregivers were emergency situations. The stressor for male caregivers were skill of tube care, patient transporting, communicate and care giving arrangement with the family member. The stressor for female caregivers

were feeding, suction, stool and urine processing, duration of care, emotional and communication problem of client.

### Conclusions

The male caregivers were more problem oriented; focused on find the consultation, set up work regularity and coordinated with family member. The female caregivers were more skill oriented; and through following coping behavior included role adjustment, looking for support, resources for assistance, confident belief, health and caring knowledge improvement, to engage in health promotion activities, and feedback from family members. These can be having help to deal with lots of difficult care giving situations.

### Comments

Results will provide a basis for health professionals to understand gender difference of caregivers' experiences and provide the appropriate services and health promotions for home care patients and the family.

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## Impact of family atmospheres on children's bereavement reactions: A case report

LIN Chi-Chin, TSENG Chang-Chang

### Introduction

Sibling's death usually leaves remaining children risky psychological problems. In this situation, family atmosphere plays an important role on the children's bereavement reactions. Avoiding the discussion of the loss could inhibit the children from expressing his feeling. In this paper, we will present and discuss a 9-year-old boy's bereavement reactions after his younger brother had passed away, due to congenital heart disease, for 11 months.

### Purpose/Methods

Wechsler Intelligence Scale for Children (WISC-IV), Children's Bender Visual Motor Gestalt Test (BG) and Draw A Person (DAP) were used to assess the boy's intelligence, emotional state and personality. The boy's recall of his brother was recorded and analyzed. An interview with mother was conducted to understand the boy's bereavement reactions and the family atmosphere. Classroom observations were also provided by teachers.

### Results

Assessment results show that intelligence score (FSIQ 66) is significantly deteriorated, as compared with that assessed two years ago (FSIQ 81). 'Transparency', an important sign of emotional disturbance, is noted in DAP test. According to the mother, family members avoided discussing the grief. The boy was very quiet and hot-tempered at home. However, irrelevant and



impulsive speech was noted during assessment. Behavioral differences and cognitive decline imply that he had prominent emotional suffering but could not vent emotions at home.

### Conclusions

Family atmosphere strongly influences children's bereavement reactions. This boy suffered from severe behavioral and emotional disturbances after his brother's death. He might learn to inhibit emotional expression because family members avoided coping with the grief. We suggested the family to refer to psychotherapy so as to foster an atmosphere of free and open communication to resolve the behavioral and emotional problems resulting from sibling loss.

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## Abuse in childhood: take charge and listening strengthening in hospital care and health promotion network.

**CENCI Luigina, TAVONI Maria Antonietta, ASCOLI Fausta Beatrice, STORTI Nadia, POLENTA Laura, BUSCEMI Loredana, CAPOGROSSI Emma**

### Introduction

Maternal-Infant hospital departments daily bring in evidence patients coming from different access (emergency room, outpatient clinic, interdepartmental advices, etc.), sometimes agreeing the traumatic stress observation and reception derived from "child abuse or maltreatment".

### Purpose/Methods

The activation of multidisciplinary competences and expertises soon available in fast responding intervention borders the hospitalization to the real emergency and establishes a good reply for child who feels psychosocial issues and needs abuse related assistance. Diagnostic-therapeutic procedure is interdisciplinary (infant neuropsychiatrist, psychologist, social worker, medical examiner, pediatrician, pediatric surgeon, gynecologist) to ensure more integrated, heterogeneous and comprehensive assistance.

### Results

Clinical contribution regards 24 subjects, 14 males, 10 female, victims of sexual abuse, median age 9 yrs 7month. Socio-economic family level is medium in 48% of cases, high in 28% and low in 24%. As a comparison issue, the data related to case histories offering at "Crisis Task force" instituted established in september 2009 in Salesi Pediatric Hospital are reported (34 children, 12 males, 22 females, exposed to physical or sexual abuse, median age 6 years 7months).

### Conclusions

"Crisis Task force" borns as an improvement and empowering attempt in current organization; at the same time, the adjustment performed in multidisciplinary approach goes hand in hand with the regional and territorial integrated assistance network in child abuse. We evaluate the significant differences between the two case histories samples.

### Comments

A comparison of case studies enables the monitoring of operational standards and epidemiological data useful for the reorganization of local health-psycho-social (resource allocation, the definition of paths).

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## A Pilot Study of Traditional Chinese Medicine Therapy Complementary and Alternative Applied to ADHD Children in a Health Promoting Hospital

**TSAI Tien-Sheng, HUANG Bo-Ming, HUANG Tzu-Hui, HUANG Hsin-Yi**

### Introduction

Attention deficit hyperactivity disorder was a common school age children's disease, its symptoms often were poor attention, unable to stay seated and impulsivity. Therefore, including learning disabilities or interrupting others, the disturbance of children with ADHD was really a burden between families and school. If without further improvements in the coming grow up, would find more problems of maladjustment existed. Behavioral correction assessment combined with drug therapy of medical programs could get a better therapeutic effect in some case reports.

### Purpose/Methods

Many Physicians of Traditional Chinese medicine identified (TCM) pattern and determined treatment for patient with four examinations including inspection, smelling and listening, inquiry and palpation. Inquiry assessment of TCM being to have its systematic clinical experience, but also was an inductive method. Clinically, Inquiry assessment for children was relatively difficult, this study hoped to develop questionnaire of QLOCMC and examined its reliability and validity. Questionnaire options of QLOCMC by Delphi method experts could effectively understand the constitution of ADHD children.

### Results

Literature review, qualitative research and expert assessment were to induct to 11 major and 23 minor options. Furthermore,

through twice Delphi method, a total of 118 questionnaire options of constitutional pattern were ascertained. This questionnaire of QLOCMC will hope for a good scale to clinical TCM staffs and help TCM to modernize.

### Conclusions

We evaluated the ADHD cases with acupuncture therapy and other complementary and alternative medicine treatment (CAM). Furthermore, we were eager about the appropriate biomedical instrument or test, whether it could increase and enlarge the applicability of four examinations in traditional Chinese medicine (TCM), and it's of much help to clinical differentiation. Keywords: Attention Deficit and Hyperactivity Disorder (ADHD), Quality Life of Chinese Medical Constitution(QLOCMC), Constitution, Delphi, Questionnaire

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## Self-care behavior and self-care outcome among children and adolescents with type 1 diabetes mellitus

### WANG Hui-Fang

#### Introduction

Children and adolescents with type 1 diabetes must daily perform several complicated self-care tasks such as insulin injection, blood glucose monitoring, meal planning, and regular exercise. Good self-care behavior is important for control of diabetes.

#### Purpose/Methods

The purpose of this study was to find out the self-care behaviors outcomes and possible influencing factors among children and adolescents with type 1 diabetes. Data were collected via structured questionnaire survey. Content of the questionnaire included personal characteristics, condition of diabetes, and self-care behavior assessment scale. Subjects were type 1 diabetic patients 7-19 years of age treated at the pediatric endocrinology clinic of a central Taiwan medical center.

#### Results

The self-care behavior scores of children and adolescents were statistically significant (156 vs 141,  $p = 0.0002$ ). Self-care behavior score was significantly associated with schooling, education levels of the primary caregivers, family income, frequency of blood glucose monitoring, insulin injectors, blood glucose monitoring performers, and absence from school due to diabetes ( $p < 0.0001$ ,  $p = 0.0004$ ,  $p = 0.0216$ ,  $p = 0.0079$ ,  $p = 0.0030$ ,  $p = 0.0137$ ,  $p = 0.0244$  respectively). The self-care behaviors of all patients were negatively correlated with self-care outcomes by measuring glycosylated hemoglobin (HbA1c) levels ( $p = 0.002$ ,  $r = -0.297$ ).

### Conclusions

Children scored better than adolescents in self-care behaviors. Levels of schooling, family income, and frequency of blood glucose monitoring were significant factors influencing self-care behavior among children and adolescents. The results of this study may guide care providers to better help the self-management among children and adolescent.

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## Hospital Health Promotion and the Results of Drawing Competition

### CHANG Yi-Ting, CHEN Chien-Sheng, MA Hon-Kwong, TSOU Jhi-Chyun

#### Introduction

Our hospital, Cardinal Tien Hospital Yonghe Branch, is the member of Taiwan Network of Health Promoting Hospitals. We actively extended the space and built the equipments for health promotion for many years. Besides, we held many activities to promote health promotion for all age and wished them to have a healthy life.

#### Purpose/Methods

To increase the children's concept of health promotion, we invited children to join drawing competition with a topic of "climbing stairs, health promoting". We asked them to draw their favorite exercise, and invited professionals to give a score. In prize presentation day, we invited children and their family to join the activity of climbing stairs and took photos. We wish to deliver our concept of health promotion and enhance children's life fun by this activity.

#### Results

82 children have participated. Nine children were younger than 7 years old. Other children studied in the elementary school, 35 of them in the 1-2nd grade, 7 in the 3-4th grade and 31 in the 5-6th grade. We give the best-painting prize in each group. We also give each participant a small gift. Satisfaction survey showed that almost of people are satisfied with this activity, and over eighty percent of them are glad to participate it again.

### Conclusions

We successfully give the concept of exercise and health promotion by a fun way. At the same time, we also provided our other health-promotion services, such as oral cancer screening, to the community and the staff. We work hard to provide some creative and fun ways to deliver our concept of health promotion.

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## From Ugly Duck to Swan - Body Weight Management from Childhood

**LIN Chia-Ying, CHEN Ming-Huang, LO Hsin-Yi, HUANG Paul, HUANG Hsiu-Li**

### Introduction

There are 44.1 % of adults either overweight or obese, according to report from Bureau of Health Promotion in Taiwan in 2010. Amongst, every 1-in-4 of children is either overweight or obese. It is evidently childhood and adolescence obesity can lead to adult obesity. Obesity is associated with chronic illnesses. Unhealthy diet, lack of exercise, irregular life style, and insensible to body weight management are contributors to obesity. This project establishes a body weight management team aiming to promote children's health.

### Purpose/Methods

The body weight management team included pediatrician, dietitian, exercise coach, psychologist, and case manager. Each team members provided different professional expertise and work as a team in helping the participants. We initiated group health education program for family members. The participants recorded body weight management handbook which included daily diet journal, diet and physical fitness report. The case manager monitored the progress of the participants on a regular basis.

### Results

During February to November 2011, we provided 17 parents-children nutritional group education sessions, 17 physical fitness sessions, and 1 parents-children psychological discussion session with 214 participated-times. Among the 67 participants, the 3 overweighed participants decreased body weight by 2.1%, the 11 mild-obese participants decreased body weight by 4.8%, the 28 medium-overweighed participants decreased body weight by 5%, and the 25 critical overweighed participants decreased body weight by 12.6%.

### Conclusions

Through the collaboration of professional team, it is evidently helpful in assisting children and adolescent managing their body weight and making them healthier. After the pilot study period, we will propose a more comprehensive program and rolling out plan in promoting health of our children.

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## Medication safety for children through networking: an innovative approach

**HSU kaifang, HSU shinchang**

### Introduction

A previous survey indicated that college students lacked appropriate knowledge, attitudes, and practices associated with the safe use of medications (Hsiao et al., 2004). More attention needs to be given to childhood and youth medication safety education. Networking with schools is an effective way to approach children and the youth. In order to enhance their involvement, we adopted an innovative approach to provide medication safety education.

### Purpose/Methods

We cooperated with a nearby primary school and recruited 99 year 5-6 primary school aged students. We collected pre-and-post-test data regarding medication safety knowledge before and after the intervention. This innovative and interactive intervention involved role playing games, group discussion and situation analysis. In addition, we particularly prepared practical teaching aids and digital aids to facilitate the medication safety education.

### Results

After this innovative teaching, these students had statistically significant improvement in medication safety knowledge. The correct answer rate for "items for explaining to doctors" increased from 24.2 % to 97%; "items on the medication bag needed to be checked", from 62.2% to 98%; "correct ways and timing for medication", from 82% to 97%; "incorrect purchasing medication behaviors", from 69% to 94%; "availability of physicians or pharmacists for medication consultation", from 48% to 99%.

### Conclusions

This study found that this interesting and interactive teaching model could stimulate learning motivation and interest of children in medication safety. Also, this model could greatly enhance childhood involvement in medication safety so as to promote their self managements of health.

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## Effectiveness of the preparation program video in relieving anxiety level for school aged children before surgery

**CHEN FEI-WEN**

### Introduction

As short-term and same-day surgery advanced, children have less time to mentally prepare for surgery. However, without organized comprehensive pre-operative preparation, children tend to experience general anxiety, regressive behavior, separation anxiety, increasing anesthesia risks, and prolonging post-operative recovery time which results in negative post-operative behaviors. The intervention of this study, pre-operative preparation program video and practice with anesthesia equipment is used to relieve children's surgery anxiety.

### Purpose/Methods

Using quasi-experimental design, twenty 7-12 years old children performed administration surgery were recruited. Control group, first ten subjects, received routine care and the others were the experimental group. One of the researchers introduced purpose and method of study to acquire consent of participating study, afterwards measured anxiety level (pretest) by Children's Emotional Manifestation Scale (CEMS) and performed intervention. Then, another researcher, unacquainted the study group, measured anxiety level at holding area (post-test1) and during anesthesia induction (post-test2).

### Results

The data is analyzed with SPSS 17.0 for Windows and uses Generalized Estimating Equation model to examine the effectiveness of the intervention. Comparing overall scores of the CEMS, post-test1 increased 2.3 points ( $p < .001$ ) than pretest, post-test2 increased 5.5 points ( $p < .001$ ) than pre-test 1. CEMS anxiety score has the time and group interaction, experimental group, accepted the study intervention, decreased 1.8 points ( $p < .05$ ) than control group at the post-test1 and decreased 5.4 points ( $p < .001$ ) than control group at the post-test2.

### Conclusions

In conclusion, receiving routine care plus pre-operative preparation program video and practicing with the anesthesia equipment reduce children anxiety level of holding area and anesthesia induction. This preoperative preparation program video taking into consideration of developmental characteristics is strongly recommended for the future nursing care to children prior to any surgeries.

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## The Case Study of Group Psychotherapy Targeting Interpersonal Relationship Development for Children with Asperger's Disorder

**HUANG Yi-Jing, WANG I-Jen, LIN Chia-Hsin**

### Introduction

The prevalence of the children with Asperger's Disorder is increasing in recent years. The primary features of Asperger's Disorder are severe and sustained impairment in social interaction and the development of restricted, repetitive patterns of behavior, interests, and activities. Patients suffer from lacking skills to engage or interact with peers, though they desire to have friends, and their parents don't know how to help their children to improve the interpersonal relationship ability.

### Purpose/Methods

The study aimed to explore the effectiveness of group psychotherapy targeting interpersonal relationship development for the two lower grade children with Asperger's Disorder. The research adopted the A-B-A' single-subject experimental designs and the participants received the group psychotherapy in the intervention phase. The independent variable was the group psychotherapy program and the dependent variable was communication and expression ability. The measuring instrument was 'Behavior Observation Checklist on Communication and Expression'. High score meant high ability to communicate and express as well.

### Results

The finding of this study was two participants' abilities on communication and expression were improved. In the baseline and maintenance phase, the tendency of communication and expression behavior decreased stably. While the group psychotherapy intervened, the participants' communication and expression scores increased obviously. One child was getting the scores stably and had the significant maintenance effects after the treatment. The other child got the scores unstably but still had maintenance effects.

### Conclusions

According to the results, the group psychotherapy could enhance the effectiveness on interpersonal relationship development for the children with Asperger's Disorder. We also found that the improvements were different between the two participants and this study fingered out some factors, such as personal symptoms, family supporting and the school environment, might relate to the results. The research made suggestions for future researches and counselors, that is, group psychotherapy could be an option to help the children with Asperger's Disorder.

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## Reduce the Incidence of fall in Hospitalized Children

**CHO Yen-Hua, LIN Su-Wen, CHANG Chun-Chu, YU Kai-Ling**

### Introduction

The concept for health protection is prevention is more important than treatment. Since children have limited understanding, therefore prevention of an accident is more important. Previously we use verbal education the caregiver(s) but the results were not satisfying and the incidence of fallen injury, whether it was from a baby carriage or hospital bed, remained high. After implementation of joint programs between caregivers and medical/nursing staffs, we were able to reduce the incidence of fallen injury from 0.055% to 0.02%.

### Purpose/Methods

Using joint program to search for causes of fallen injuries and finding a feasible solution. We implemented a fallen-injury-risk screening test to select out high-risk children and use blue wrist tags for identification. Then individualized each bedside sticker let caregiver(s) can understand the prevention of falls. Verbal education still remained an important part, and we mark the wrist tag once they completed the learning process. Correct the weaknesses of baby carriages and hospital beds were also part of the program.

### Results

The results of joint program were both effective in lowering the incidence of fallen injuries and sustaining the effect. Then ward routines were amended to better aid the nursing staffs. When a fallen injury occurs, it prompts for an immediate combined meeting between medical and nursing staffs to analyze and to come up with a solution. Then the effectiveness of the solution was monitored continuously. The incidence of fallen injuries was 0.055% in 2009 and lowered to 0.02% between 2010-2011.

### Conclusions

When a fallen injury occurs, it brings harm not only to child but also to the child's family and hospital staffs. Environmental factors, updated equipment, the patient, the caregiver(s), medical and nursing staffs all plays and role in in-hospital fallen injury prevention. We hope that by using the joint program, the importance of accident prevention may extend its effect from inside the hospital to outside of the hospital and into every family.

### Comments

The concept for health protection is prevention is more important than treatment.

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## Enhance the corrective rate of implementation chest physiotherapy of primary caregivers

**YEH Mei-Chen, SHEN Yi-Chiung, JHANG Hsiu-Ling, YU Li-Mei, GUO Xian-Hua, HSU Hsiu-Ling, HSU Yuan-Nian, HSU Jin-Chyr**

### Introduction

The percentage of patients with complicated pneumonia transferred to Intensive care unit increased from 2.5% to 3.6% between January 2009 and March 2010. After analysis, the accuracy of skills about chest physiotherapy performed by main caregivers was only 42.3%. After implementation of revised conventional procedures, our main caregiver's knowledge of Chest physiotherapy improved from 69.7% to 89.4%, and skill performance accuracy increased from 42.3% to 64.9%. This study revealed a good learning curve of improving the quality of medical care.

### Purpose/Methods

Purpose: 1. Improve the primary caregiver's knowledge of Chest physiotherapy from 69.7% to 83.6%; 2. Increase the primary caregiver's technical performance accuracy rate from 42.3% to 67.7%; 3. Decrease the percentage of patients who transfer to ICU (Intensive-care unit) from 3.6% to 2.6% Methods: 1. New Chest physical therapy checklist; 2. New Chest physical therapy study guides; 3. New Chest physical therapy prompt card; 4. In-service education and group training; 5. Patient reward program

### Results

1. The main caregiver's knowledge about Chest physiotherapy improved from 69.7% to 89.4%. The target achievement rate was 141.7%; 2. The main caregiver's technical performance accuracy increased from 42.3% to 64.9%. The target achievement rate was 89.0%; 3. The percentage of patients with complicated pneumonia transferred to intensive care unit decreased from 3.6% to 2.5%. The target achievement rate was 110.0%; 4. The length of hospital stay decreased from 5 days to 4 days. The target achievement rate was 100.0%.

### Conclusions

During the process of revising the conventional procedures, the primary caregivers significantly improved on their understanding and technical performance of chest physiotherapy. This improvement could result in a decrease in the length of hospital stay for patients, increase medical standards and higher quality health care for all patients.

### Comments

There is no proper threshold for this project due to hard to obtain detail indexes from other hospitals. Target setting referred to the average value of colleagues. For the constrain of resources, the project evaluate the corrective rate only using the measurement of labor costs and sickbed occupation rate. Besides, there is rare document for benchmarking, all related activities are all created by own organization. However, rec-

ommended the implementation of these experiences can share to other medical institutions as learning reference.

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## Parenting stress in parents with hospitalized preschool children: Parents' and nurses' perspectives.

**HUANG Chien-Hua, CHANG Lu-I**

### Introduction

Hospitalization is a significant stressful life event for children and their parents. During that period of time, parents of the child who were sick and hospitalized bearing not only the caring responsibility but also the worrisome regard their children's illness response, the hospitalization experience and resulting behavioral change.

### Purpose/Methods

A cross-sectional study was conducted to understand parent's self-perceived and nurse's perceived parental stress while the child was hospitalized. Parents with a hospitalized preschooler, and their primary care nurses at pediatric wards of five hospitals in north Taiwan were invited to participate. A structured questionnaire was used as data collection instrument. A total of 87 pair valid surveys (97.8%) were used for further analysis with SPSS 17.0 statistical software based on designated research question.

### Results

Parenting stress scores of parents with a hospitalized preschooler showed significant differences on factors such as the self-perceived levels of interaction between parent and their spouse, and on parental social economic status. No significant difference was found between parents' self-perceived and nurses observed parental stress among parents' with a hospitalized preschooler. Self-perceived parenting stress was not related to different nurse care takers. However, nurses' observed parenting stress scores showed significant difference by the number of caring days.

### Conclusions

Results of this study provide relevant information for understand differences between the parents self-perceived and nurses observed parenting stress. Pediatric nurses may learn from this study regarding providing the care and support on parental stress of parents with hospitalized preschooler. It is recommended that nurses administrators in cooperate the result of this study while conducting training programs for pediatric nurses on enhancing nursing skills.

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## Session P1.2: Health promotion for migrants and ethnic minorities

## Building a barrier-free environment for migrants: a need-oriented approach

**WU Yi-Chen, KUO Jung-Mei**

### Introduction

Recently, Taiwan has had more new migrants. We found a problem that these new migrants had problem in effective communication for participating in the process of medical care. Therefore, it is necessary to provide a barrier-free healthcare environment for the migrants. The effective delivery of healthcare information and medical service information was regarded as a prioritized task. It could be achieved by use of their mother languages.

### Purpose/Methods

This study was to build a barrier-free health care environment for migrants based on their healthcare needs. It was estimated that 30,000 migrants lived in our catchment area. The majority is from China and Vietnam. We established a team which assessed the current situation in service processes, personnel training and hardware planning. We also conducted regular questionnaire surveys to explore the health education needs of patients with diverse mother language so as to develop corresponding health education leaflets.

### Results

We built a migrant-friendly healthcare environment through providing multi-dimension education methods and foreign language health education leaflets to empower migrants to self manage their health. So far, we developed 598 Chinese leaflets, 126 English leaflets, 3 Japanese leaflets, 24 Indonesian leaflets, 16 Vietnamese leaflets and 12 simplified Chinese leaflets.

### Conclusions

Through this inter-sectoral and need-oriented approach, the barrier-free health care environment for migrants we built was effective in delivery of healthcare information and health education.

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## The Evaluation of the effect of Free Health Screen for New Inhabitants

**CHEN Yi-chih, CHIN Ching-fen, TSAI Ping-yun, HSU Hsin-wen, HUNG Ling-yu, CHU Shu-han, HONG Jin-jun**

### Introduction

The population of the new inhabitants is increasing in Taiwan. They assume the responsibility for birth and family caregivers in our country. To complete the tribal group's health care for the new inhabitants, by completing the health screen, we hope to establish their healthy information bank. This study aimed to understand the healthy situation and provide suitable health education and health care consultation for them. People with abnormal results, will be transfer for further management.

### Purpose/Methods

This study aims not only to establish new inhabitant spontaneous healthy behavior and promote self-health management, but also to collect and transfers those with abnormal result and to achieve the transfer tracing rate above 90%. Participants were female new inhabitants domiciled in New Taipei City. The Screening items used were GOT, GPT, Anti-HCV, HBsAg, fecal parasite and ovum inspection. Abnormal results of parasite or liver function screening were referral for further management.

### Results

Total 210 participants were from the Cardinal Tien hospital Younhe branch between March 2010 and November 2011. The majority of new inhabitants were from Mainland China with 120 people (57.1%). There were 34 participants (16%) with abnormal result and were referred for further management. The transfer tracing rate reached 100%. There were 10.9% participants that had abnormal liver function with 19 HBV hepatitis carriers followed by abnormal fecal parasites and ovum for up to 11 persons accounted for 5.5%.

### Conclusions

The preliminary results showed the major health problem of new inhabitants was abnormal liver disease, especially HBV carrier. Limitations that should be taken into consideration in this study were the single-center origin of our data and the relatively small number of evaluated participants. More participants and effort should be make for establish the healthy information bank of new inhabitants. Letting the new inhabitants understand their healthy situation and provide suitable health education and health care consultation for them.

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## Love without borders - health promotion for factory migrant workers

**CHANG Yuchen**

### Introduction

In October 2011, there were 420,931 migrant workers (MWs) working in Taiwan. Although the National Health Insurance covers the medical cost, the early signs of potential injuries and the access to health service are usually overlooked. Besides, because of the characteristics of mobility of foreign workforce, a sustainable model of health promotion among the MWs is required.

### Purpose/Methods

We aim to help MWs to cope with the workplace, and to have a healthy inter-personal relationship, as well as to empower the MWs to help their own communities back home. Respective native language speakers were employed. Radio broadcast and cultural activities were conducted. Factory support groups and fellowship as well as marriage consoling were organized accordingly. Departure preparation, such sewing class, maintenance for electronic machines, computer skills and other skill training were provided.

### Results

About 12,000 MWs have been reached in the past 10 years. There are 6 support groups of Thai, 8 of Philipino, 2 of Indonesian and 1 of Vietnaese now. About 1,100 MWs are enlisted annually. With ex-MWs, five community centers in rural Thailand, and 2 in the Manila slum area have been established.

### Conclusions

Language and social support with cultural sensitively prevents MWs from several occupational injuries, and facilitate them to access to the proper support while injured. Because of MW's work style, it's important to empower them via community development. They will carry on the concepts of health wherever they go, even though when they are out of Taiwan, as what we have seen in our case. This program provides a feasible and sustainable holistic care for MWs.

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## Session P1.3: Health promotion for older patients

### Effects of cognition-action intervention on cognitive function in community-dwelling older adults with mild cognitive impairment

**WU Meng-Tien, CHAO Chien-Ling, KUO Ying-Ling, CHANG Pei-Li, HUNG Ling-yu, TSOU Jhi-Chyun, MA Hon-Kwong**

#### Introduction

There is evidence from observational studies that aerobic exercise and cognitive-behavior therapy may both improve the cognitive function in older adults. This intervention may also delay the development of mild cognitive impairment transfer to dementia. However, few previous studies had explored the effects of combined exercise and cognitive-behavioral therapy (called cognition-action course) in the community dwelling adults with mild cognitive impairment.

#### Purpose/Methods

Eight participants ( $\geq 65$  yr.) with memory-loss complaint induce the difficulty to live alone. All participants took part in an 8-wk cognition-action intervention 120 min once a week, involving physical activity (including aerobic exercise, coordination, action-memory and stretching exercise) and cognitive stimulus (including reaction, attention, memory, logic cards sorting, sensory stimulus, fine movement and social activity). We measured the mental scores (SPMSQ), digit spans and participant's awareness of cognitive function. Using paired-t test and description analysis from SPSS 16.0 software.

#### Results

Participants remained the mental scores and learned how to design and decide the daily activity plan and exactly increase the exercise intensity and duration. By realizing the methods to prevent dementia from cognitive education, they reduce the fear of memory loss and they were also confident that cognitive improvements to promote the quality of life, social activity, physical and cognitive function. There are no significant difference in digit spans ( $p > .05$ ).

#### Conclusions

Cognition-action intervention could improve the cognitive function in community-dwelling older adults with mild cognitive impairment and also increasing physical fitness, changing to active life style, emotion stability and promoting social activity to prevent dementia.

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## The effects of music therapy on expressing emotion in Dementia

**YANG CHAO-WEN, TSAI SUEI-TSAU, HUANG HUI-TING**

#### Introduction

Dementia is a syndrome that decline of a person's cognitive function. Dementia involves memory dysfunctions which is the big symptom that lead to people with dementia who frequently engage in disruptive behavior. However, emotion effects behavior production. In treating the people with dementia most through pharmacological and physical intervention. However, numerous recent studies have showed the effectiveness of music therapy with dementia clients that use non-pharmacological approaches. Music therapy is one of intervention in the management of disruptive behavior by patients with dementia. The music is an effective intervention through lessening the music. Music therapy may reduce disruptive behavior by lessening such feeling through singing, playing and listening. To investigate how effect of music therapy reduces disruptive behaviors of patients with dementia from expressing emotion.

#### Purpose/Methods

This study aims to investigate the music therapy reduces on disruptive behavior through expressing emotional activities by people with dementia. The design of study with an experimental and control group in the community in Taipei city. All participants will assess the level of 15-23 on the Mini mental State Exam (MMSE). A sample of 10 participants is the experimental group and 10 participants is the control group from the communities in Taipei. All participants the primary diagnosis of Alzheimer's type dementia. Experimental participants will have music therapy treatment one time (30-45 minutes) every week for 8 weeks.

#### Results

In this study, the experimental group shows more joyful during music therapy session. From the begin to the end of this study, participants show more positive interaction with others. Through playing instruments participants restore self-esteem and confirm emotion. In addition, participants find a way to express their emotion to reduce disruptive behaviors happened

#### Conclusions

It appears that music has potential to help emotion expression. From music activities, the people with Alzheimer may learn reassurance feeling from themselves. Also, music therapy can offer the relationship between care giver and participants. Future study will focus on care givers join the group of music therapy. Let care givers release more pressure from life that taking care of people with Alzheimer at home.

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## Dementia, Person-Centred Approach and Dance Movement Therapy - Dance with the Personhood

**CHENG Chih-Feng**

### Introduction

People with dementia often experience behavioral and psychological disturbance. This study is based on literature review of the applications on working in a Dance Movement Therapy (DMT) setting, whilst integrating with person-centred approaches. Alongside the six psychological needs and twelve positive person work elements that are introduced by Kitwood(1997), clinical case illustrations are described and discussed in terms of the applicability and the incompatibility of the person-centred context approached through Dance Movement Therapy principles and setting.

### Purpose/Methods

With all the anger, anxiety, depression, stress and sense of uncontrollable, demented persons can hardly find a way to express themselves. The purpose of this study is to explore the use of Dance Movement Therapy under the theoretic frame of person-centred approaches for elderly with dementia and to review the literatures of existing research of Dance Movement Therapy with older people with dementia.

### Results

The outcomes of the Dance Movement Therapy researches with elderly with dementia were gratifying and even lasted beyond the period of treatment. Though seldom of the studies mention how the personhood in terms of the six psychological needs can be improved through Dance Movement Therapy. This study indicates that Dance Movement Therapy can be the holistic intervention for the dementia caring within the framework of the person-centred approach.

### Conclusions

The strength of Dance Movement Therapy derives from the creative medium of movement and the context of psychodynamic theory. When this non-verbally creative intervention meets the person-centred approach, some of its concepts can match the Dance Movement Therapy setting and fulfill the person's needs while some can hardly fit in. However, to maintain the personhood for the person with dementia is the common goal for Dance Movement Therapy and person-centred approach.

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## Late-life Suicide Prevention Strategy in Changhua Christian Hospital Lu-Tung Branch

**CHIU Nan-Ying, CHENG Yu-Kai**

### Introduction

Rates of completed suicide vary in different countries and cultures and official statistics are probably underestimates. Pooled international data shows a steady rise in completed suicide rates with age. The elderly are the highest risk group for suicide worldwide and in Taiwan. But, suicide in the elderly has not received the amount of attention one would expect behaviour in the old people.

### Purpose/Methods

Developing suicide prevention strategies in older adults is particularly challenging because of a range of factors at the individual, provider, systems, and even social/cultural levels. To the extent that suicide prevention relies on timely and effective detection and treatment of mental disorders, older adults face multiple barriers to the acquisition of care. We designed a 6-month program offered on late-life depression patients.

### Results

We chose the depressed elderly patients from our outpatient clinic. We divided them to two groups, one is intervention group, another is usual care group. Totally 281 patients were enrolled, 137 were intervention group. We found significantly lower rates of suicidal and death ideation in the intervention group compared with the usual care group at 6, 12 months.

### Conclusions

The result of indicated preventive interventions targeted older adults who had symptomatic depressive disorder, the intervention included psychoeducation, antidepressant treatment, and brief problem-solving psychotherapy. The intervention subjects had significantly greater improvements in depressive symptoms, and lower rates of suicidal ideation than controls.

### Comments

Suicide is a major public health concern for the elderly. The most effective approach to reducing suicide attempt and deaths among older people requires development of prevention strategies.

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## The Effects of Non-commercial Music at Mealtime on Agitation in Nursing Home Residents with Dementia

**HO Shu-Yuan, LAI Hui-Ling, JENG Shaw-Yeu, TANG Chih-Wei, SUNG Huei-Chuan, CHEN Pin-Wen**

### Introduction

The most common cause of dementia in the elderly is Alzheimer's disease. Experts estimate that as many as 5.1 million Americans may have Alzheimer's disease. Taiwan has naturally been accompanied by an increase in the number of elderly with dementia, with a prevalence rate of 4.8% at the end of 2009. Patients with dementia experience various health problems, including memory loss and agitated behavior. Agitated behavior decreases the individual's quality of life and increases caregiver burden.

### Purpose/Methods

The purpose of this study was to explore the effect of soothing music at mealtime on agitated behaviour with 22 dementia in a facility. Pre-post test design was applied in this study. All participants listened to non-commercial music during every lunch and dinner time for 4 weeks, with their agitated behavior being assessed a 24 hours a day for 7 weeks. No participants were to receive any intervention during week 1. Agitation Inventory including Cohen-Mansfield Agitation Inventory and modified CMAI.

### Results

Results showed a correlation between music intervention and reduced CMAI scores. Furthermore this study found a cumulative and delayed effect of the music. However, when modified CMAI was used to measure agitated behaviour, this study found no significant difference among the following categories of behavior: physically non-aggressive behavior (PNAB), physically aggressive behavior (PAGB), verbally aggressive behavior (VAGB) during lunch and physically aggressive behavior (PAGB), verbally aggressive behavior (VAGB).

### Conclusions

The finding that playing non-commercial music at mealtime produced significant differences on agitation in nursing home residents with dementia, but further research analysis must be pursued as regards the four different agitation subtypes at mealtime. The research suggested that nursing staffs may integrate music into patients' daily routine, in order to improve agitated behaviour of older adults with dementia, and display nursing independent function.

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## The Experience of Geriatric Psychiatry Case with Old Song Group Therapy

**CHEN Sue-Fen, TSAI Yu-Chun, LEE Mei-Hung, SHEN Shu-Hua**

### Introduction

The study subject is collected by over 65 years old patients. They are the psycho-geriatric day ward patients with old song group therapy. Including geriatric depression scale, self-produced questionnaire and group discussion. Then we proceed descriptive and qualitative analysis.

### Purpose/Methods

The study subject is collected by purposeful sampling. We choose over 65 years old patients. They are the psycho-geriatric day ward patients of a teaching mental hospital in southern Taiwan. Total 28 psycho-geriatric patients are enrolled to the music therapy group of memorable songs from August to December in 2011. This is a daily one hour group. Its content includes teaching to sing the memorable songs, solo sharing, chorus, music appreciation, and sharing experience. We use some method to evaluate the pre- and post-group experience of the participants, including geriatric depression scale, self-produced questionnaire and group discussion. Then we proceed descriptive and qualitative analysis.

### Results

Pre and post-intervention: 1. The depressive questionnaire among those elderly who join old song group presented as below: the proportion of improvement depressive questionnaire was 68%. Those felt others better well-being than self decreased by 37%. Decreased interest to join this group activity in one week was lower by half. Those who felt energetic or happy in most time increased by 12%. Those who could sing his/her favorite songs increased by 31%, so did those who like to sing song with family members. Both of those cohesion with family or better sleep due to this intervention increased by 19%. 2. The finding of group or individual interview included: Singing old song made elderly feeling younger. They also felt happy and activity. Feeling relaxed by singing old songs and refreshed by exercise. Reciprocal interaction by emotional expression and verbal encouragement each other due to this intervention.

### Conclusions

The findings of five months old songs group included: Along elderly gradually interacted with others via verbal expression. Avolition elderly gradually engaged in group activity. Each elderly sang songs with music therapy naturally. In summary, Music therapy could facilitate emotional stability, physical exercise and interpersonal relationship.

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## Mental health promotion for the elderly with newly diagnosed cancer

**CHEN Yimin**

### Introduction

As the number of older people in Taiwan increases, and cancer is the major cause of illness and mortality for the elderly. It is noteworthy that psychosocial manifestation in the elderly is quite different from younger persons. However, the elderly in Taiwan are often concealed or not completely understand the conditions of cancer, and their emotional distress is often overlooked.

### Purpose/Methods

The purpose of this study was to explore the experience and psychosocial adjustment process of the elderly with newly diagnosed cancer. The author presented a case study of an older adult with lung cancer who faced multidimensional impacts. It included the physical, psychological and social aspects.

### Results

An elderly with cancer suffered from three aspects: (a) Physical: Fatigue resulted from disease deterioration. (b) Psychological: Grief and loss resulted from non-anticipated old-age life. Powerless and out of control resulted from disease progression. (c) Social: Disrupted family relationships resulted from loneliness of isolation and burdens on families. The author planned health promotion strategies to encourage patient perform basic activities of daily living, attend to positive attitude over negative emotions, establish communication through family conference to promote family integration.

### Conclusions

The caring experience of this study could provide important information to health professionals while caring cancer older adults based on their psycho-social needs. Health professionals could design individual health promotion strategies to meet the elderly needs, establish a trusting relationship, control symptoms, reconnect family relationship and enhance the older adult emotional adjustment ability. It is expected to the best quality of life and psychosocial well-being will be reached.

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## The case of implementing "Jin-Si-Yu" activity to improve the mood of elders

**TSAI Yu-Chun, CHEN Shu-Fen, SHEN Shu-Hua, WU Rui-Ling**

### Introduction

Elders need face the degeneracy of both physiology and mentality, the pursuit of inner peace and harmony of sensation. It's also an important topic that elders seek for the enhance of spirituality. There are several methods for the enhance of spirituality. And the purpose of all the methods is to inspire elders to live positively and optimistically.

### Purpose/Methods

To enable elderly persons to maintain a positive view of life, and improve the anxiety reaction to achieve life satisfaction through "Jin-Si-Yu" activity, pass on the idea to be grateful and cherish life.

### Results

14% decrease on whole GDS score after the activity. There is improvement on the aspects of both "psychological" and "self satisfaction".

### Conclusions

Most elders feel confused because of negative point view of life and lack of mental commitment which easily leads to uneasy mentality and anxiety. After implementing the "Jin-Si-Yu" activity, it lowered the level of anxiety and raised the life satisfaction significantly, moreover, the satisfaction at sense of security and love.

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## The impact of 12-weeks integrative exercise intervention on physical performance and cognitive function for the elderly

**CHING-YAO Wei, LEE-HWA Chen, TA-CHUAN Hung**

### Introduction

The main interventional strategy on reducing aging effectively is promoting physical activities and maintaining functional fitness. This study aims to examine the effect of intervention on the elders' physical performance and cognitive function.

### Purpose/Methods

First, we recruited the elderly, examined their health status and physical performance, and finished questionnaires for cognitive function after their permission. Then, we provided exercise classes that combined aerobic exercise, strength, and stretching, 90 minutes a week. After finishing 12 classes, the participants had to be examined again, so that we could analyze the statistics of both tests.

### Results

21 elders participated, and 17 of them completed the classes. Their average age is 68.4 +/- 9.2 years old, and the average attendance is 86.8%. After this exercise intervention, participants reached significant differences ( $p < 0.05$ ) among their weights, body mass index (BMI), eight feet walking, two minutes stepping, speed of five minutes walking and cognitive function.

### Conclusions

Elders' body composition, dynamic balance, aerobic capacity, mobility, and cognitive function have great improvements due to 12-weeks integrative exercise intervention. This intervention showed it slowed aging of body and cognitive function decline and became the reference for elderly policies.

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## A study on the effects of health physical fitness training program to their health promotion behavior for elders

**CHUANG SHU-HUI, LIN CHUN-HUA S.**

### Introduction

When national development entered into an aging society, keeping the elders with a healthy quality of life is one of the most important issues for the government. From the perspective of health promotion and preventive medicine, improving elders' physical strength to the situation of living independently is an important method accomplishing the above goal. Owing to the physical ability and health condition of elders, they require extra care when taking exercise in promoting health and physical strength.

### Purpose/Methods

The study focused on the elderly members of a community college as samples with convenience sampling method. They joined the health physical fitness training program together. They should be accomplished the physical fitness test and collected data with questionnaire for health promotion life style investigation, before and after health physical fitness training program. The data should be conducted the descriptive and dependency sample analysis with SPSS 16.0 software.

### Results

The study expected the health physical fitness training program should be to effect on their physical fitness condition and improve the health promotion behavior for elders, including health responsibility, exercise, diet, dealing with stress and so on. And this study will discuss the gender differences further.

### Conclusions

The objective of the health services is to assist the elderly maintaining healthy life style and quality of life, in order to achieve the goal of "two weeks in bed before dying". Our study will design a set of health physical fitness training program for elders and hope to improve the health promotion behavior in their life.

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## Modified miracle Tai Chi for health promotion in elderly

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### Introduction

Economic, politic and environmental changes have influenced Thai people to change their way of living such as lack of exercise, leading to cardiovascular disease risk. Although physical activity is recommended all around the world to promote health, some exercises such as those of high intensity and impact are not suitable and recommended for elderly. The previous study showed that breathing synchronization with cardiovascular rhythms (6 times/min) may enhance cardio-respiratory performance. Based on Tai Chi strategy, the modified miracle Tai Chi (MTC) was designed in this study, combining with slow-deep breathing at 6 breaths/min and more suitable postures for elderly. MTC was approved by experts and the project was supported by Cluster for Aging Society, National Research University Project of Royal Thai Government.

### Purpose/Methods

The objective was to set up a health promotion model for elderly using proper physical exercise program. We investigated the effect of MTC and conventional Tai Chi (TC) training on physical and cardiovascular fitness in elderly women in Bangkok. Forty elderly women (age 60-80 yrs) were randomized into three groups: control (n=12), TC (n=15) and MTC (n=15) groups. Both exercise programs were 60 min/session, 3 times/wk for 12 wks. Pre- and post-test, selected health-related physical fitness of all participants were measured.

### Results

The results showed that after 12 weeks, TC group had increase ( $p < 0.05$ ) in pulmonary function and static balance compared to pre-test. MTC group had decrease ( $p < 0.05$ ) in %body fat and increase ( $p < 0.05$ ) in muscle mass, triceps, quadriceps and hamstrings strength, static balance, pulmonary function and maximal oxygen consumption ( $VO_{2max}$ ) compared to pre-test.



Moreover, compared to the control and TC groups, VO<sub>2</sub>max of MTC were significantly higher ( $p < .05$ ).

### Conclusions

Both TC and MTC had improved physical fitness, however MTC had greater positive effects on improving health-related physical and cardiovascular fitness. Therefore, we suggested that Modified Miracle Tai Chi could be an alternative exercise program for promoting healthy aging.

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## Application of an age-friendly health promotion manual into obesity prevention and control for old people

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### Introduction

Obesity prevalence in Taiwan is increasing. The obese is a high risk group of high pressure, high blood sugar and High blood fats. In particular, obesity prevalence increases as the age increases. To cooperate with government policy "exercising frequently, eating healthily", we linked with community resources to provide a series of health promotion programs to promote health of old people.

### Purpose/Methods

Those aged more than 65 year old were qualified to participate in the program and received a manual for active healthy life. Through the manual, the elderly people were free to participate in all kinds of activities and then collected stamps to exchange a gift based on their participation level. We collected pre-and-post data regarding BMI, wrist circumference, blood pressure and fasting blood glucose before and after the programs.

### Results

A total of 145 old people participated in the program, and their average age is 73 year old. The total weight reduced by 156.8kgs, and in average everyone had 1.08 kg weight loss. This study found that there were statistical significances in wrist circumference and blood pressure before and after the program. Through a series of activities, the participants learned correct weight loss knowledge, put it into practice and had a habit of exercise through participating regular exercise activities.

### Conclusions

An application of a manual for active healthy life is effective for old people participating in the obesity prevention program. We designed an age-friendly manual in the format of A4 and with big fonts. In addition, the accumulation of exercise hour for

exchanging gifts brought fun and increased participation. Furthermore, it was useful that the manual integrated information regarding the community exercise environment and activities.

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## Projection of elderly fall-related health care burden in Taiwan during 2007- 2025

**TSAI Yih-Jian, LAN Tzuo-Yun, SHEEN Mao-Ting, WILKINSON Paul**

### Introduction

Fall-related costs accounted for 0.85-1.5% of total health care expenditure and 0.07-0.20% of GDP (Heinrich, Rapp, Rissmann et al., 2010). With an increasing prevalence of falls in an ageing population of Taiwan during 1999-2005 (Tsai, Yeh, Lan et al., 2007), the future impact of fall-related health care burden cannot be emphasized.

### Purpose/Methods

Age- and sex-specific fall prevalence, injury rate, hip injury rate, and consequent medical care utilization rates were derived from the 2007 Taiwan Longitudinal Study on Ageing data, and multiplied with the corresponding population during 2007-2025 to obtain fall-related health care burden in terms of the number of fallers, injured fallers, hip injury, and medical care users. The hip fracture estimates were cross-checked with exponential/linear increase, status quo linear decrease scenarios, and validated with the National Health Insurance (NHI) statistics.

### Results

Fall-related health care burden in the elderly would double during 2007 to 2025, when there will be 1,094,316 fallers, 34,162 hip fractures, and 349,289 injured fallers, of whom 80.2%, 13.8% and 16.9% respectively sought Western medicine, Chinese medicine, and martial art or bone setting clinics. The hip fracture estimates came up with a linear decrease scenario of incidence rate during 2007-2010 under validation, and presented a rising female-to-male ratio year after year.

### Conclusions

The likely doubling of fall-related health care burden in a rapidly ageing population during 2007-2025, with more female victims of fall-related injuries than male, warrants an age- and gender-friendly falls prevention strategy.

### Comments

Compared with previous studies, the study presents a more accurate way to estimate elderly fall-related health care burden, though validation for injuries other than hip fracture is

needed. It also informs us of an age- and gender-friendly falls prevention policy.

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## Evaluation of Medication-related Fall Risks in the elderly at a medical center in Eastern Taiwan

**YEN Ke-Syuan, HUANG Hsin-Yi, CHEN Yi-Shan, HSIEH Jyh-Gang, WANG Ying-Wei**

### Introduction

Falling is a major cause of morbidity and mortality in elderly, and medications are contributing factors in many falls. According to statistics from Taiwan Patient-Safety Reporting Systems in 2010, approximately 20% of falls in hospitals were medication-related. Most hospitals had scoring system for assessing the risk of falls. Medication profile review by pharmacists was not included yet.

### Purpose/Methods

Pharmacists evaluated the risks of medication-related falls in those patients selected by "STRATIFY" fall screening tool. Medication Fall Risk Scoring System (MFRSS) was applied to identify the risk of medication-related falls in inpatients with high risk of falls. Patients with score of 6 or higher show an increased risk for falls and required further evaluation.

### Results

64 inpatients evaluated by STRATIFY from July to September in 2011 in our hospital had high risk for falls. The mean age was 78.2 years old and 70.3% were female. 16 cases (25%) had a score of 6 or higher in MFRSS. These patients used more medicines (mean; 8.1 +/- 1.7) compared to those with lower MFRSS score (4.6 +/- 2.8). All of patients with high MFRSS score used cardiovascular medicine and 56.3% used central analgesics.

### Conclusions

Many risks may induce elderly fall, and medication is the one that can be reversed and prevented efficiently. The result indicated approximately 25% of patients with high falling risk were exposed to higher risk that may be medication-related in our hospital. These patients used more medicine than those with low score. The result showed that pharmacists could contribute to lowering the risk of fall in clinical situation.

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## The pharmaceutical care of nursing home

**LEI Tsai-Hsuan, YANG Ying-Pi**

### Introduction

This study aimed to evaluate the residents' medications in nursing home after the intervention of pharmaceutical care by pharmacists.

### Purpose/Methods

The study period was from April to August, 2011, it's a retrospective study about improvement and advice of intervention of pharmaceutical cares, made of residents with intervention of pharmaceutical care as sample.

### Results

From April to August, 2011, there are 275 times of pharmaceutical care, including 13 male (32.50%) and 27 female (67.50%). Residents in average was 80.30 +/- 11.84 years old, with 9.1 ICD codes in average, taking average 6.9 medications, 56.41% taking over 7 medications. 20.00% residents are over 90 years old. 78.95% set on nasogastric tube and 23.68% set on urinary catheters. The drug regimen review of pharmaceutical care includes three major parts: Drug instruction, Drug therapy problem, and Drug therapy advice.

### Conclusions

In this study, residents in nursing home are elderly, having comorbidities and polypharmacy. There are 78.95% residents who have nasogastric tube. Therefore, the choice of drug use and therapy outcome should be more considered. In order to provide the resident with appropriate, safe, and effective drug therapy, pharmacists should evaluate the residents' drug therapy with professional knowledge.

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## Evaluation of potential inappropriate medications (PIMs) in the residents of long-term facilities

**ZHAO Ying, LOU Yea-Jou**

### Introduction

STOPP (Screening Tool of Older Persons' potentially inappropriate Prescriptions) is a new and systems-defined medicine review tool applied to screen potential inappropriate medications (PIMs) in many elderly of some western countries, especially for those with polypharmacy. But there is lack of study to prove if it is practicable in our country.



**Purpose/Methods**

The purpose is to compare the practicability of STOPP to the criteria of PIMs developed in our long-term facilities. We enrolled the residents in 2 facilities in Taipei. Our pharmacists screened the PIMs of their prescriptions from September to October, 2011, and provided suggestion to the physicians. The incidence of the adverse drug events screened by two methods and the acceptance proportion of suggestions by physicians according to two methods would be compared. Statistical analysis was performed using SPSS 17.

**Results**

Sixty-six patients were enrolled. The average age was 74.7 (SD:15.6) years. Fifty-two residents were administered through N-G tube. The average number of drugs in prescription was 7.4 (SD:4.5). STOPP identified 32 PIMs affecting 26 patients, while ours identified 43 PIMs affecting 38 patients. Neither of them encountered adverse events related to the PIMs. The acceptance proportion of suggestions according to STOPP and our criteria was 62.5% and 67% separately, and it showed no significant difference.

**Conclusions**

Although no adverse events occurred in our study, PIMs is still an important issue about patient safety. STOPP is a practical tool to evaluate the PIMs. However, some problems like drug-drug interaction, inappropriate formulations are excluded from STOPP but commonly existed in prescriptions of our residents and it was also seen in some local researches. Therefore it seems important to integrate the national researches and develop a more suitable screening criteria ourselves to enhance the safety of medications in elderly.

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## Long-term care and geriatric pharmacist service: comparing the experience in Taiwan and UK

**LIN Yu Shiuan, YANG Ying Pi**

**Introduction**

Taipei City Hospital (TPECH) is funded by Taipei City Government, Taiwan, providing good quality of medical service and has a responsibility to improve public health in 10 branches. Yang-Ming Branch is a geriatric-centered one and accumulates lots of long-term care experience by medical teamwork with physicians, pharmacists, dietitians, therapeutics and nurses. Clinical pharmaceutical service includes medication review of up to 300 resident 6 times a year, patients, family or service provider education, medication storage check, etc. After 5 years of practicing, there are spaces for pharmacists to make services better in long-term care fields, especially from international experiences about primary care.

**Purpose/Methods**

By the aid of School of Pharmacy, University of Nottingham, UK, a chief pharmacist in Yang-Ming Branch, TPECH, had a visiting program about primary care for 2 months, focusing in pharmacist service. The main aspects of observation included services for self-cared population with long-term use and stable medication, self-cared population who has high-alert medication or under polypharmacy, and patients who stayed in nursing facilities.

**Results**

In the 2-month program, different types of community pharmacy, hospital pharmacy and pharmacist-led clinics were visited. Pharmacists in UK had a well-structured network of undergraduate education and professional development. NHS encourages pharmacist to do advance service to increase the self-care ability of citizens, ex. medication use review (MUR), appliance use review (AUR), new medicine service (NMS), etc. In addition, hospital pharmacists ran pain-control, diabetes or anticoagulant clinic for patients who have specific medication information needs. For nursing home residents, pharmacists provide well-organized and clearly indicated medication to ensure patient safety.

**Conclusions**

City Hospitals have missions to improve public health, and are the best one to provide fundamental medical service to citizens. Pharmacists played an important role of clinical service as well as medication supply in primary care field. Our pharmacists in Taipei City Hospital had a great effort in managing complex medication problems in nursing homes, and there are some specific long-term issues in primary care which we can intervene more deeply, ex. pain-control, diabetes, and anti-coagulant agents.

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## Oral hygiene improvement program for long-term care clients

**ZHI-YAN Lai, MEI-HUI Song, SHIU-HUA Yang**

**Introduction**

In 2010, the population of Taiwan was 10.7% elderly. The aging population and patients of long-term care are increasing. Poor oral hygiene of the long-term care clients was found by home care nurse, and caregivers who don't know how to improve it. In order to improve the oral hygiene of the long-term care clients, nurses created the "oral hygiene improvement program" to help caregivers improve their knowledge and skills of oral care.

**Purpose/Methods**

The oral care improvement program was implemented from January to May 2010. The interventions included, formulations of technical standards, production of multimedia VCDs and written information on oral care technology, improvements of homemade oral suction equipment, and aid for the purchase of oral care instruments.

**Results**

There were 20 clients included- BARTHEL'S score less than 60, belong significant dependence, and indwelling nasogastric tube. We created a checklist to assess oral hygiene of the long-term care clients, maximum score is 21. After the interventions, the scores improved from 12 to 19 and there was a significant improvement in patient oral hygiene.

**Conclusions**

Improved oral hygiene has shown to reduce the incidence of pneumonia on long term care clients; it benefits the patient body image and mental health. The results suggest that the development of professional home oral care equipment will help address the aging and long-term health care challenges facing Taiwan.

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## The Efficacy of a Chinese herbal-based dentifrice on the control of gingivitis for Institutionalized Residents

**CHEN Mei-Chih, CHAN Hong-Ting, YANG Wen-Hui, CHANG Mei-Huei, LIN Wen-Tang, KE Der-Shin**

**Introduction**

Oral hygiene seems to be an important component in the quality of life of the residents in nursing institutions, is ignored due mainly to poor activities of daily living and cognition. Regular use of dentifrices designed to reduce pre-existing microbes in the mouth through the activity of antimicrobial compounds should inhibit the growth of microbes in a broad spectrum, but adverse effects usually occur. We present the efficacy of herbal substances on reduction of gingivitis and promotion of oral health.

**Purpose/Methods**

The oral health of seventy-one residents was reviewed by the oral mucositis assessment scale of Western Consortium for Cancer Nursing Research (WCCNR). Twenty subjects were graded 2 and the above, instructed to brush their teeth twice daily for 2-week period with Chinese herbal-based dentifrice for

their poor oral conditions. This clinical trial was an open-labeled design.

**Results**

Total scores of 20 residents were 46 of WCCNR was reduced to 35 after 2-week study. The data also demonstrated a significant difference in statistics after intervention. 50% of those residents were improved in clinical condition as well.

**Conclusions**

The use of the Chinese herbal-based "KU CHI SUN FUN" dentifrice twice daily in conjunction with brushing significantly reduced gingivitis and oral condition of institutionalized residents.

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## Improving diet satisfaction through the variation of recipe in nursing home

**LIN Meng-Yu, YU Keh-Ling, CHANG Yi-Hua, HUANG Hsing-Ni, CHOU Yu-Ru, MA Frances C., CHANG Chuan-Hsun**

**Introduction**

As the elderly population gradually increased, more elderly people live in nursing home. Elderly people are at increased risk for nutrient deficiencies, and should ensure adequate intake of a variation of food. However, elderly people always focus on the taste and atmosphere of eating rather than the components of the food. Traditionally meal was provided to elderly 3 times a day, although there are variations in the recipe, the elderly regarded the meal time as boring and routine.

**Purpose/Methods**

A comprehensive dining program for the elderly in institution was developed to improve the intake and satisfy of food by the elderly. The dietitian developed various meal time activities for the elderly in order to improve the quality of dining for the elderly. The program also included different theme at the meal time (e.g. family gathering, birthday party, buffet, etc.). Questionnaire about the diet satisfaction was given to the residents every year since 2004.

**Results**

The average satisfaction score was 3.13 (highest 5) in 2004. The average satisfaction score increased to 4.29 after the initiation of activity and major theme in the dining time. Either the residents or family member valued the program very successful.

**Conclusions**

The study showed that elderly value the dining environment as important as the nutrient of the food. To improve the health of



the elderly, it is important not only improvement of nutrients in the food but also the way of dining.

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## The Animal Assisted Activity to the Nursing Home in a Health Promoting Hospital

**TSAI Tien-Sheng, SHEN Hsueh-O, HUANG Tzu-Hui, HUANG Hsin-Yi**

### Introduction

Having being promoted by Formosa Animal-Assisted Activity & Therapy Association, "Doctor Dog" has become an important part of the pet therapy team in recent years. Before the treatment, the pets should be screened by their health condition, skills, and temperament, followed by a complete training together with their owners. The animal-assisted therapy team has been adopted in the nursing homes and other institutes to improve patients' mental and physical condition, as well as their living quality.

### Purpose/Methods

This study aims to integrate animal-assisted activities (i.e., "pets visit") into the regular course design to investigate, by means of the interaction between patients and pets, (1) whether patients' partial or full body movement will increase internally; (2) whether patients' socio-interactive ability and frequency will be improved. The participants will involve appropriately patients, except for the stay-in-bed cases. They will be chosen as the subject with their family's consent.

### Results

In this study, systematic observation will be conducted and field notes on the patients' behaviors will be kept constantly. The research instrument will include a self-designed "Check-list for observations of behaviors", with which the activities, such as throwing balls, combing fur, walking the dogs, will be observed and the patients' responses will be recorded. The observation check list will be complemented by the follow-up interviews from the nursing faculty. The data will be analyzed by sorting, coding, and categorizing.

### Conclusions

The results indicated (1) the participants showed changes in their behaviors; (2) the Participants in face expression while waiting Varied with the hearing impaired and aging problem; (3) the participants mental stability affected their body movement, eye-movement, and verbal interaction with the Dr. dogs. the research suitable to do for the nursing home the lesson plan the execution. the conclusions were drawn, followed by discussions and implications for the future research. Keywords : Doctor Dog, Animal Assisted Activity, Nursing Home

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## The satisfaction of Health Education in the Accreditation of Hospital in Taiwan

**LEE Wei-Keung, HSU Jin-Chyr, HSU Yuan-Nian**

### Introduction

Health education is an item in accreditation of hospital in Taiwan. It's an important strategy in the hospital to promote the peoples' health .Is any different satisfaction of the health education by people in different graded hospital and different districts?

### Purpose/Methods

800 questionnaire survey from people, in outpatient department or in the ward, was selected randomly in 40 different graded hospitals which was classified by the National Health Insurance. According to the Joint Commission Accreditation of Taiwan, it covered 13 counties in Taiwan in 2010. Health education to the patients and families education included the 5 following topics: medical consulting service, medical information, health policy guidance, health promotion and overall satisfaction which were collected and analyzed.

### Results

There was no difference of satisfaction of health education in different graded hospitals. The satisfaction of health education in the medical centers by the survey was relatively lower than the result in accreditation. The satisfaction of the 5 topics in Southern Taiwan was the highest. The Northern Taiwan revealed the moderate satisfaction compared with other districts. The Eastern Taiwan revealed the lowest satisfaction.

### Conclusions

There was no remarked difference among of different graded hospitals in the items of health education by the people in the accreditation. The satisfaction of people in the Southern Taiwan was higher than those in the Northern Taiwan.

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## Applying Continued Services from Hospital to Community to Prevent Falls in the Elderly

**HSIEH Jyh-Gang, TSAI Chuan-Hsiu, WANG Ying-Wei**

### Introduction

Falls are among the most common adverse events reported in the elderly. Growing numbers of literature indicated that patients experience falls before or during hospitalization, but few data describe falls after hospital discharge. Also, hospitals screen out the high risk hospitalized elderly and make efforts to prevent their falls, but there is no continued service delivered during the post-hospitalization period in the community.

### Purpose/Methods

We promoted a project to integrate the tasks of falls prevention in a tertiary hospital and the communities nearby. The project included effective communicative channels between hospital and communities, standard processes to improve muscle power, balance ability, and medication, educating materials of home exercise and home safety, and the education of staffs of hospital and volunteers of communities. Hospitalized elderly with high risk in falls would be managed by the volunteers in the communities after their discharged.

### Results

There were 121 hospitalized patients aged above 65 screened as high risk in falls. The three most common diagnoses were fractures or other orthopedic problems (32%), cardiovascular diseases (11%), and GI problems (11%). Sixty percent participants had at least one time of fall experience in recent one year. Phone calls made one week, one month and three months after discharge. Five participants experienced fall accident at home. The percentages of performed home exercise, and implemented home environment improving were 4%, and 9.4%.

### Conclusions

Although most people recognized the importance of fall prevention in the hospital and in the community, only few fall prevention projects try to improve the connection between these two settings. This study showed that the compliance rate of fall prevention at home after discharge from hospital was very low. A Future study will focus on patients' motivation of fall prevention exercise and home safety during hospitalization.

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## Session P1.4: Supporting patients in lifestyle development

### The need of health promotion for visually impaired patients:

**HAN Young Keun**

### Introduction

Visually impaired ophthalmology patients often lose not only their eye sight but also their general health. Impaired eye sight causes decreased physical activities. In addition, a large number of these ophthalmology patients have diabetes resulting in complications like retinopathy, neuropathy, nephropathy and arteriosclerosis. Encouraging these patients to increase physical activities is important to prevent serious complications. However, it is quite challenging to have them to participate in outdoor activities because most of them have lack of confidence resulting from visual handicap as well as lack of community support.

### Purpose/Methods

We aim to make these patients aware of the need of health promotion and regain confidence. Since it is dangerous for these patients to exercise with healthy people, it would be beneficial to hold a special program for them. "Run for vision" is a well known event for visually impaired people in other countries. This year, we will organize the event for older patients who underwent cataract surgery or penetrating keratoplasty. Through this program, we are planning to educate the patients and their families of the importance and the need of health promotion as well as to offer the information on social support program. In addition, it is planned to increase public awareness of the need of social support program for these people.

### Results

The staffs at Ophthalmology Department at Boramae Medical Center (BMC) have prepared for the program "Run for Vision" at a metropolitan park right next to BMC. Several staffs participated in several marathon events and finished half and full courses. Also, the head of the department participated in "Run for Vision" held in Japan to learn the program. This will be the first event initiated by healthcare organization in South Korea. We are planning to hold this event sometime in autumn, 2012

### Conclusions

It is clear that health promotion is also essential part of disease management for ophthalmology patients. The need of health promotion for visually impaired patients should be addressed and supported. And, healthcare service should be in position to provide such support and advocacy. This program will serve as a spring board for these patients to regain confidence in physical activities and provide the opportunity to learn the importance of health promotion. Patients and their families will be able to empower themselves to take care of their own health.

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## The Effectiveness of Weight Loss Program Intervention in Psychiatric Rehabilitation Ward

**LU Huei-Lan, WANG Hsueh-Yin, SHEN Shu-Hua**

### Introduction

Patient with mental illness are more likely to be overweight and suffer from obesity-related comorbidities than the general population. Metabolic syndrome is well-known health risks to psychiatric patient. It increases the risk of developing cardiovascular disease and diabetes. The reasons caused obesity includes lack of physical activity, unhealthy eating habits, chronic diseases and drug side effects. Patient also has poor motivation to reduce weight, thus health care provider need to consider and aware the risks of weight gain, and to arrange the weight loss program for patient with mental illness.

### Purpose/Methods

The purpose of this weight loss program was design to lessen the problem of obesity among psychiatric rehabilitation inpatients. 115 patients with a BMI of more than 24% were arranged to participate this program, it includes: (1) weight loss class echelon six weeks course, (2) teach patients healthy diet habits and knowledge regarding diseases (3) provide diet menu weekly, notice meals calorimeter on bulletin board. (4) limit intake of sugary drinks before and after shopping. (5) health passport provided by the patient for self-management.

### Results

The total weight loss was 209.2 kg, average weight loss each patient was 1.61kg 4 month later, healthy diet habits, and awareness of weight loss importance improved after the intervention.

### Conclusions

The result achieved this goal of the weight loss program, it important to integrate obesity prevention into routine day activity. It needs to establish the quality control indicator and monitor regularly for maintain an ideal body weight and healthy life style. The nurse who works in rehabilitation ward should continue to provide patient with weight loss knowledge, and encourage patient keeping implementing for the healthy life.

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## Effectiveness of a multidisciplinary weight-control program in a medical center

**CHEN Hui-Chuen, KUO Yueh-Hsia, CHENG Chin-Pao**

### Introduction

The increasing prevalence of overweight and obesity in Taiwan has received widespread attention. Lifestyle change of newly industrialized countries partly contributes to increasing rate of overweight and obesity. Many studies describe lifestyle modification as a means of achieving long-term weight control; therefore, we started a collaborative multidisciplinary team to provide weight management for overweight and obese people since 1994. Now, we would like to share our experiences of a multimodal weight control program running in a medical center of Taiwan.

### Purpose/Methods

Subjects (body mass index, (BMI)  $\geq 24$  kg/m<sup>2</sup> or waist circumference:  $\geq 90$ cm (male),  $\geq 80$ cm (female)) were recruited from northern Taiwan. Physician, dietitians, physical therapist, and physical education teachers were involved in an 8-week weight control program that incorporated diet, exercise, and behavioral intervention. The program included twice-weekly one-hour mini-group diet instruction, two-hour nutrition, general health, and exercise-related lectures, and one-hour exercise for 4 weeks. Thrice-weekly group exercise continued in the following 4 weeks. Body weight and biochemical data were measured.

### Results

Thirty to forty eligible subjects attended this program each year. According to investigation implemented in 2009, participants were 88% satisfied with the whole program. The most helpful courses for attendants were mini-group dietary instruction, nutrition information for eating-out, and how to choose low-calorie foods. The average body weight loss was 4.52kg (5.6%) this year. Pre-post improvements in weight ( $p < 0.0001$ ), BMI ( $p < 0.0001$ ), waist circumference ( $p < 0.0001$ ), percentage of body fat ( $p < 0.0001$ ) were also statistically significant.

### Conclusions

A clinical multidisciplinary weight loss program for obese and overweight persons can effectively lead to decreases in body weight and BMI after 8 weeks. In the future, we will incorporate more experience sharing successful weight loss and extend duration of the intensive nutrition and exercise courses into the program, expected from participants. Further work is needed to assess long-term outcomes.

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## The concept of healthy promotion diet - lunch party

**SHANG-RU Lai, CHIN-PAO Cheng**

### Introduction

The Dietetic Department of National Taiwan University Hospital conducts the "lunch party program" every the third Saturday of month. We invite the population to participate to the program of the healthy-promotion diet. That is a pedagogic activity that population can learn how to eat, how to cook and how to understanding the relationship between the foods and disease by doctor, dietitian, and cooker.

### Purpose/Methods

We distribute the flyers to the common people, the medical care personnel and inpatients of NTUH. We make a lunch appointment. The participant can eat the lunch and listen the lecture by dietitian, doctor and cooker. The different topic of healthy recipe designs by the dietitian every month.

### Results

Regarding the content of food menus and program, the investigate degree of average satisfaction equally above 90%. We circulate the menus to create two quorum books. The program has conducted over 20 years, above 400 programs and the numbers of people are about 40000 that had been participated in this activity. We will continue to do it.

### Conclusions

Disease prevention and health promotion become an important task in our hospital and society. We create a friendly environment for study and eating healthy diet.

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## Session P1.5: Improving the quality of patient care with health promotion

### The relationships among disease awareness, self-care behavior, and life quality in rheumatoid arthritis in Patients

**LIU LI YUN, LIU Hsueh Erh, YANG Hui Chin, CHEN Li Chin**

### Introduction

The purpose of this study was to explore the relationship among knowledge of disease, self-care behavior and quality of life of the patients with rheumatoid arthritis in order to predict the variable significant factors associated with self-care behavior and quality of life.

### Purpose/Methods

A total of 103 rheumatoid arthritis patients who recruited from a medical center as outpatients in northern of Taiwan were interviewed by a questionnaire. A questionnaire was constructed for this study including personal demography, health assessment, disease knowledge, self care behavior and. The data was analyzed by using the SPSS 12 packaged statistical software.

### Results

Major findings were as follows : Self-care behavior were related to sex, social economic level and disease activity . Health disability level was significantly negative correlated with self-care behavior. Disease knowledge was also significantly positive correlated with self-care behavior. Education, social economic level, disease activity were related to quality of life. Health disability level was significantly negative correlated with quality of life . Disease knowledge and self-care behavior was also significantly negative correlated with quality of life.

### Conclusions

The object of study falls ill the year number to be longer, disease activity to be higher as well as bodily function damage degree serious of patient, the self-attendance behavior and the life quality are worse of the patients. Disease knowledge and the self-attendance behavior good of the patients, the life quality is also better of the patients.

### Comments

The findings of this study can give guidance to nurses in developing stage-specific interventions and providing individual therapeutic information such as NSAID of effect or how to apply a local cold compress or a hot packing in pain to patients and their families. Regarding the patients of disease activity high and health disability level high, should intervene the health education early. It is hope to enhance the self-care behavior of the patients with rheumatoid arthritis.

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## Compounding parenteral nutrition for prevention of infection in pre-term infants

**TSAI Fang-Pei, WU Lu-Hsuan, WU Ta-Wei**



### Introduction

The benefits of parenteral nutrition (PN) to improve nutrition status are well recognized, total parenteral nutrition is standard practice for preterm infants in modern pediatric intensive care units (PICU). Unfortunately, there is no adequate commercial product for infants currently. The objective of this evaluation is to compare the infection rate of PN, applied multiple of single unit nutrients directly (SUN group) and prepared by automated compounding device (ACD group), in preterm infants of PICU.

### Purpose/Methods

Data were collected retrospectively, from Jan. 2006 to Oct. 2011, a 6-bed PICU in a multidisciplinary, regional teaching hospital in Taiwan. Preterm infants of the PICU and receiving PN were included. The information of gestation age, birth weight, Apgar score, diagnosis, receiving PN of age, days of receiving PN, length of hospital stay, and the development of infection were collected. Student's 2-tailed t-tests were used for parametric continuous variables between groups. Chi-square tests and Fisher's exact test were used for comparisons of categorical variables, and a significance level of  $p < 0.05$  was chosen.

### Results

90 premature infants were included, and 66 in SUN group, 24 in ACD group. The SUN group presented higher infection rates than ACD group (25.8% v.s. 4.2%; OR=7.98;  $p=0.034$ ). A manner of compounding PN and days of receiving PN were associated with the highest odds of developing a nosocomial infection. After controlling for other risk variables, SUN group were 35 times more likely to develop nosocomial infection than ACD group ( $p=0.015$ ), and the mortality rates were also higher in SUN group (12.1% and 4.2%;  $p=0.44$ ), the discharge weight of SUN was less than ACD group ( $p=0.038$ ).

### Conclusions

The results indicate that the nosocomial infection rate was highly dependent on the type of PN prepared. This evaluation shows the PN prepared with ACD by pharmacist was associated with lower infection rate than applied multiple of SUN, and have tendency to increase the discharge weight of patients. The mortality rate lower in ACD, but no significant.

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## Iodine 131 isotope care unit hospitalization process standardization and analysis of the effectiveness of quality improvement

LEE Chia Lun, HSIAO Pi Jung, CHEN Yu Wen, SU Yi Ju, SU Mei Chen

### Introduction

Iodine 131 isotope care unit is a special ward designed for the treatment of patients with thyroid cancer. It is an isolation room. Complicated hospital processes and poor efficacy in dealing with patients' complains lead to poor satisfaction, which induced our motivation to improve.

### Purpose/Methods

To standardize the hospitalization process of Iodine 131 isotope care unit in order to provide efficient patient flow and to improve hospitalization satisfaction. We summarized nuclear medicine physicians, endocrinologists, nutritionists, nurses from both the out-patient department and ward to discuss the methods required to standardize the hospitalization process and improve satisfaction. Methods included designing of the pamphlet, standardization of the medical order, and earlier deliverance and administration of drug. Doctors followed up the patients' conditions by phone at least twice a day with standard questions. We had other problems like the ward have too many mosquitoes, bad ward smell, poor cleanliness, poor meals etc. After through discussion, the Nuclear Medicine Department had decided to provide mosquito lamps, refrigerator for storing leftovers, improve overseeing the work done by the cleaning staff and improve communication with the Nutrition Department to try and improve the meals.

### Results

This project sets standardized processes and improves patient satisfaction. The improvements seen include: standardized pamphlet, standardized medical order, earlier deliverance and administration of drug and improved diet.

### Conclusions

Standardization of processes can enhance the quality of health care and patient satisfaction. Team cooperation not only simplifies and standardizes hospitalization processes of Iodine 131 isotope care unit, but can also improve patient satisfaction.

### Comments

Production of iodine-131 treatment booklet can provide patients with the instructions required in the Outpatient Department, at the Nuclear Medicine Department and at the ward. It can strengthen inter-department communication and improve the consistency when patients go from one department to the other. We also hope the improved standard operating procedures can extend to other units to benefit more patients.

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## The Initiative to Reduce Pressure Ulcer in a Cardiovascular Intensive Care Unit

MO-YING Liao, MEI-FANG Chen, MEI-HUA Sun

### Introduction

The appropriate management of pressure ulcer plays a vital role in the service of an intensive care unit, as any mistake will result in delayed healing of wound, further infection and probably severe sepsis and even death. The incidence of pressure ulcer is an important indicator of quality of nursing care. In our unit, there were 24 patients afflicted with 31 events of pressure ulcer in the period of 6 months in 2008. The incidence rate is 0.6%, which was lower than the average of other nationwide medical centers (0.89%). But it was higher than that of the peer unit in our institute (0.5%). Therefore, we have to tackle with this important problem.

### Purpose/Methods

According to the Plato statistical analysis, pressure ulcers mostly develop over the coccyx and anus. In addition, the most frequent causes are long-term bedridden, malnutrition and diarrhea. Moreover, most of them suffered from circulatory insufficiency, which would result in poorer cutaneous perfusion, worse nutritional status and thus weaker skin barrier. The prescription of laxatives for patients with cardiovascular disorders might also contribute. The resulting soft stool or diarrhea made the skin over coccyx and anus more frequently immersed. By questionnaire, we interviewed 38 of our nursing staffs. We found out that only 49.2% of them had correct knowledge of pressure ulcer. Those who knew how to use disinfectant correctly were 50.9%. 66.1% of the interviewees acknowledged the importance of keeping appropriate moisture of the wound. Other statistics included 53.7% got right recognition of the massage of wound, and mere 29.6% of our nurse staffs could operate correctly the gasket and the heating lamp. In addition, there was no written protocol of caring pressure ulcer, focusing specifically on cardiovascular patients. We lack the standard operating protocol to instruct our nursing staff to recognize and take care of pressure ulcer correctly. The nursing staff inappropriately disposed of the defecation. We did not have enough pressure-lowering devices. By clarifying the aforementioned problems, we made a proposal to tackle them. Proposed strategy to correct the problems (since July, 2008) : A standard operating protocol for pressure ulcer management should be set up. The nursing staffs should be well instructed about the standard operating protocol, which should also be confirmed by following exams. A program of in-office education was implemented. We designed a water-containing cushion to reduce the pressure. A follow-up program was launched to audit the improvement of the quality of care.

### Results

Two weeks after the educational program, 13 of the nursing staffs were interviewed again. Ninety-five percent of them could answer the questions correctly about utilizing the disinfectant and moisture-maintenance of the wound. Regarding the mas-

sage of the wound and ways to apply the gasket and heating lamp, 98% of them met the criteria. After the starting of the improvement initiative since July, 2008, the total case number of pressure ulcer is 10 (between Aug, to Dec, 2008). The incidence dropped to 0.3%. In addition, the degree of pressure ulcer also declined.

### Conclusions

From our survey in pressure ulcer, we learned that the level of awareness and protocol adherence depended upon the education and practicing experience of the nursing staffs. We can never prevent the occurrence of pressure ulcer by just knowing how it took place. The care-giving nursing staff should be well instructed of the specific protocol. They should also apply it correctly and adherently in order to prevent and treat the pressure ulcer.

### Comments

We can never prevent the occurrence of pressure ulcer by just knowing how it took place. The care-giving nursing staff should be well instructed of the specific protocol. They should also apply it correctly and adherently in order to prevent and treat the pressure ulcer.

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## Use innovative practices to improve patients' satisfaction with the ward nursing services.

PEI CHI HSIEH, AI LUN YEN, MEI JUAN LAI, CHING YI CHEN

### Introduction

According to the hospital ward care satisfaction survey, we can found that the quality of medical services was below the target of 94%. After asking the patients, the reasons why patients and family members complained and refused to seek medical treatment include nursing staff speak in a poor attitude, lack of active care, did not introduce and implement the self and the environment, and the waiting time processes has waited for a long time, and so on. Urgently needed improvement, therefore our group staff have motive to explore.

### Purpose/Methods

Upon the establishment of ad hoc discussions and made eight solutions: 1. Making spiritual slogans and songs. 2. Making poster. 3. Making environmental introduction icon cards. 4. Modify the nursing instruction operating manual. 5. Designs cute version of the animation with lesson plans. 6. Making identification cards and self-introduction card with photo. 7. Modify service etiquette Angel Kanban. 8. Develop the competition.



### Results

After the implementation of the program, the patients' satisfaction with the ward nursing services enhance from 89.2% to 94.6%; nurses' self-service satisfaction by the 74.4% increase to 86.0%.

### Conclusions

So far the project to promote, there are six ward area without relevant negative mail and complain to the Dean, the project aims to achieve.

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## Shortening the initiation time to get off the bed in postsurgical orthopedic patients

### CHEN Wei-Ling, CHEN Chiu-Chuan

#### Introduction

Patients were afraid to move due to postsurgical pain. Prolonged immobilization will increase complication, lengthen the hospital stay and increase medical cost. From June 1 to July 31, 2010 clinical observation of inpatients and nurses at Taichung's hospital, we found these were five main problems: (1)Patients do not knowing when to get off the bed. (2)Providing health leaflet without clear detail explanation. (3)Lacking of consensus with nursing station's leaflet. (4)The primary care nurses do not knowing the rehabilitation. (5)Incorrect use of assistive devices.

#### Purpose/Methods

The purpose of this study was to apply the quality control method to shorten the initiation time to get off the bed in postsurgical orthopedic patients. After reviewing the medical chart, the initiation time to get off the bed postoperatively was 132 +/- 5.2 hours. Our Strategies were: (1) Make "Get off the bed and activities schedule". (2) Design of new education leaflets and unity with the nursing station. (3) Putting PT record on computer for reviewing by the nurse. (4) Make "Chart of using the assistive device."

#### Results

The initiation time to get off the bed postoperatively was markedly shortened from 132 +/- 5.2 hours to 50 +/- 2.5 hours.

#### Conclusions

The quality control method is efficient in shortening the initiation time to get off the bed at postsurgical orthopedic patients, decreasing complication, improving activity of daily living (ADL) and the quality of orthopedic care.

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## Health-related Quality of Life in Patients with Hand Injury

### HORNG Yi-Shiung, LIN Ming-Chuan, FENG Chi-Tzu, CHIU Valeria, CHANG Yi-Wei, LIU Dung-Huan

#### Introduction

Patients with hand injury suffer from physical impairment and associated psychological stress, which may lead to long-term sick-leave and ultimately deterioration in their quality of life. How to minimize the disability status and help the injured workers return to work is a challenge of medical personnel. The aim of this study is to evaluate the changes of the disability status and health-related quality of life (HRQOL) in patients with hand injury through rehabilitation.

#### Purpose/Methods

Thirty-one patients with hand injury were consecutively recruited from one community hospital. Each patient received a series of physical examinations and was asked to fill out the Michigan Hand Outcomes Questionnaire (MHQ) to measure the disability status and rate his/her satisfaction of HRQOL by using a visual analog scale. Chinese Health Questionnaire (CHQ) was also applied to measure psychological stress. All patients were followed up after receiving rehabilitation for three months.

#### Results

Twenty of the studied patients completed the follow-up assessments. The results revealed significant correlations among the scores of the MHQ, the CHQ and the HRQOL. After having rehabilitation, the studied patients had significant improvements in the MHQ, the HRQOL, disability days, grasp power and hand functions. Among the hand function tests, the Purdue Pegboard Test and upper extremity range of motion (Valpar Component Work Samples 4) had significant correlations with the scores of the MHQ and the HRQOL.

#### Conclusions

Hand injury had adverse effects to the patients' abilities in performing activities of daily living and quality of life. Future rehabilitation training should focus not only on improving physical impairments, but also on improving patients' psychological status and return-to-work.

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## Hospital-based Integrated preventive service (HIPS) : a medical center inTaiwan Taipei County

**CHEN Chih-Dao**

### Introduction

National Health Insurance (NHI) in Taiwan provided several adult preventive services since 1996. These included periodic health examination for chronic disease, Pap smear for cervical cancer every year, mammography for breast cancer every two years, oral screening for tobacco or betel nut used older than thirty every two years and stool occult blood test for colorectal cancer older than fifty every two years. The attendance rate is still low. Hospital-based integrated service may be a solution.

### Purpose/Methods

This study is to evaluate the attendance rate change after integrated preventive service in family medicine department Far Eastern Memorial Hospital, Taipei County, Taiwan. We collected data for the preventive service participants from 2002 to 2010, and Chi-Square for trend test was used to test the attendance rate between different integrated stages by gender and age in FEMH.

### Results

Attendance rates of periodic health examination for male are 2.99% in first stage, 4.11% in second stage and 9.13% in third stage. Three stages attendance rates of periodic health examination for male older than sixtyfive are 6.30%, 8.79% and 15.33%. Three stages attendance rates of periodic health examination for female are 3.14%, 4.88%, 11.41% and 4.80%, 6.94%, and 14.34% for older than sixtyfive. Three stages attendance rates of Pap smears are 9.02%, 10.28%, and 15.31%. Three stages attendance rates of mammography are 0%, 4.49%, and 13.84%. Chi-Square for trend test was significant. ( $P < 0.0001$ )

### Conclusions

The result showed integrated preventive services in hospital family medicine department can improve the attendance rate. We also have the opportunity to provide health promotion education at the same time. HIPS will be an effective model for preventive medicine.

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### Introduction

Stroke causes high medical expenditure, which brings both family and society heavy loading. Taiwan has been an ageing society. Stroke incidence increases while people get older and older. Therefore, it is important to develop health promoting health care for patients with stroke to reduce complication and death risks.

### Purpose/Methods

This study aimed to apply health promoting case management to discharge planning for stroke patients. Patients diagnosed with stroke by physician were recruited in the study. We reviewed their medical records and medical utilization. We further grouped them into the control group and the health promotion (HP) group. Subjects in HP group received nursing home referral, subsidy application for the disabled, and follow-up.

### Results

The average age of subjects in the control group was 68.0  $\pm$  0.2 year, and that in the HP group was 68.0  $\pm$  12.8 year. There was no significant difference in medical history between these two groups. The average length of hospital stay in the control group was 12.05 days, and that in the HP group was 11.5 days. Utilization of social resources and follow-up significantly increased in the HP group.

### Conclusions

The integration of health promotion into health care services reduced length of hospital stay and in turn medical expenditure. In addition, it provided primary care givers with social resources and continuous health care.

### Comments

Through case management, health professionals build a close partner relationship with patients. Multi-dimensional and innovative health education approach made patients learn knowledge of particular diseases and skills for self care.

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## Application of Health promoting Case Management to Discharge Planning for Stroke Patients

**CHEN MEI-YUN, CHANG HUI-LIANG**



## Session P1.6: Addressing smoking and other addictions in patients with health promotion

### Health Service Utilization of Intravenous Drug Users under Methadone Maintenance Therapy

**CHEN I-Ming, CHIEN Yi-Ling, HUANG Charles LC, LI Chong-Wei**

#### Introduction

Heroin has become one of the most widespread psychoactive substances in Taiwan. Its intravenous use is associated with a range of medical morbidities, such as viral hepatitis, human immunodeficiency virus (HIV) infection, skin infection, and trauma. However, systematic evaluation of types of service in need was deficient. The objective of the present research is to elucidate medical care utilization of this population.

#### Purpose/Methods

We conducted retrospective study of 724 subjects participating in the methadone maintenance therapy (MMT) in a medical center in middle Taiwan between 2007 and 2008. The DSM-IV diagnosis of opioid dependence was made by board-certified psychiatrists via face-to-face interview. The demographic data, records of service use, discharge diagnoses, viral hepatitis and HIV infection status, were collected from subjects or hospital database. Determinants and patterns of service utilization were analyzed.

#### Results

Among the MMT participants, 90.7% were HCV-infected, 21.9% HIV carriers, 30% high school educational level, 26.1% have ER visits for medical or surgical conditions. Hospitalization in infection (4.6%), orthopedic (2.5%), and gastrointestinal departments (1.5%) were most common. Frequent diagnoses were local infection, traumatic fracture, osteomyelitis, diskitis, and pneumonia. Clinic visits demonstrated a similar pattern. Lower educational attainment was significantly associated with frequent ER visits ( $p=0.046$ ) and hospitalizations ( $p=0.012$ ), while HIV-infected status was significant related to hospitalizations ( $p=0.000$ ).

#### Conclusions

High prevalence of morbidities such as infectious diseases, orthopedic, and gastrointestinal disorders, highlights the increasing medical demand of MMT patients. Infection clinic has the highest patient numbers and visiting frequency, probably related to governmental support for HIV harm-reduction program and integrated case management system. Education may influence service use through different help-seeking strategy, or reflect socioeconomic status and available resources, or represent distinct drug user population. Further exploration on the causal pathway is important to improve treatment efficacy.

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### Cost/benefit analysis of an "apartment group" for severe alcoholics in treatment

**TICALI Salvatore, VEGLIACH Alessandro, CIARFEA PURICH Rosanna, TOMASELLI Enrico, GENEROSO Giulia, VALENCIAK Francesca, ZORATTI Raffaele, BLASINA Jadranka, JUGOVAC Davide**

#### Introduction

Pathological addictions are chronic diseases. This results in long therapeutic programs for changing lifestyle. All of this must be done in respect of cost containment. The approaches to alcoholism treatment passed steadfast models of care. The alcoholics are not equal and therefore public healthcare services offer customized treatment plans. There are alcoholics less severe, that need day hospital treatment, and others serious, that need extended residential programs.

#### Purpose/Methods

In this project we describe activities, management costs and results of an "apartment group", an intermediate residential care in the urban context of Trieste (Italy) for six severe alcoholics. Evaluating a residential care is useful to show to the investors that this kind of treatment does not always necessarily correspond to high costs. Instead, this treatment is the best answer for high load patients who require long-term plans to achieve significant progress in their rehabilitation.

#### Results

Daily cost for each user is 24 euros. A comparative analysis shows that this approach is more economic compared to other residential forms offered by healthcare and/or social services as: rehabilitation center (50 euro a day), public house (46 euros a day), inn (30 euros a day). Six months after the end of treatment, the 58% of the 38 high-load users are alcohol free. We immediately took care of all users relapsed, thus reducing damages from relapse thanks to therapeutic relationship established.

#### Conclusions

The present study highlights how it is possible to manage an intermediate residential care for severe alcoholics, to contain costs and to enhance treatment without stopping to low-threshold practices. All this is possible if there is an integration between clinical and social activities of intermediate residential care and the reference center on alcoholism. This center is essential to provide the clinical, administrative and educational support for the realization of the residential care project.

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## Smoking Cessation in the Public Oral Health setting

### MORRIS Christine, HERON-KIRKMOE Jane

#### Introduction

Tobacco smoking is the biggest single cause of premature death and disability in Australia. 21 South Australians die from smoking related illness each week. It has a profound effect on oral health causing a range of conditions from oral cancer to bad breath. In 2006 SA Dental Service introduced a clinic based smoking cessation support program. Smoking cessation is a key organisational goal acknowledging the important role of clinicians in assisting smokers to quit.

#### Purpose/Methods

The aim of the program is to contribute to the improving client's oral and general health by providing information to increase awareness of support services available to clients who are interested in managing their tobacco dependence. The primary purpose is to provide a referral pathway to the local telephone counselling service the Quitline for more intensive advice. Each smoker is offered tailored brief advice after ascertaining their interest in quitting smoking.

#### Results

8,500 brief interventions have been delivered since the inception of the program. Each year there is an increasing number of interventions indicating strong acceptance and support by clinicians. Dental teams use the most effective way to deliver a smoking cessation message through specialised training from Quitline staff. Smokers are delivered a non-judgemental message that is tailored to their stage of interest in quitting. A referral pathway has been developed for clients who are interested in a call-back quit smoking service.

#### Conclusions

Over the course of the smoking cessation program dental teams have demonstrated their commitment to deliver an effective quit smoking message to improve oral and general health. Partnering with the South Australian Quitline smoking cessation counselling service has provided excellent training for clinicians and professional support for smokers. This program has shown that brief intervention is a useful technique for use in the dental setting to offer tailored smoking cessation advice to clients who smoke.

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## Tobacco Cessation Clinic in Rapla County Hospital

### MOORA Liis-Mail, PÕLD Mari

#### Introduction

Rapla County Hospital is an acute hospital, situated in the north/central of Estonia. It is a 110 bed hospital, which employs over 200 staff, serving for a population of approximately 37 000 people for its general acute and midwifery services. Rapla County Hospital joined to Health Promotion Hospitals Network in 2000 and has been involved in the European Network of Smoke Free Hospitals since 2005. Tobacco cessation service is in hospital since 2002.

#### Purpose/Methods

Goal To reduce tobacco using and them to decrease morbidity. Subgoal To reduce smoking habits in Rapla County Method All patients have been informed, that smoking in our hospital and in its territory is not allowed. There is not separate room for smokers. During 2002-2011 were about 2700 smokers supported in their quitting process. Assistance and advice are to in - and outpatients. All patients are asked the question about their smoking habits by doctor or nurse. All information and date will be recorded.

#### Results

3 doctors, 4 nurses and 1 midwife are educated as counsellors for smoking cessation services. In Tobacco Cessation Clinic are working 2 doctors and midwife. The clinic is equipped with internet access, CO monitor, illustrative learning materials. During 200-2011 years were supported about 2700 smokers and 23% of the quitters are staying as non smoker after 1 year. Smoking among hospital staff has been decreased from 33% in year 2003 - to 17,2% in 2009.

#### Conclusions

All health care workers should play a leading role in tobacco control and smoking cessation. This includes not only a smoke free environment, but also in active counselling and support in their quitting process.

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## A strategy to implement smoking cessation intervention as a part of patient treatment process

### LEE Chul Hee, SON Hwancheol, LEE Hee Young





### Introduction

Improved quality of life and living longer is benefit from the rapid economic growth. However, we also have to deal with increasing unhealthy life style like smoking, unhealthy diet and physical inactivity which are the known risk factors of chronic disease like diabetes, hypertension, cancer and heart disease. To deal with this situation effectively, we should give more weight on health promotion for the healthy life style in clinical process. Boramae Medical Center started smoking cessation support program for patients in November, 2010. At the beginning, the program wasn't fully utilized by health providers. However, after one year of effort, the program is well regarded and is beginning to be used as part of chronic disease management.

### Purpose/Methods

1. Developing smoking cessation intervention protocol which includes referral resources in community; 2. Having 2 nurses trained to become smoke cessation counselors.; 3. Producing educational materials to aid smoking cessation counseling and education for patients which are 2 leaflets and 1 pamphlet.; 4. Establishing a system to order 'smoking cessation education' in EMR(electrical medical record); 5. 5 weeks of program promotion event at outpatient clinic; 6. Posting and advertising 'Program poster' in inpatients wards and outpatient clinic

### Results

During the first 9months, there were average 3 smoking cessation requests per month. Last 4months, the request increased average 17 requests per month. At the beginning, the majority of smoking cessation request was from ENT department for patients who had upper airway problems. Recently, the smoking cessation became a part of clinical process for patients who had cerebral vascular accidents (CVA) and acute coronary syndrome like angina pectoris (AP) and myocardial infarction (MI).

### Conclusions

Smoking cessation support program is not utilized fully by healthcare providers yet. However, it is very positive to see that some departments recognize it as a necessary intervention in disease management. In future, it would be more beneficial to develop studies on the effects of smoking cessation for chronic disease management which may provide the evidence of the importance of health promotion intervention in acute hospital setting as well as increase an involvement of more healthcare providers.

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## A Survey of Knowledge, Attitude and Practice of Chest and Heart Doctors about Assisting High Risk Patients to Quit Smoking in Taiwan

**HUNG Ling-Yu, CHIU Tai-Yuan, GUO Fei-Ran**

### Introduction

Many tobacco control guidelines proposed that doctors are key persons in assisting smokers to quit. Smoking is associated with many diseases, such as cancer, chronic obstructive pulmonary disease and coronary heart disease. Among smokers, those who have chest or heart disease are considered high risk groups. Most of them are treated by heart and chest doctors. If these doctors were willing to provide smoking cessation services, that will be very helpful.

### Purpose/Methods

Bureau of Health Promotion, Taiwan contracted with trained doctors to provide outpatient smoking cessation services. We want to know the differences between doctors with or without training about the knowledge of smoking harm, the attitude of smoking cessation, and the practice of 5As guidelines including ask, advise, assess, assist and arrange. Questionnaires with five-point Likert scale were mailed to all chest and heart specialists in Taiwan. Knowledge Index and Attitude Index were calculated to assess the differences.

### Results

Total 2,693 questionnaires were mailed while 180 were returned, 123 from chest doctors and 57 from heart doctors. The response rate was 6.7%. 116 (65.2%) doctors received training and only 39 (43.8% of trained doctors) provided smoking cessation services. Compared with non-trained doctors, trained doctors had higher Attitude Index score (21.28 vs 19.98), and were more willing to assess (3.63 vs 3.08), assist (3.10 vs 2.42) and arrange (2.91 vs 2.32) high risk patients to quit smoking.

### Conclusions

Most of the chest and heart doctors in Taiwan are not interested in providing smoking cessation services, even reluctant to answer our questionnaire. However, if the doctor attended the voluntary training program in smoking cessation, he or she showed better attitude of smoking cessation and was more willing to provide smoking cessation services. For those who are not interested in providing services, another strategy, such as 2A+R (ask, brief advice, and referral), could be more helpful and worth promotion.

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## To Promote and Improve the Smoking Cessation Counseling Services Strategy

**LIN Chia-Te, CHOU Lih-Lih, CHEN Cheng-Yu, SHYU Rong-Yaun**

### Introduction

To provide guidance of smoking cessation through the medical clinics, is the best way to make people feel the need for quit smoking. Based on this, the department of family medicine to do this service at the clinic, but to little avail, so the change in a different manner. After changing the method of smoking cessation counseling services strategy. The number of people using the smoking cessation counseling improved significantly, and therefore the smokers also received more and in-depth service.

### Purpose/Methods

This out-patient smoking cessation service is combined with government resources: registration fee incentives to attract people smoking help, or encourage cooperation divisions offering. We spread it from July to September, 2011, but whatever the mode, the peoples use the service are low. We change the strategy from September, 2011. We combine the health education and volunteers to screening smokers in the outpatient area, and by the color of health education leaflets,

### Results

During the previous three-month period out-patient smoking cessation counseling services only service 37 smokers. The implementation of strategic change (2011.09.01 ~ 10.13), the service number of smoking cessation counseling was raised to 175. There is also due to change by fix health education staff and timing to provide consulting, so the contents are more in-depth than the out-patient time mode, and can focus on smoking cessation to providing more Pluralistic and full services.

### Conclusions

Although the original model well-intentioned advice, but in Taiwan, if the staff without a sense of mission or reward to quit smoking, it will be difficult to implement. But through a health education cooperation combine with the staff and volunteers, and by clearly marked booth with pamphlets, and then provide advice. We believe if hospital consider of full-time staff to promote the smoking cessation in the future, that the overall effectiveness of smoking cessation services will therefore be more prominent.

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## Gender difference of the effects of medical therapy for smoking cessation: The experience of health promotion program at Cheng-Hsin General Hospital in Taipei, Taiwan

**CHIEN Wu-Hsiung, LIU Jorn-Hon**

### Introduction

The aim of this study is to assess whether there were gender difference in the effects of medical therapy for smoking cessation according to the hospital-based study in Taipei, Taiwan.

### Purpose/Methods

A nationwide tobacco control practice was conducted in 2002 by Bureau of Health Promotion, Department of Health Taiwan. We studied one of the smoking cessation units in this health promotion program. All the participants were visited at outpatient department (OPD) and further evaluated by a structured questionnaire included personal information, disease history, dependence on nicotine, and outcome evaluation. To evaluate the effect of cessation program, routine phone interviews in third, sixth, and twelve month were performed. The smokers had smoking behavior in last seven days by phone interview were defined as smoking cessation failure.

### Results

There were four hundred and twenty-seven subjects visited OPD for smoking cessation during 2002-2007. Three hundred and twenty-six subjects completed the three telephone interviews with 76.3% follow-up rate. The three-month, six-month, and twelve-month continuous success rate of smoking cessation were 33.6%, 23.7%, 19.5% in males and 35.9%, 28.1%, 26.6% in females, respectively. From the multiple logistic regression, side effect or withdrawal symptoms was a significant factor of smoking cessation in both males (OR=3.04, 95%CI: 1.34-6.89) and females (OR=3.91, 95%CI: 1.22-12.58). The smoking cessation was also strongly affected by nicotine addiction in males (severe vs. mild or moderate, OR=0.38, 95%CI: 0.20-0.72) and females (OR=0.77, 95%CI: 0.45-0.91). The number of cigarettes ( $\geq 30$  vs.  $<30$ , OR=0.48, 95%CI: 0.22-0.71) was a significant factor of smoking cessation in males but not in females.

### Conclusions

Gender differences in the effects of medical therapy for smoking cessation were demonstrated in the present study. Follow-up study should be conducted to explore the long term effects and side effects such as psychological symptoms of the health promotion program.

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## Experiences of a Creative Smoking Cessation Project

**LIANG Hsiao-Yi**

### Introduction

Smoking is the leading preventable cause of death in the world. Each year, over 18,800 people die of tobacco-related diseases. Smoking cessation is therefore an important issue in health promotion sector. We framed the smoking cessation project in Taipei City Hospital, Renai Branch in Taipei City, Taiwan according to the five health promotion actions of Ottawa Charter. To implement the principles of health promoting hospital, we used diverse, creative ways to promote smoking cessation in order to create a tobacco-free hospital, a tobacco-free community.

### Purpose/Methods

In-hospital policy making for smoking cessation: We started up the tobacco hazards prevention and promotion committee, planned the strategies and targets and implemented them solidly. To build up a healthy hospital with smoke-free environments: 1. We marked up smoking cessation lines, set up a smoking cessation pavilion, distributed information about tobacco hazards prevention and encouraged people to quit smoking.; 2. All the ID cards of our staff were either attached with "No smoking, no betel nuts sticker" or with "Smokeless Taiwan" badge.; 3. We built up "smokeless safely escalators" so that tobacco prevention efforts have no dead corners. To establish friendly static and active environments: 1. "Watching movies from the heart" activity, art gallery, and mind purifying meditation classes all refresh our spirit.; 2. Sports center, healthy walkway, and diverse exercise clubs in a healthy, active environment all help people release from work stress.; Hold creative anti-smoking activities and promoting tobacco-free communities; 1. Form a team of tobacco and betel nut cessation ambassadors.; 2. Design and promote "fresh smokeless dance", "tobacco-free cap", "smoking-cessation compassion pens" and "tobacco hazards prevention calendar", which are all original designs from our staff.; 3. Led by the superintendent, all management participated in "a million yes: sign yes to smoking cessation" activity and signed.; 4. To form a base for smokeless family and further, future smokeless Taiwan, we held children's anti-smoking painting activity: "smokeless childhood, vivid for ten thousand years"; 5. Promote a smoke-free community by integrating of community resources. 1. In cooperation with pharmaceuticals, we proposed "Champix healthy smoking cessation special project"; 2. By linking 40 representatives of all parties, we actively formed a smoking cessation community web and held "a million yes: sign yes to smoking cessation" activity in Taipei City Hospital, Renai Branch.; 3. Combining with community resources such as pharmacies, medical device venders, restaurants, schools...etc, we formed "Renai community smokeless circle". 3. Increase knowledge about tobacco hazards: To increase people's knowledge about tobacco hazards, we held educational trainings, ward health promotion activities, regular outpatient and community health education speeches; 4. Promote smoking cessation services: 1. Annual survey of staffs' smoking rate and designed rewarding mechanisms for those who quitted smoking.; 2. Hold smoking cessation clinics and classes.; 3. Provision of in-patient smoking

cessation services.; 4. Provision of internet smoking cessation consultation services

### Results

Under the principle of "participation of the whole hospital", "brain storming" and "creative thinking", we reinforced the knowledge and responsibility of our staff towards tobacco hazards prevention. We deepened the concept of cigarette prevention and established a smokeless, health promoting hospital.

### Conclusions

Promoting smoking cessation not only raised the value of our medical institution, but also brought about new waves of purifying client values, prolonging medical values and improving health promoting values. We integrated multi-modality intervention in our creative smoking cessation project and established a healthy, smokeless environment actively to attain the ultimate goal of "total health".

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## The effectiveness of smoking cessation group health education initial study

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### Introduction

More and more research reports reveal many respiratory, cardiovascular system, chronic diseases, and cancer are closely related with smoking. For this reason, provide education about smoking adverse effects on health to smokers, smoker relatives and friends will assist smokers to enhance the motivation to cease smoking.

### Purpose/Methods

Make the public realize the seriousness of smoking adverse effect on health through group health education activities. Hold routine group health education activities in hospital lobby and medical wards. Make attended publics realize smoking adverse effects on health to smokers and families through propaganda film, drama, presentation, etc.

### Results

During year of 2011, total 22 sessions of group smoking adverse effect health education activities, total attendance 967 people, after-class evaluation according to 5 topics education content, average correct rate 98%. Satisfaction questionnaire regarding health education activities, result up to 4.6. ( full marks 5).

### Conclusions

Group health education activities proceeding by professionals can not only improve the public health knowledge but also provide resources for smokers to achieve smoking cessation.

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## The efficacy of nicotine replacement therapy and group psychotherapy among psychiatric inpatients for smoking cessation

**CHEN Ming-Chao, WANG Shu-Hui, FANG Ya-Hui**

### Introduction

Nicotine replacement therapy provides patients with preventing from nicotine withdrawal symptoms. Group psychotherapy offers individuals the opportunity to learn behavioral techniques for smoking cessation and to provide each other mutual support. We aimed to compare the efficacy of the group psychotherapy with the nicotine replacement therapy.

### Purpose/Methods

We aimed to determine the effects of smoking cessation programs delivered in a group format compared to nicotine patch replacement in psychiatric wards. During the whole year of 2009, heavy smokers of inpatients measured by the Fagerstrom test for nicotine dependence voluntarily chose to participate in 4-week (4 sessions) intensive cognitive-behavior group psychotherapy (n=31) or nicotine patch replacement therapy (n=37). Participants completed main outcome measures included smoking self-efficacy questionnaires and smoking health belief questionnaires before and after the intervention.

### Results

There were 27 patients of group psychotherapy (dropout rate: 13%) and 26 patients of nicotine patch replacement (dropout rate: 30%) completed the treatment. The only positive finding is patients in group format showed lower dropout rate than nicotine patch replacement therapy ( $p < 0.001$ ).

### Conclusions

The lower dropout rate in group psychotherapy might be due to the effects that some patients in groups came from chronic rehabilitation wards where smoking cessation or control programs had been established for several years before this intervention. Small sample size, lack of control group and randomized design in our study limited the power of inference. There was not enough evidence to support group psychotherapy was better than nicotine replacement therapy in smoking cessation programs.

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## Experience with a smoke-free program in New Taipei city hospital

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### Introduction

Tobacco smoking has been confirmed to cause sickness, disability and death. As a member of the health promotion hospitals, New Taipei City Hospital provided an effective way of tobacco prevention to reach large numbers of the population: hospital personnel, personnel's families and community members, as well as patients to promote individual responsibility and community participation towards an enhanced health and quality of life.

### Purpose/Methods

According to the five key areas of Ottawa Charter for Health Promotion, New Taipei City Hospital devoted to the Tobacco smoking control programs which included building hospital smoking control policy (reward measures and smoking control censor system), attending to outpatient smoking cessation therapy, creating supportive environments, and smoke-free gymnastic exercises to provide a channel to the community to introduce tobacco use prevention information and technologies and take the lead in advocating policies and services that reduce tobacco use.

### Results

In two years (2010-2011), there were more than 4,500 person-times in the programs. The programs took advantage of organizational development and health communication strategies to bring about national participation and strengthen the effective health information communication.

### Conclusions

These programs presented the results to people not only the rich information related to great importance of smoke-free and smoking control, but also the positive reactions and suggestions related to community-based intervention.

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## Nurse case-managed smoking cessation interventions for hospital in-patients in Taiwan

**YU Pei-Jung, CHENG Wei-Ning, YEH Chia-Tse, SHYU Rong-Yaun, CHAO You-Chen**

### Introduction

Hospitalization is an opportunity to help people stop smoking and is also a good "teaching moment" to change health behavior of people. Hospital nurses most often have an opportunity to deliver smoking cessation interventions for hospitalized smokers. In the past, few of the smoking cessation interventions provided for hospitalized smokers in Taiwan. Therefore, we planned to develop the policy of smoking cessation services and a role of smoking cessation adviser that may increase smoking abstinence rates for hospital in-patients.

### Purpose/Methods

This program was to determine the effectiveness of nursing-advice smoking cessation interventions. A special trained case-manger of smoking cessation adviser can provide bedside counseling of one-to-one support for hospital in-patients who want to quit smoking. Report of Smoking cessation rate were validated by post-discharge phone counseling at one week, one month and three months by self report.

### Results

A total of 226 smokers admitted to hospital, mean of 52 years old of age, mean of 26.6 years of smoking, 47.6% have no smoking during hospitalization, 48.2% quit smoking at least once. After discharge, 16.4% were in our follow up smoking cessation program. After the inpatient counseling with telephone follow-up, at the 7 days, self-report abstinence rate was 70.3%; at the 1 month was 40.5% and at the 3 months was 21.6%.

### Conclusions

Hospitalization is an excellent teachable moment to motivate smokers to intend quitting smoking. Nurse case-managed smoking cessation interventions were effective for hospital in-patients. A smoking cessation adviser led smoking cessation intervention increased smoking abstinence rates among patients admitted to hospital.

### Comments

The current status of hospital policies for smoking cessation services is shortage in Taiwan; consequently, we recommend clinical practice guidelines of smoking cessation services should be developed to support for hospitalized smokers. The role of smoking cessation adviser is very important for smoking cessation interventions to help smokers who have opportunity to quit smoking during hospitalization. After this program, the randomized control trial to evaluate the efficacy of a nursing-advice intervention for hospitalized smokers should be held at next proposal.

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## Smoking cessation consultation by physicians in patient with acute coronary syndrome during hospitalization

**LIAO Po Yi, CHANG Birney**

### Introduction

Smoking cessation is important to patient with coronary artery disease. The re-admission rate and mortality of patients with acute coronary syndrome can be greatly reduced by smoking cessation. Smoking cessation consultation by doctor is maybe the most convincing method to these patients during hospitalization. A doctor-based smoking cessation program for acute coronary syndrome was conducted in a medical center in Taiwan in 2011.

### Purpose/Methods

The purpose was to understand the effect of smoking cessation consultation by family physician during hospitalization of patient with acute coronary syndrome. The same family physician was consulted by cardiologist when the patient admitted due to acute coronary syndrome. The patient would received 20 minutes smoking cessation consultation during hospitalization. The smoking condition would be followed up at 1 week and 3 months intervals by case manager after discharge.

### Results

Total 100 patients was enrolled into this program during 2011/03-2011/10. The follow up rate was 73.4%. The smoking cessation rate was 82.4% at 1 week and 72.73% at 3 months. Seven patients had high nicotine dependence score and withdrawal symptoms were given Champix during hospitalization, and the smoking rate was 42.9%. Other factors such as motivation, day of consultation, comorbidity and disease severity would be analysed later.

### Conclusions

High smoking cessation rate was noted in this doctor based consultation program. A smoking cessation consultation for patient with acute coronary syndrome may be beneficial. However, the high motivation was noted in this group, further study is needed to understand if the smoking cessation consultation in this group provide extra benefit.

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## Comparison of Smoking Cessation Intention and Smoking Behavior after Raising Tobacco Health Welfare Tax in smokers from a Taipei City Community District

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### Introduction

The WHO pointed out that "Constructing no smoking environment" and "Increasing tobacco sale price" were two effective ways of smoking cessation, reducing teenager smoking and tobacco consuming rate. Since 11, Jan. 2009 Taiwan government has implemented a new regulation to extend prohibited area of smoking. 6 months later, the government raised the tobacco consuming tax for the third time to echo the advocacy of WHO to restrict smoking.

### Purpose/Methods

A cross-sectional study design was conducted by using self-developed questionnaire administered to 718 smokers in WAN-HUA district in Taipei City. The purpose of this study was to investigate the influence of the higher tobacco consuming tax to the smoking behavior and quitting smoking intention of the smokers. Two independent variables of the enhancement the tobacco consuming tax and prohibition smoking in public area were explored for their correlations between dependent variables of smokers' quitting intention and the smoking behavior.

### Results

37 % current smokers agreed with price increment policy based on public health, had significantly higher attempt to quit smoking than those who disagreed. The tax increment of NT 20 in 2009 had more impact on changing smoking behaviors and tobacco purchasing than the tax increment of NT 10 in 2006. More than 90% current smokers were willing to follow the policy of "restricted smoking area", and their quitting smoking attempts were significant higher than those unwilling to follow.

### Conclusions

Tax increment, along with extension of restricted smoking area showed strong impact on smoking cessation intention. Smokers with lower grade education, lower income, or joblessness had been influenced more. Policy of constructing no smoking environment and increasing tobacco sale price implemented in Taiwan in recent years did show effect on smoking cessation.

### Comments

The price of cigarette is still low in Taiwan as compared with near countries such as Japan, Korea and Hong Kong. We suggest that there is room for further raise of tobacco tax in near future to enhance the smoking cessation in Taiwan.

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## Measures to track improvements on the effectiveness of clinical smoking cessation

**CHIU Shu-Fen, LIN Chia-Huei**

### Introduction

The effects of second-hand smoke have always been an important issue among the public. Due to the increase awareness of the effects of second-hand smoke, the Taiwanese government is determined to amend laws that will encourage smokers to quit successfully through rehabilitation programs. Since implementation of the rehabilitation programs, Our hospital has been actively involved. However, due to the low smoking cessation success rate of 4.4%, improvements are limited.

### Purpose/Methods

**Purpose:** The purpose of this program was to examine the effectiveness of clinical smoking cessation. This program was conducted in 2005. We have sent staff to participate in tobacco prevention and clinical control care training. The trained professionals were in charge of the smoking cessation program at the outpatient department of medical center in eastern Taiwan.. **Methods:** Changes have been implemented as follows: 1) Follow up by both phone and face to face interview. 2) To gain trust of and provide necessary guidance to patients. 3) Follow-up schedule three days after first clinical visit, every Wednesday after the first three months, and after six months to track the progress of the patient. 4) Content of the interviews: amount of cigarette used during the trial, presence of medical side effects and educated on how to quit smoking.

### Results

Since the implementation of the changes in 2005, success rate have increased from 4.4% to 36.9% in 2007. Therefore, changes made to improve the success rate appear to be effective.

### Conclusions

According to smoking cessation research, regular follow-ups and counseling done by health care professionals, increases the success rate to a certain degree. Studies by our Hospital also confirmed that by assigning cases to individual health care professional to conduct follow-ups, it not only gain the trust of the patients but also better educated them. Through the experience patients share with the others, more people will be benefited.

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## Developing a Program For Smoking Cessation: A Hospital-based Service

**YU Ya-Hui, HSU Wen-Lin, WANG Shu-Chen, CHEN Shu-Chin**

### Introduction

Smoking has become the leading cause of preventable death in Taiwan. There are approximately 17, 500 people die from health problems related to tobacco use (Huang, 2005). The Taiwanese government supports nicotine replacement therapy for clinical patients to quit smoking. However, there is no financial support for inpatients. Rice and Stead (2008) found that nursing intervention for smoking cessation in the hospital can increase a smoker's success in quitting. The purpose of this study is to develop smoking cessation program for inpatient.

### Purpose/Methods

The smoking cessation program conducted by the Department of Community Medicine. We set a framework to guide the staff to help patients to quit smoking. First, the nurses assessed the history of smoking patients and ask for their cooperation to quit. The health manager visited the patient and gave a brief explanation on the intervention of quitting smoking. Then, refer the patient to a smoking cessation clinic and arrange a follow-up service to maintain a continuous support for the patient.

### Results

There were approximately 15-20% of inpatients (100-120 person / day) who had been smokers. Through the smoking cessation program, the staffs are concerned about the patients' disease related to smoking, and are willing to continue with stop smoking education, or consult the health manager about referring patients to stop smoking services.

### Conclusions

The findings of the program and other studies show that smokers were more receptive to quit smoking in the hospital. The nursing staff are the patients' advocates. It is important to help the patients to stop smoking.

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## Session P1.7: Supporting patients with non-communicable diseases

### The Pap smear tests in women post hysterectomy in Taiwan

**LIN Chao-po**

### Introduction

It is said the Pap smear was not mandatory after hysterectomy due to benign disease. However, in our country, women would be called for annual Pap smear examination under current public health policy.

### Purpose/Methods

The Pap test data in Chiayi Christian Hospital from 1st January 2003 to 31st December 2011 were reviewed. The result and the purpose of Pap test and the status of "hysterectomy or not" were analyzed as well as Pap test frequency and quality. Analysis was undertaken using SPSS.

### Results

From 1st January 2003 to 31st December 2011, 428164 Pap tests in 457 women were analyzed. The tests in women post-hysterectomy were 8.51% (36441 tests). The purposes of the exam were for screening 95.71%, for suspicious cancer 0.01%, for follow-up 4.24%, and others 0.01%, respectively. The abnormal cytological diagnosis rate was 1.25%, including ASC-H, AGC, LSIL, HSIL, AIS, cancer. It was higher than the abnormal Pap test rate in all women (0.98%).

### Conclusions

It was said "routine vaginal Pap test is not useful in women status-post hysterectomy for benign disease." However, understanding of the indications for hysterectomy and of the rationale for follow-up of women post hysterectomy is currently limited. In our country, the annual Pap test is recommended in the women older than 30 y/o. Guidelines concerning follow-up by means of vaginal vault cytology tests do not exist. This study only found women post hysterectomy had higher abnormal Pap test rate in Chiayi. Further larger database should be analyzed for the reality.

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## Improving cancer survivals' quality of life by proactive interventional care plan.

**LIN Che-Pin, WANG Chih-Jou, ZHANG Shiu-Feng, HUANG Chih-Chuan, WANG Chung-Kwe, LIOU Shioh-Wen**

### Introduction

After active cancer treatment, cancer survivors might still suffer different psycho-social or physical impacts, which needs continuous monitoring and care. We initiated a total care plan, under the platform of "Cancer Resources Center", integrated medical team and volunteer send out our care and love in order to improve quality of life of cancer survivor in our hospital.

**Purpose/Methods**

By means of providing four activity, including film appreciation, recreational group traveling, reading group and set up Face-book, we wish to compromise cancer survivor's emotional or psychological distress. WHO Quality of life Questionnaire (WHO QOL) was applied to any one who was eligible. If the participant attended more than two activities, post test of WHO QOL was done. Pair-t test statistics was applied comparing the QOL before and after activity.

**Results**

We hold proactive care activities in four ways, totally there were 582 person-time joined. One thousand twenty one persons joined in more than two activities and filled the pre- and post-test of WHO QOL Questionnaire. The analysis revealed 9 items of quality of life improved significantly ( $p < 0.05$ ). The mean score of overall satisfaction of quality of life improved from 3.31 to 3.48 ( $p < 0.110$ ).

**Conclusions**

Proactive interventional care plan initiated by hospital staffs and volunteers may improve some aspects of quality of life. From our experience, the care delivered from hospital staff may more easily get greater response.

**Comments**

Continuity of proactive care should be applied to cancer survivors beyond their medical treatment to improve their quality of life and as a way of psychological rehabilitation.

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## Nursing Case Management Model Could Contribute to Positive Clinical Outcomes in Cancer Patients

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HUANG Mei-Jan, CHEN Shu-Chuan**

**Introduction**

Case management is a new nursing care model in cancer patients. It utilizes a multidisciplinary and collaborate approach to patients' care, so that diverse medical resources can be deployed integrally. Case managers serve the role of patients' advocate and persistent companion in patients' treatment process. We implemented case management model for fresh cancer patients in our medical center since October 2009. This paper was to analyze the cancer case management database and evaluate the outcomes and effectiveness of the model.

**Purpose/Methods**

The study was to present the effectiveness of nursing case management for cancer patients in a Taiwan medical center. The outcome variables included of percentages of patients accepted treatment in our medical center, treatment withdrawing rate, treatment completion rate, improving rate of patients' treatment compliance, patient satisfaction, and staff satisfaction. The study employed a descriptive study design. The cancer case management database (January to August 2011), patient satisfaction questionnaire, and staff satisfaction questionnaire were used to measure the effectiveness.

**Results**

A total 3,754 of fresh cancer patients were recruited; it included 12 major cancers. 3,485 patients accepted treatment; the treatment acceptance rate was 92.8%. Initially, 78 patients rejected treatments and the cases were reduced to 40 after case managers intervene; withdrawal cases were decreased from 14 to 5. Total improving rate of treatment compliance was 51.09%. Additionally, first-line treatment completion rate was 97.5%. Questionnaire survey showed mean scores of patient and staff satisfaction were 94.3 and 87.7 of 100 separately.

**Conclusions**

Our study results presented the case management model for cancer could gain high treatment acceptance rate, high treatment completion rate, and high patient and staff satisfaction scores. In addition, the model could improve patient treatment compliance rate. The implemented of case management could contribute to positive clinical outcomes in cancer patients.

**Comments**

Our research just investigated several simple limited outcome variables. In the future, it is necessary to do more studies to supply more information about the effectiveness of cancer case management. The future study might be able to examine the cost-effect issue and the patient disease outcome. The strict experimental study design should be use to confirm the effect of case management for cancer patients.

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## Survival of women with cervical cancer according to Pap smear screening exposed.

**MAYWEN Chen, TUNG HAO Chang**

**Introduction**

We assessed survival women with cervical cancer according to Pap-smear screening exposed status in order to elucidate the efficacy of screening based on hospital-based cancer registry data.





**Purpose/Methods**

Data used for analysis were collected from the database of cancer registry at Changhua Christian hospital which located in the middle of Taiwan. The screening history was obtained from routine outpatient service profile. The survival of 5888 women with cervical cancer which included carcinoma in situ and invasive cancer treated at Changhua Christian Hospital between 1999 and 2011 was evaluated on December 31, 2011. Kaplan-Meier survival curves calculated with regard to Pap-smear exposed were compared by the log-rank test.

**Results**

The ten, twenty, thirty years survival rate for women not exposed to screening ( $n = 3219$ ), and for women exposed to screening ( $n = 2669$ ) was 59.7%, 47.0%, 29.6% and 93.6%, 89.9%, 68.6%, respectively ( $P < 0.001$ ). Among those women exposed to screening, 67.5% women had received at least two Pap-smear tests before having cervical cancer. Compared to women not exposed to screening, high proportion of carcinoma in situ was found for women exposed to screening.

**Conclusions**

In this study, the linkage between Pap smear screening and cancer registry makes a demonstration for elucidating the impact of screening on cervical cancer. That result in our study still shows the great benefit for the women exposed to screening compared with those in the absence of screening.

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## Day Care Services Outcomes in Cancer Resource and Information Center (CRIC) of Chang Gung Memorial Hospital at Linkou

### CHENG Su-Fen, LI Yi-Xi, CHANG Xiang-Wen

**Introduction**

For giving better services and releasing the tremendous pressure with body and spirit in cancer patients, we integrate the relevant departments of hospital to establish a Cancer Resource and Information Center (CRIC) performed by a single window service model. The CRIC begun to runs in 2009. The average services times comes to 275 people-times per month. The questionnaire results show the degree of satisfaction are over 90% in services convenience, personnel attitude, hardware comfort, demand satisfaction and total evaluation.

**Purpose/Methods**

The objectives are to offer excellent day care services through the CRIC to help cancer patients and relatives overcoming the difficulties during the course of disease. The targets of CRIC are

"Patients are the Center" and "Do the best". Besides, the cancer patients groups or civic bodies' activities are encouraged to give patients full supports and experience sharing.

**Results**

1. Body and mental care courses are performed 157 times in day time in CRIC. The total services times comes to 1,301 people-times a year. 2. Twenty-two mutually supportive group have conducted 108 times activities for increasing the knowledge in medical issue. Total services time comes to 3,383 people-times a year. 3. Twenty volunteers who had cured from breast, oral, colon cancer and nasopharyngeal carcinoma share the patients with the experiences. Service times are over 1,000 people-times a year.

**Conclusions**

The demands of knowledge in medical, social and mental aspects for cancer patients are very high. A single window service model CRIC can instantly offer all the resources and information patients and relatives need. Through the overall day care services, treatment and support from medical service team, family, and friendly group, the cancer patients do really get positive help during the course of disease and even can fully recovery from the disease.

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## Impact of hospice shared care program on advanced cancer patients in Taiwan

### WENG Yih-Chyang, YAO Chien-An, CHIU Tai-Yaun

**Introduction**

Quality of life in healthcare has been extended to terminal disease nowadays. Hospice care was an approach that improved the quality of life of patients facing the problems associated with life-threatening illness. The Bureau of Health Promotion, Department of Health, in Taiwan, incorporated hospice care strategies into their overall healthcare policy since 2004. In addition to hospice inpatient program and hospice home care program, a pilot program of hospice shared care has been delivered since 2004, especially for advanced cancer patients.

**Purpose/Methods**

To enhance quality of life for advanced cancer patients through hospice care was one of main strategies promoted by the Cancer Control Policy Committee in the Bureau of Health Promotion, Department of Health. Under the cooperation between Taiwan Academy of Hospice Palliative Medicine and the Bureau of Health Promotion, Department of Health, a pilot program of hospice shared care, which may extend the proximity and

convenience of hospice care services and may increase the utilization of hospice care in advance at the primary care unit.

### Results

The number of hospital joined the hospice shared care program increased from 8 to 71, including medical center and community hospitals. The number of advanced cancer patient serviced by the program was 17500 in 2010. In lots of surveys and studies of hospice shared care program, the cost-effectiveness was high and the level of satisfaction for this service in advanced cancer patients were increased. The coverage rate of hospice care service increased substantially from 16% in 2004 to 42% in 2010.

### Conclusions

Although the good results of hospice shared care program were presented in lots of reports, we should carry on the national audit of the program in the future and push more hospitals to joint it, especially the community hospitals.

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## The exploration of the health-related quality of life for colorectal cancer patients before and after receiving surgery

**LIN Tzu Han, MA Chenchung, CHIU Herng-Chia**

### Introduction

The purpose of this study was to explore health-related quality of life and anxiety, depression for colorectal cancer patients before and after receiving surgical treatment.

### Purpose/Methods

The design of this study is a prospective study. Data collection was conducted at a medical center in southern Taiwan during November 1, 2009 and November 30, 2010. The target population for this study is every patient who has physician-diagnosed colorectal cancer and receiving surgery for treatment with conditions before surgery, after surgery for one month, for three months, and for six months. Total 81 patients for this research and analysis.

### Results

This study indicated that, with the QLQ-C30 measure, overall quality of life, role function, emotional function, and cognitive function have positive dimensions. Whereas fatigue, nausea and vomiting, pain, insomnia, and constipation have negative dimensions. The result showed that after surgery is better than before surgery. With HADS measure anxiety and depression, the treatment results of after surgery are better than before

surgery. This result indicated that cancer patients perceive better physical condition after surgery and improve anxiety and depression.

### Conclusions

The findings have implications for medical doctors and hospitals administrators for planning and implementing effective health policies that will meet the unique needs of colorectal cancer patients. Such research is particularly relevant for hospitals to reduce patients anxiety and depression and to improve their quality of life.

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## Unnatural Death of Cancer Patients in Taiwan

**LIN Po-Hsien, LIN Chao-Cheng, LIAO Shih-Cheng**

### Introduction

Cancer patients may die by unnatural deaths other than their diseases. However, few studies have addressed this issue. Exploring the characteristics of cancer patients' unnatural death may help improve the patients' total care.

### Purpose/Methods

We conducted a retrospective cohort study of cancer patients from 1985 to 2009 by linking databases of the Taiwan Cancer Registry and the National Mortality Files in Taiwan. Standardized mortality ratios (SMR) and 95% confidence intervals (CIs) were estimated based on the general population rates of unnatural death stratified by age, sex, and calendar year. Demographic characteristics of patients with unnatural death were explored.

### Results

Among 950,512 registry cancer patients observed for 4,227,607 person-years, 5914 unnatural deaths were noted. The crude mortality rate of unnatural death is 139.89 per 100,000 with SMR = 1.27 (95% CI = 1.24 to 1.31). The risk for cancer patients to die by suicide (SMR=2.48, 95% CI 2.39 to 2.58), accidental fall (SMR=1.17, 95% CI = 1.09 to 1.26) and injury undetermined whether accidentally or purposely inflicted (SMR=1.70, 95% C.I. 1.53 to 1.89) were higher than general population. Cancer patients have lower risk to die by motor vehicle traffic accidents (SMR = 0.77, 95% C.I. 0.73 to 0.81) than general population. Patients of male gender, younger age at diagnosis, and being divorced have higher risks for unnatural death.

### Conclusions

Cancer patients have high risks to die from suicide and some other accidents. Diseases might limit cancer patients' activity and prevent them from traffic accidents. However, it might



cause them to die more easily from accidental falls. Preventing cancer patients from dying of unnatural deaths should be incorporated into the total cancer care.

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## Comprehensive nutrition care for breast cancer cases

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### Introduction

Breast cancer is the top one cancer incidence among females in Taiwan. Nutrition plays an important role in breast cancer treatment and the prevention of its recurrence. Through a needs assessment, we found that breast cancer cases had problems in weight control, inadequate and poor-balanced diet. Accordingly, a comprehensive and multi-strategy approach to nutrition intervention becomes essential in the health promoting health care for breast cancer cases.

### Purpose/Methods

We provided breast cancer patients with this comprehensive nutrition intervention in outpatient, hospitalization and discharge services. This program is based on the multi-strategy approach. An inter-sectoral team was established to refer cases in need of nutrition counseling. We held live healthy food presentations particularly for breast cancer cases, availability of cancer-related education sheet and seminars, provision of weight control programs for the survivors who are overweight or obesity, and nutrition support for the inpatient with malnutrition.

### Results

For inpatients, intake of calorie and protein significantly increased after nutrition intervention. 93 discharged patients were referred to the nutrition clinic. After the nutrition education, the knowledge of patients increased by 14 % to 43%. It also achieved 100% patient satisfaction. 20 patients participated in the weight control program through which participants averagely reduced 2 kg and 6 kg at most. 3 nutrition promotion activities were held with 760 participants in total. The regimen juice and nutrition sheet were provided.

### Conclusions

We provided breast cancer patients with this comprehensive nutrition intervention in outpatient, hospitalization and discharge services. In hospitalization services, the nutrition intervention significantly improved nutritional status of malnourished patients. To discharged patients, the nutrition intervention enhances 14-43% of their knowledge. Also, we help breast cancer survivors who are overweight and obesity losing their

weight and body fat (average reduction of 2 kg and 1.38 kg, respectively), which may lower the risk of recurrence and improve their life quality.

### Comments

This study proved the effectiveness of the comprehensive nutrition care for breast cancer cases. Therefore, it is important to develop nutrition care programs in hospital for successful breast cancer treatment and improving quality of life for the survivors.

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## Oral screening to improve health gain of people with high risk of oral cancer

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### Introduction

"Betel nut" was identified as a carcinogen by World Health Organization harm oral health serious. Research pointed out that tobacco and betel nuts have synergy effect on oral cancer. In Taiwan, male oral cancer was the fourth leading cause of death of cancer. But oral cancer was cured rate of up to 80% if early diagnosis and treatment. Our government in 2010 provide free of oral mucosal examination for high-risk group, like smoking or betel nut chewing.

### Purpose/Methods

Our government provided people older than 30 years and Smoking or betel nut chewing free oral screen, and try to understanding tobacco and betel nut harm oral health and there relationship. To promote means for people to have oral mucosal screening: 1. Community screening service; 2. the establishment of cancer screening counter; 3. Build oral screening special clinic; 4. hospital health education promotion; 5. playing self-made propaganda skits

### Results

There were 2,995 oral mucosal screening people in 2010. All screening case abnormal rate was 13.8% (N=412) and cancer rate was 0.6% (N=17). The only smoking, only chewing, smoking + chewing abnormal rate were 8.6%, 18.2%, and 30.5% separately. The more serious rate was 26.8% and 42% in only smoking abnormal group and all used group. The smoking group's, betel chewing group's, smoking + chewing group's, and quit chewing + smoking group's OR were 1.4, 3.3, 6.6, and 3.5 separately.

### Conclusions

Smoking and chewing betel nuts are all risk factors to oral health. Both of smoking and chewing betel have higher abnor-

mal rate then smoke or chew betel pure population, and screening results severity is relatively worse.

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## Increasing abnormal patient screened by colorectal cancer test follow up

**CHIU Shu-Pi, HUNG Shih-Yu**

### Introduction

The Department of Health reported colorectal cancer was the first leading cause of incidence and the third leading cause of cancer death in 2008 in Taiwan. Accounting research people regular screening by fecal occult blood test (FOBT) can decrease 15~33% mortality rate. The government provides free FOBT for high risk people who age in 50-69 every two year. But abnormal cases reject follow up because of they are anxious about he/she may have cancer.

### Purpose/Methods

Our research aims to increase abnormal case screening by FBOT return to the hospital rate. First, we tried to understand why case didn't back to the hospital by telephone interview. The low return rate reasons have lower information about colorectal cancer screening and cases of lack of medical convenience. We make series strategies and programs for these reasons by across departments.

### Results

For the abnormal cases of colorectal cancer screening we provide: 1. Health education with telephone: case manager send correct screening information and reduce anxiety; 2. Improve the hospital information system: the doctors through computer prompts to encourage cases diagnosed. 3. Registered and active assistance to see the doctor: reminded time and shorten the waiting time. By the above improvements, the case back to the clinic abnormal screening rate of 66.8% (April-June 2011) increased to 81.9% (August-October 2011).

### Conclusions

Through different improve processes can enhance the accessibility of public health care and reduce medical information asymmetries. These also enhance the screening of colon cancer cases diagnosed anomalies effectively, in order to achieve early detection and early treatment.

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## A Clinical Investigation of Treatment-related Regret in Women with Early-Stage Breast Cancer

**CHANG Su-Mei**

### Introduction

Regret: Treatment-related regret is a negatively counterfactual emotion associated with thinking about a past operational choice. According to two-stage model of counterfactual generation (Roes & Olson, 1995), motivational variables (e.g., outcome valence) and mutability variables (e.g., exceptionality) both can influence counterfactual generation. Thus, to identify some factors that makes women with early-stage breast cancer feel regret could be an effective route to improve medical decision making and prevent regret.

### Purpose/Methods

This study aims to investigate if women with early-stage breast cancer in Taiwan suffer from treatment-related regret, and explores the relationship of treatment-related disturbance of breast cancer, inconsistent behavior of decision, and regret. The study used questionnaires and the subjects of the questionnaires consisted of 47 women diagnosed with early-stage breast cancer who had undergone primary surgery recruited from the department of breast surgery and breast cancer alliances. A choice of surgical interventions was available to all participants ; 27.7% (n=13) choice mastectomy(MAS) and 72.3% (n=34) elected breast-conserving treatments(BCS).

### Results

The result revealed that, part of the women with early-stage breast cancer suffered from post-surgery regret. Women who had undergone mastectomy manifested significantly higher regret than women who had undergone breast-conserving surgery. Hierarchical regression analysis revealed that, treatment-related disturbance of breast cancer, inconsistent behavior of decision could significantly predict regret, especially inconsistent behavior of decision. The present results point to the promise of two-stage model of counterfactual generation, and particularly the inconsistent behavior of decision, for predicting decisional regret.

### Conclusions

The women with MAS have more regret than those with BCS. Also, body/self-image's disturbance is a significant factor. However, Mood's disturbance affects both MAS and BCT groups. This result doesn't mean that BCT is the best option, but we should spend more time illustrating potential pros and cons of options. In this way, we could improve quality of decision making successfully. Specifically speaking, we need to clearly recognize patient's expectation of decisional role and operational preference, and then help them to involve decisional role and analyze feasibility of their preference step by step.

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## Stepping Toward the Road of Recovery through Total Healing

**CHEN Shu-Chen, LEE Wen, HUANG Paul**

### Introduction

As the threats of cancer strengthen, the strike against patients and families to the road of anticancer has intensified. Advancing the concepts of total healing and the integration of cancer care resources network, our hospital provides continuous, accessible, and multiple supports services to the community and cancer patients.

### Purpose/Methods

We establish the cancer care team and provide referral mechanism. We also develop supporting group through serving cases and developing group working model by giving medical knowledge lecture and patient social group in assisting adjustment both physically and mentally. In addition, we recruit volunteers for cancer patient supporting group. And we set up unified resource service counter and supporting network platform for cancer patients.

### Results

By 2011, we served more than 2,000 patient-time including providing cancer information, recovery appliances, sentimental support, and community resource referral. Furthermore, there are over 90% of served patients responding our services are helpful.

### Conclusions

Through the operation of resource network, cancer patients can share their experiences in treatment and recovery. By caring, encouraging, and exchanging information for receiving care, the cancer patients can improve positive attitude in receiving care, treatments, and having more confidence. And cancer patients become more actively participated activities by personal health concerns from community. In implementation of total healing, hospital not only provide treatments but also promote the empowerment of patients and families on the process of treatment and recovery.

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## A Preliminary Result of One-Stop Patient Navigation Service for Cancer Care in Taiwan.

**WANG Cheng-Hsu, HSIAO Shu-Chun, TE-WEI HO Te-Wei, SU Lian-Ying, LU Chia-Ling, CHEN Li-Chun**

### Introduction

Cancer has been the leading death cause in Taiwan for twenty-nine years. There are over 400,000 cancer families need a better support network to help them to face the selection of cancer treatments, caring problems after treatment, and other challenges following the cancer. This project is trying to build a new cancer resource network to meet cancer patients needs in Taiwan.

### Purpose/Methods

The goal of this project is to assist the hospitals that provide cancer care to build a one-stop cancer resource service to help cancer patients and their families connect to other services or resources in the beginning. Personnel training, ideal learning and sharing meeting, focus group for leaders of hospitals, and clinical visits are used in this project to spread this new service method and system.

### Results

There are 52 hospitals join this project and set up a one-stop cancer resource service center. They have helped 57,980 people in total from 2011 March to October, including cancer patients, family members of patients and the general public. Sixty-four percent cases (36,885 cases) are cancer patients and 82% of them are newly diagnosed patients. The service content include providing disease related information(39,763; 69%) , emotional support(22,814; 39%) , linkage of resources(20,079; 35%).

### Conclusions

Most hospitals have been striving to enhance the quality of medical treatment, but not focus on solving patients needs. However, a newly diagnosed cancer patient need not only medical treatment, but also other support resources. Therefore, it is necessary to establish a cancer resource service center in hospital and build a resource network. It can assist cancer patients and their families to access to what they are really in need and eventually move them toward the road of recovery.

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## Correlation between Status of Hope and Symptom Distress in Patients with Breast Cancer

**YU-CHEN LIAO, YU-CHUN YIN**

### Introduction

Facing the of the breast cancer patients who have to confront the symptoms of chemotherapy & the distress of the physical, spiritual & social activity, For them "Hope" should be the main strength & internal resource to overcome those distress & symptoms, but there are a lots of factor influencing patient "Hope" level,

**Purpose/Methods**

The aim of this study was to explore the relationship between the symptom distress and hope level of the breast cancer, the objects were from the OPD & the Chemotherapy Treatment Room in a Medical Center in Taichung, study period from July 2009 to October 2009. A cross-sectional design was used, 130 valid breast cancer patients selected by convenience sampling. The measurement instruments included Individual basic document, Symptom Distress Scale (SDS), Herth Hope Index (HHI). The instruments had undergone internal consistent reliability test and expert validity verification, The SPSS for the Window 12.0 edition was applied. The descriptive statistics, average, standard deviation, percentage, One-Way ANOVA, Pearson's correlation and Stepwise Multiple Regression were computed to analyze data.

**Results**

(1). The average score of patients symptom distress was 44.7, characterized as mild degree. (2). The average score of patients hope level was 37.3, characterized as moderate. (3). There was significant positive relationship between the disease severity & symptom distress, the disease severity is higher, its symptom distress was higher also. (4). There was a negative significance difference between the symptom distress & the status of hope.

**Conclusions**

To reduce the symptom distresses in breast cancer patients is to enhance the patient's status of hope, to promote the level of her hope. According to the patient subjective reception & individual specification, to provide the health instruction & nursing care to reduce the symptom distresses of breast cancer patients. Hope this study will be a guide in nursing practice & nursing education

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## The study of traditional medicine channels and collatorals massage nursing on the involvement plan to improve the cancer patient stress and sleep quality

**LEE Tsae-Fen, ZHOU Ya-hui, LIN Shuv-Chung, CHUNG Hui-Ju, HUANG Tzu-Hsin**

**Introduction**

Is hospitalized cancer patient in my courtyard Traditional Chinese medicine hospital ward to account for 28%, to the pharyngeal cancer occupies many, cancer patient accepts China and the West medicine treatment period, frequently can have the ache, the stress high, and loses sleep and so on the ill symptom and the side effect, but affects patient's life quality, how pene-

trates the Traditional Chinese medicine channels and collaterals acupuncture point massage to nursing the assistance sickness to reduce the pressure and the promotion sleep promotes to nurse the quality, is very important.

**Purpose/Methods**

The discussion Chinese medicine channels and collaterals acupuncture point massage nursing the involvement plan to be hospitalized patient pressure to the cancer Traditional Chinese medicine and the sleep quality improvement situation, provides the nursing staff to illuminate protects the cancer Traditional Chinese medicine to be hospitalized reference patient. The Nursing involvement plan and the research tool cancer patient pressure index and the Pittsburgh sleep quality meter by the research team reference design Traditional Chinese medicine channels and collaterals acupuncture point massage. After The collection investigation Traditional Chinese medicine is hospitalized the cancer patient's main question and the Traditional Chinese medicine channels and collaterals acupuncture point massage nurses the involvement plan implementation the result. The Traditional Chinese medicine channels and collaterals acupuncture point massage nurses the involvement plan is the reference design channels and collaterals massage nurses the work, passes the affiliation to follow the passages through which vital energy circulates, the acupuncture point, after the muscle, utilization and so on Pi Bu by the Traditional Chinese medicine according to, presses, pushes, pulls out, rubs and so on the technique, penetration feel seeks the channels and collaterals response disease's outward manifestation, may dredge the channels and collaterals, promotes to sleep soundly, in addition the affiliation by the volatile oil fragrant therapy plant concentration refinement and so on the flowers and plants, medicinal herbs which but results in, using the channels and collaterals massage way function to the human body, strengthens calmly, reaches the prevention and the treatment effect. Cancer Chinese medicine in-patient each week executes two times, each time 30 minutes, altogether eight.

**Results**

Altogether receives the document 26 people from September 25, 2007 to October 30, the research discovered before the implementation the Chinese medicine is hospitalized the cancer patient has 60% cancer patient pressure index to be bigger than for 85 minute, the patient has the feeling muscle to tie tight, the headache question. Accounts for 56.2% using the Pittsburgh sleep quality meter by 11-16 minute many, the patient goes to sleep the time from the bed on equally is 30 minutes to 1 hour, after also can go to sleep is easy to wake, the sleep receives the disturbance main reason is ill for the ache and the body, also has 40% patient to have to take sleeps soundly the medicine to be able to go to sleep. After the implementation the Traditional Chinese medicine is hospitalized the cancer patient to nursing service the degree of satisfaction is 98%, also has 94% expression to have the improvement shoulder neck after the fragrant massage to be ill and the headache question. The sleep quality meter accounts for 85% by 6-10 minute, 75% patient from go to bed to goes to sleep the time to reduce to below 30 minutes, some 88% person expressed the sleep quality obtains the improvement.



### Conclusions

The Traditional Chinese medicine assistance therapy involvement may assist the cancer patient to reduce the pressure and the improvement alleviation sleep the question, the development Chinese medicine channels and collaterals acupuncture point massage and the union fragrant therapy nursing, not only may promote patient's life quality and the cancer treats according to protects the effect, also can display the characteristic which the Traditional Chinese medicine nursing and the nursing quality is worth continuing to promote.

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## Breast Cancer Patients' Access To Specialists, Sources Of Knowledge And Participation In Support Groups

**FEREKYDOU Elisa, FILIPPIDIS Filippas, KARAGEORGOPOULOU Konstantina, TOUNTAS Yannis**

### Introduction

Breast cancer patients need to see a specialist and get treatment as soon as possible after their diagnosis. Moreover, given the introduction of innovative and effective treatments for breast cancer during the past few years, patients need valid information regarding their disease and therapy, as well as support during and after treatment.

### Purpose/Methods

The objective of this study was to determine which specialist breast cancer patients refer to immediately after they notice a tumor, whether they feel informed and which their major sources of knowledge are. 255 female patients (mean age 52.2 +/- 10.9 years), undergoing adjuvant therapy for breast cancer were interviewed. All patients had been diagnosed with non-metastatic breast cancer during the past 12 months. The questionnaire was custom-made and comprised of 23 questions.

### Results

62.7% of patients first noticed the tumor during self-examination. Most of them first visited a gynecologist or breast surgeon, but women of lower education were more likely to visit a family doctor ( $p < 0.001$ ). 25.9% and 32.9% of patients felt poorly informed regarding type of treatment and possible course of disease respectively. Major source of information was their physician (84.7%-93.7%); internet was a popular source among younger, well-educated patients ( $p < 0.001$ ). Only 16.1% had sought help in support groups for cancer patients.

### Conclusions

Breast cancer patients often discover their tumors through self-examination and usually seek advice from their gynecologist or a breast surgeon. They trust their doctors to obtain infor-

mation, but they feel inadequately informed about their disease and treatment. Information regarding support groups for cancer patients does not seem to be readily available also, in almost half the cases. Physicians could use their influence to inform patients about the help they can get from such organizations.

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## Patient Satisfaction the 1st Course Outpatients' Chemotherapy Quality Services in Central Taiwan.

**MAYWEN chen, TUNG-HAO CHANG**

### Introduction

This study utilizes cross-sectional questionnaire investigation to demonstrate the relationship model between the quality services of outpatients' chemotherapy treatments satisfaction in central Taiwan.

### Purpose/Methods

We collected data from 01/04/2009 to 31/07/2009 and 01/09/2010 to 31/12/2010, there were valid questionnaires 185 outpatients' chemotherapy treatment patients included. Patient opinions were assessed using a Likert type ordinal scale for satisfaction surveys. To gather SPSS/Windows 15.0 statistics studies including descriptive analysis, reliability analysis, factor analysis, and path analysis to are used to analyze the data.

### Results

Descriptive result shows that 77.8% of respondents are female ; 28.1% are aged 50-59 years old ; 63.2% of patients are breast cancer. The result shows that the overall satisfaction have significant effect on the physicians' service, case management service ( $p < 0.001$ ) and chemotherapy treatments service ( $p < 0.001$ ); environment satisfaction ( $p < 0.001$ ) have significant effects on the physicians' service ( $p < 0.001$ ), case management service ( $p < 0.001$ ) and chemotherapy treatments service ( $p < 0.001$ ).

### Conclusions

In conclusion, this study has identified the several aspects of patients have directly affected the quality of their outpatients' chemotherapy treatment, such as physicians' service, case management service and chemotherapy treatments service. We must always make sure that patients the personalized therapy is to the most effective and safest dosage from the outset of treated in timely fashions to increase the survival rate.

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## An innovative nurse led health education programme for end stage heart failure (ESHF) patients with left ventricular assist device (LVAD) in a Hong Kong cardiothoracic surgical department

**TSE Gregory King Tong**

### Introduction

To introduce a nurse led health education programme for an advanced non-transplant surgical treatment for patients suffering from end-stage heart failure (ESHF). From August 2010 to August 2011, we completed five left ventricular assist device (LVAD) implantations for ESHF.

### Purpose/Methods

The purpose is to implement a tailor made and nurse led health education programme for ESHF with LVAD. This is a newly designed programme in Hong Kong as a choice of therapy for patients awaiting heart transplant. Left ventricular assist device (LVAD) implantation for ESHF have been accepted as an effective therapy worldwide as a bridge to transplant and destination therapy.

### Results

From August 2010 to August 2011, five patients with ESHF were selected for LVAD implant in our cardiothoracic surgical department. Continuous-flow Heartmate II was used. Nurse led health education program began when patients were admitted to our department. Having completed the programme, LVAD patients empowered to have a high degree of being independent with activities such as bathing, changing dressing with aseptic technique, preparing meals, monitoring LVAD function and vital signs. All five patients regained confidence to enjoy a quality of life

### Conclusions

The innovative nurse led health education programme for end stage heart failure patients with left ventricular assist device (LVAD) have been proved to be effective. All five patients were discharged home after the health education programme. In the near future, more patients will be benefitted from the health education programme with this kind of new therapy.

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## The introduction of DASH to hypertensive outpatient with a different diet culture

**LIN Meng-Yu, YU Pi-Ru, HUANG Hsing-Ni, MA Frances C., CHANG Chuan-Hsun**

### Introduction

Studies show that using 「DASH」 (Dietary Approaches to Stop Hypertension) for two weeks can reduce 8-10% blood pressure. The hypertension education guideline in US include DASH, low salt intake, exercise, weight reduction and alcohol control as the life style intervention for hypertension. The introduction of DASH in a different dietary culture is challenge for the control of hypertension.

### Purpose/Methods

To enhance hypertensive outpatient accepted the concept of DASH after health education program over 80% by the way of non-medication treatment of hypertension. 250 patients with hypertension were recruited from hypertensive outpatient. We delivered DASH education program for these patients. Questionnaire about the knowledge and practice of DASH diet was given before and after the education intervention. Evaluation for satisfaction was also given at the same time. A DASH lunch box and education pamphlet was given after the education session.

### Results

There were 239 questionnaires received before education program and 235 questionnaires received after the intervention. 205 questionnaires were valid for pre-posttests analysis. The highest improvement was the concept of DASH (13.2% to 85.4%) and the dairy intake (41.5% to 96.6%). The least improvement was the effect of DASH on chronic disease (62.4% to 82.0%). Most people realized that the cooking method for DASH should be steamed and roasted (69.3% to 98.5%). The total satisfaction rate for DASH education was 97.6%.

### Conclusions

The education program was developed by multidiscipline (physician, physical therapist, and dietitian). Patients improved knowledge about DASH after the intervention. 90% patient accepted the concept of DASH after health education.

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## Effect of Body Mass Index on Self-Care in Patients with Heart Failure

**HSIAO I-Yu, LIN Tin-Kwang, CHEN Chih-Wei, CHEN Chia-Min, CHEN Chiu-Yuan**

### Introduction

It is well known that complications of heart failure can be reduced by implementation of self-care program in patients' daily activity. Intervention with such program will be beneficial for the patients. There are many factors influence the performance of self-care program. Obesity is proposed to be one of the important factors. The relationship of body mass index and the performance of self-care among heart failure patient will be investigated.

### Purpose/Methods

To investigate the association between BMI and the ability of self-care. Patients older than 20 years old and were diagnosed with heart failure in a regional teaching hospital was enrolled. The data were collected by structural questionnaire for self-care score and the data analyzed by SPSS 18.0 software.

### Results

One hundred patients were enrolled. The mean age was 66.47  $\pm$  12.91 years old (mean  $\pm$  SD), males were predominant (74 %). Sixty-five percent were unemployed. The self-care score in all participants was 45.25 points (SD: 2.83). BMI increase 1, the self-care scale increase 0.141.

### Conclusions

Our results show that self-care ability is closely related to BMI. Adequate patient education and timely intervention can have profound impact on promoting patients quality of life.

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## Improving posture balance ability of the stroke patients through balance training project

**CHEN PEI JUNG**

### Introduction

The project is aim to enhance the patient's initiative in the ability of posture balance to achieve the effectiveness of fall prevention and the holistic recovery of patients. Implementing balance training rehabilitation program to increase the load capacity of ipsilateral stroke patients, the balance and symmetrical posture on both sides of the body can also be improved. The balance ability of patients improves by 10.6 points from 6.8

to 17.4 points in the post-test. More over, the incidence of patient with loss of balance decreases from 11.4% to 5%.

### Purpose/Methods

Purpose 1.To reduce the incidence of patient with loss of balance to 5% 2.To achieve the implementation of balance training program in patients to 100% by nursing staff. 3.To improve the balance of stroke patients to 10 scores. Methods 1.Drawing up a "balance training care program" 2. Producing a teaching material of balance training program. 3. Holding an education and training program for nursing staff.

### Results

Training to increase the load capacity of ipsilateral stroke patients, to improve balance and posture on both sides of the symmetry; balanced by the degree of pre-test post-test to upgrade to 6.8 points to 17.4 points, equilibrium levels increased an average of 10.6 points, the balance of the patient be upgraded by the paired t-test of the significance of statistically significant ( $P < 0.01$ ), the other patients the incidence of loss of balance from 11.4% to 5% of the results

### Conclusions

Limits of this project include a variety of different parts of the stroke patients, and a few for special diagnosis of brain stem stroke patients or small not to filter out, there may therefore affect the results and post-test results. In addition, the balance of the overall assessment should include other dimensions (such as: sensory, perceptual functions, etc.), these are to be multi-dimensional assessment Measure the patient's balance.

### Comments

During of the project, the balance training and physical therapy training methods are similar in concept , There is no conflicts, the physical therapy training time only about 30 minutes of day rehabilitation, then return to the ward , the rehabilitation training program to teach balance exercises, the patient's own balance, the great help for self-balancing features ,and extend to overall functional recovery.

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## Exploring the influencing factors for hypertensive patients' intention to body weight control

**HU YI-CHUN, LIN CHIN-SUAN, SHEN HIS-CHE**

### Introduction

Hypertension is one of the risk factors for cardiovascular diseases, resulting to a substantial burden on public health. Because evidence showed that there is a strong correlation between high blood pressure and obesity, growing obesity prob-

lem has become a major public issue in the world. Although most of hypertensive patients understand the importance of body weight control, only few of them achieve the ideal body weight. The aim of this research is to study the factors that affect patients' intention to body weight control.

#### Purpose/Methods

We gave questionnaire to the hypertensive patients in an internal medicine clinic. Participant criteria were those taking antihypertensive agents and having higher than standard weight. Questionnaire included basic demographic information, intention to body weight control, social support, and experience of body weight control. We excluded the hypertensive patients with normal body weight or not suitable for body weight control.

#### Results

There were 174 effective questionnaires, with 46.6% males and 53.4% females. 79.3% of participants declared that they took antihypertensive medicine on a regular basis. The results showed that 53.4% patients agreed that they were overweight, and 54.6% had BMI over 24 kg/m<sup>2</sup>. But only 34.4% had attempted to decrease their body weight. The intention to decrease body weight is significantly correlated with gender, self-perceived body condition, attitude towards obesity and social support ( $p < .01$ ).

#### Conclusions

The successful body weight control in hypertensive patients is closely related to the self-perceived over weight, positive attitude towards body weight control and social support. The future antihypertensive program should target on these factors to maximize the effect on patients' intention to body weight control.

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### Effects of ear acupressure pressure therapy on physiological and psychological indicators in cardiovascular disease

#### LEE tsoyinglee

#### Introduction

The cardiovascular disease is the second leading cause of death in Taiwan. Therefore, it is very essential to place importance on improving the cardiovascular disease patients' physiological and mental health and providing appropriate nursing care. The ear acupressure is a traditional treatment of Chinese medicine which is non-invasive, simple, convenient, safe, economic and widely adopted.

#### Purpose/Methods

Aim of this study is to evaluate the effects of ear acupressure on cardiovascular disease patients. Through the random assignment method, this study targeted on 150 cardiovascular disease patients. 75 samples from the experimental group were given the ear acupressure treatment for 10 weeks and 75 samples from the control group were only given regular care. The physiological index includes the heart rate variation, blood pressure and body components while the mental index includes the anxiety, depression and health awareness.

#### Results

The findings of research show that the mental index depression ( $F 8.06, p .01$ ) has a significant statistical difference; the physiological index heart rate variation ( $F .01, p .98$ ), blood pressure ( $F .36, p .55$ ), body component ( $F .05, p .83$ ), anxiety ( $F .08, p .78$ ) and health awareness ( $F 2.58, p .11$ ) do not have a significant statistical difference.

#### Conclusions

Conclusion: Although the result shows that the ear acupressure treatment can only reduce the depression of long-term cardiovascular patients, it is widely adopted by the cardiovascular disease patients and can be easily self-managed. Based on the structure of this study, it is recommended to use the duplicate research evaluation design in the future in order to understand the change of trend and follow up the long-term effect.

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### An Investigation of Using Diabetes Mellitus, Hyperparathyroidism, Gouty Arthropathy, Hyperlipidemia and Hypertension as Factors to predict the occurrence of Kidney Stones

#### CHEN Chih-Tang, HSU Chien-Yeh, KO Ming-Chung

#### Introduction

So far, there are lots of speculations of certain diseases could cause the formation of kidney stones, we choose five diseases (diabetes mellitus, hyperparathyroidism, gouty arthropathy, hyperlipidemia and hypertension) which could contribute to the formation of kidney stones. We use a large sample (692,926 people) and analyze by statistical methods to see the relationship with the formation of kidney stone. We also use artificial neural networks and logistic regression to build up prediction models and to see whether those models can work well.



**Purpose/Methods**

First, we collect the data from National Health Insurance Research Database of Taiwan. Totally, we have 692,926 people, aged above 20 and who have not been diagnosed kidney stone from 2000-2003 and then we tracked them from 2004 to 2008 and recorded whether they have kidney stone during these years. We use chi square and T-test to analyze the data. Secondly, we use artificial neural network and logistic regression to train and build up prediction model of kidney stones.

**Results**

After 5 years tracking, the data analysis indicates that incidence rates of four diseases which we chose in the kidney stone patients are higher than patients who have not had kidney stone during 2004 to 2008. People who have been diagnosed diabetes mellitus and gouty arthropathy are especially high. (Diabetes mellitus: 11% : 7%; Gouty arthropathy: 10% : 5%). The performance of the artificial neural network model with all variables trained by us is 0.83 which is greater than using binary logistic regression model (0.82).

**Conclusions**

The artificial neural network trained by us has AUC=0.83 and sensitivity=0.96 specificity=0.74 which are all greater than the results of using binary logistic model, thus using diabetes mellitus, gouty arthropathy, hyperlipidemia and hypertension as factors for our artificial neural network can predict patient's chance to have kidney stone in the future. Also, the statistics of our source data gives us an idea that gouty arthropathy are one of a significant factor for the formation of kidney stones.

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## Empowerment process in patients with diabetes

**CHEN Shu-Ling****Introduction**

**Aims.** The aim was to examine the association between empowerment process and health outcomes in patients with diabetes. **Background.** In empowerment theory, empowerment processes could achieve good empowerment outcomes. However, evidence from patients with diabetes population has been limited.

**Purpose/Methods**

**Methods.** Using a cross-sectional design, purposive sampling with 72 diabetic patients obtained from outpatient department of clinic and hospital with diabetes shared care in southern Taiwan. Data were collected by Diabetes Self-Care Scale, Diabetes Empowerment Process Scale, Diabetes Quality of Life Scale, blood HbA1C, blood pressure and blood lipids. SPSS version 17.0 software was used to analyze the data through statistical

methods, including one-way analysis of variance, independent t-test and Pearson's correlations.

**Results**

**Results.** The score of empowerment process by patients with diabetes rated middle to high level. Empowerment process was statistically significantly positively related to self care, quality of life and self-efficacy. However, it was not statistically significantly associated with biological indicators such as blood HbA1C, blood pressure and blood lipids.

**Conclusions**

**Conclusions:** This study presented the evidence that empowerment processes were associated with health outcomes in people with diabetes. Healthcare provider should create empowerment process to promote the health of patients with diabetes.

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## Health promotion behaviours in the less educated diabetic elderly

**TZUNG Ching-Wen, TZUNG Ching-Ping****Introduction**

Health promotion behaviours are essential to the health and life quality of the elderly of diabetes, which is one of the leading death causes in Kaohsiung, Taiwan.

**Purpose/Methods**

The purpose of of present study is to investigate the health promotion behaviours, eating patterns and most needed information regarding the diet and healthcare in diabetic elderly. One hundred and eighteen diabetic participants with an average age of 66.3 +/- 10.7 were recruited from the diabetes patient organization at a teaching hospital in Kaohsiung, Taiwan. A face-to-face interview using structured questionnaire was conducted. Among them, 30.4% of participants were illiterate and 56.8% of the patients were main meal preparers.

**Results**

Nearly 80% of the recruited participants took medical and dietary control to treat the diabetes. Besides, regular exercise was undertaken, mainly in the form of walking. Health professionals were the main information provider, followed by friends and families. The most needed information regarding the diet was principle of diabetic diet, weight control and hypertension diet. Dietary variety was limited among the elderly living alone.

**Conclusions**

This study shows the diabetic elderly take health action to control blood sugar and maintain health status.

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## The impact of exercise and diet on metabolic syndrome people : a quasi-experimental study

**HSIN-LUNG Chan, CHING-YAO Wei, TA-CHUAN Hung**

### Introduction

Metabolic syndrome explains 35.7% of the MS-related mortality rate among the top leading 10 causes of death in Taiwan in light of the statistics by Department of Health. Exercise and diet interventions were suggested to be used to improve MS. The study is to examine the impact of exercise and diet on the MS people.

### Purpose/Methods

We used a quasi-experimental research design. We recruited participants with metabolic syndrome from 46 community health centers and divided them into the exercise group, the diet group and the control group. The intervention lasted for 4 weeks. We collected data before and after the intervention regarding weight, wrist circumference and health status and conducted non-parametric analysis to examine the impact.

### Results

A total of 43 people took part in the program. Among them, 18 people joined the exercise group; 14, the diet group; 11, the control group. After the intervention, there were statistically significant improvement in the average weight, wrist circumference and biochemical data of all participants. In particular, the exercise group had statistically significant improvement in fasting blood glucose; the diet group in Triglyceride and weight. No difference was detected in the control group.

### Conclusions

This study proved the effectiveness of the exercise and diet intervention for patients with metabolic syndrome. This study suggested that health professional should provide exercise or diet for MS patients according to their personal health status.

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## Health promotion for diabetic patients - a multi-strategy approach

**CHOU Kne-Te, HSIEH Ming-Jen, SIAO Ruo-Yan, KUO Jyun, HUANG Chih-Hsung, HUANG Hui-Ting**

### Introduction

Prevalence of diabetes in Taiwan increases due to unhealthy lifestyle such as over-nutrition and insufficient exercise. Diabetes would cause a variety of acute and chronic complications such as nephropathy and retinopathy. Such complications result in poor quality of life, disability and death. Therefore, it is essential to develop effective prevention and treatment to reduce the incidence of complications. This study developed an organization-wide approach to diabetes health promotion so as to improve the health of patients with diabetes

### Purpose/Methods

This study recruited 156 people with pre-diabetic stage or diabetes (AC sugar>100) who were divided into experimental group with multi-strategy interventions and control group with original lifestyle. The experimental group received 3 months of health promotion intervention, including personalized diet planning, exercise programs (physical fitness tests, one-by-one instruction for fitness development with gymnasium equipment in a sport center of 990 square meter, combined with 120 aerobic exercise classes per month), health education and all integrated in a health management platform.

### Results

The study found that the experimental group had statistically significant improvement in AC sugar, T-Cholesterol, triglyceride and low-density lipoprotein; however, the control group which only received health education did not have any statistically significant improvement. Regarding physical fitness, the experimental group had statistically significant improvement in body fat, flexibility and muscular endurance after 3 months of intervention.

### Conclusions

A multi-strategy approach for organization-wide diabetes health promotion is effective to promote health of patients and hospital staff with diabetes. This study also demonstrated the importance of organization-wide resources and a multi-strategy approach as well as the feasibility of combined target groups. In addition, the availability and utilization of gymnasium equipment, aerobic exercise classes, and one-by-one instruction is conducive to the improvement of physical fitness.

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## The effectiveness of application of Insulin Rotary Disc (IRD) to Blood Sugar Control of Self-Adjust Insulin Doses of Diabetic Patients

**TU Shih-Te, KUO Jeng-Fe, LI Yan-Chi, WANG Yu-Hsiung, LIN Guan-Yi, TIAN Jia-Yu**

### Introduction

Introduction It is challenges to empower diabetic patients to self manage their blood sugar. We referred to literature to innovate IRD to empower diabetic patients on basal insulin and mixed insulin therapy to learn how to adjust their insulin dose within the safe range so as to achieve the required blood sugar level. This study aims to evaluate the effectiveness of application of IRD to blood sugar control of self-adjust insulin doses of diabetic patients.

### Purpose/Methods

We recruited 63 diabetic patients and collected pre-and-post data. Patients could easily follow the indicator on IRD to adjust their insulin dose by self monitoring a three-day average of blood sugar levels and referring to the corresponding blood sugar range. The disc also suggests the timing and frequency of blood sugar monitoring. Its back is featured by a comparison chart of possible complications which can help patients cross-reference their symptoms and detect if they are at risk of diabetic complications.

### Results

Among 83 insulin-treated patients using IRD, 63 patients complied with health instructions and completed the three-to-six-month follow-up. Their pre-care glycated hemoglobin (HbA1c) average was 10.1%. After the introduction of IRD, 50 patients (79%) had statistically significant improvement in blood sugar. HbA1c of 30 % of participants decreased by 3%; that of 48% decreased by 1 to 2.9%; that of 22% decreased by less than 1 %. The post-care HbA1c average was 8.3%.

### Conclusions

This study demonstrated the effectiveness of application of IRD to blood sugar control of self-adjust insulin doses of diabetic patients. In addition to the provision of insulin education, an insulin-adjustment tool can effectively empower patients to learn health-promoting behavior to improve their blood sugar and achieve the appropriate blood sugar level.

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## The Impact of Dance/movement Therapy on Self-efficacy in Adults with Diabetes Mellitus: A Case Study

**YANG Hsiu-ling**

### Introduction

Diabetes is one of the most psychologically and behaviorally demanding non-communicable diseases, which requires patients' vigilant self-management and continuing medical care to reduce the risk of complications or psychosocial distress. Studies have shown that increased level of Self-efficacy (SE) can reinforce self-management behaviors. The empirical data of Dance/movement Therapy (DMT) constitute attainments of SE. Hence this study was to explore the mechanisms among diabetes adherence, SE and DMT in order to benefit holistic health for patients with diabetes.

### Purpose/Methods

This qualitative case study investigated the process and effectiveness of DMT in relation to Bandura's SE theory and diabetes adherence. The qualitative study warranted comprehension of a person as a whole and encapsulated the essence from one's experience. The recruitment took place in a psychiatric outpatient clinic at a general medical hospital, which provided services for both behavioral and extended acute medical illnesses. After confirming inclusion and exclusion criteria, one subject was formally enrolled in this study.

### Results

A 47- year-old, Type 1 diabetic female with dual diagnosis was randomly recruited, and participated in interviews, the completion of questionnaire (the Problem Situations Checklist and the Summary of Diabetes Self-Care Activities), and a DMT intervention for a six-week research protocol. The results, analyzed from field notes, progress notes, and movement assessments, indicated meaningful changes in the subject's perceived SE, body image, self-image, mood state, energy level, movement repertoire, and diabetes self-management.

### Conclusions

DMT utilizes creative media to facilitate awareness of bodily sensation, increase competence for creative self-expression, improve physiological and emotional state, and promote body-mind interconnectedness to produce a sense of confidence. The study demonstrated improvement of SE and diabetes adherence through DMT implementation. Future studies may consider the use of experimental design, and explore the uniqueness of DMT as it may pertain to SE theory. It is also urged that DMT incorporates related fields to promote interdisciplinary partnership with medical care.

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## The effects after the intervention of insulin injections for diabetic patients in the community

**WANG Hui-Fang**

### Introduction

Insulin therapy is one of the important managements for diabetic patients. However many factors influence the successful insulin therapy, one of them is the technique of insulin injection. In the years of 2008 and 2009, the global investigations found that medical personnel often neglect the accuracy of insulin injection and its influence to the blood sugar control.

### Purpose/Methods

This study was to evaluate the effects of insulin injection after the intervention by multiple teachings to the same patient in the local community of Taiwan. Diabetic patients with insulin therapy were selected non-randomly from 26 clinics in Changhua County. The quasi-experimental research and the observational method were used.

### Results

Regarding injection behavior, the statistics showed the significant difference after intervention of the injection technique including the good preparation before injection, the self-examination of the subcutaneous tissue, choosing the right injection site and the accurate injection ( $P < 0.0001$ ). The evaluation of the quality of injection which involved the satisfaction to the teaching of the diabetic educator and the injection implementations, the anxiety toward the injection and the degree of feeling difficulty were all different ( $P < 0.0001$ ,  $P = 0.0008$ ,  $P < 0.0001$ ,  $P = 0.0023$ ) respectively.

### Conclusions

The behavior and quality of insulin injections were improved remarkably after the intervention. This study can guide the medical personnel in the community to assist diabetic patients with the effective insulin therapy.

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## Experiences of Health promotion in Diabetes Support Group

**PENG Hui-Yu, CHEN Hui-Chuen, WANG Chiou-Shiang, WANG I-Ching, HSU Yu-Ling, CHUANG Leeming**

### Introduction

Attending diabetes support group is an important way to meet other people with diabetes and to learn experiences of living with diabetes from each other. People who attend support groups find the support important as it helps them be more positive in managing their diabetes. In fact, diabetes support group is also a good medium to provide health promotion. Therefore, we shared the experience how to promote diabetes self-care and nutrition management through regular activities held by diabetic support group.

### Purpose/Methods

A diabetes support group affiliated with NTUH in Taipei yearly held leisure activities for members with diabetes, including overseas and domestic travels for leisure, lunch party for dietary instruction of food portion size, and annual meeting with educational program and year-end party with an aim to improve the quality of life with proper diabetes management. Self-care management, healthy eating, blood sugar monitoring, and exercise, were promoted in each activity.

### Results

Usually, near 200 people participated in support group tourism, around 90 persons attended lunch party, and near 300 people participated in year-end party. Participants were 90% satisfied with activity content, pre-planned meals and volunteer's service. Among them, 69 persons participated in year-around activities for more than 2 times. For those attending activities more than 2 times a year, 66 % had improvement in HbA1c at the end of the year.

### Conclusions

Experience sharing and encouragement from each other enhance the confidence in diabetes self-care. Well-planned activities help diabetes to walk outside healthily, broaden the mind, and enhance ability of self-adjustment and self-care, and then, enhance quality of life and health level.

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## Exploring Foot Condition and Footwear Among Diabetes Individuals in Eastern Taiwan Community

**YOU Shene- Fong, CHANG Shu-Chuan, YEH Hsiu- Chen, SHEU Min-Muh, HSU Wen-Lin**

### Introduction

Diabetes mellitus has been the top five major cause of death in Taiwan since 1987. Diabetic foot is one of the common chronic complication in diabetes mellitus. In Taiwan, one-third of patients with amputation have diabetes mellitus. Based on the



data from Bureau of Health Promotion, Department of Health, R.O.C., the percentage of awareness of diabetic foot caring in diabetic patient has progress from 39.0% to 46.1% since 2005 to 2009, still needed more effort.

#### Purpose/Methods

This is a retrospective study. The purpose is to investigate the foot condition and footwear among diabetic patient in Hualien's communities. We design a questionnaire to record the foot condition of diabetic patients that includes footwear, foot appearance, pulsation in the foot, and the examination result of diabetic neuropathy. This study is certificated by the institutional review board (IRB), and total 121 questionnaires from these diabetic patients were collected. All data were analyzed with the SPSS 12.0 for window.

#### Results

There were 66.1% of diabetic patients never received the education of diabetic foot care. Incorrect shoes and socks wearing were 48.7% and 70.2%. Abnormal foot outlook were 49.6%, the major problem is Tinea pedis, second problem is dry and cracked skin. Nearly 30% of patient have abnormal diabetic neuropathy. Significant correlation between incorrect shoes/socks wearing and diabetic foot self-caring education is noted ( $p < 0.5$ ). The awareness of abnormal foot outlook correlates to the percentage of foot self-care education ( $p < 0.5$ ).

#### Conclusions

Foot self-care education is important for every diabetic patients, and through education we can efficiently improve foot self-care and decrease the incidence of abnormality of diabetic foot. It is the narrow terrain and remoteness of eastern Taiwan, that medical care and diabetic education is not as convenient as other cities. How to implement and spread the education of diabetic foot care depends on the efforts of the health care staff.

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## The efficacy of diabetic shared care program in a primary care clinic in Taiwan

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#### Introduction

Diabetic people increase in Taiwan, according to government's estimation, the prevalence of diabetic people is 6-12% of over 40 years old people. The cost of medical care for diabetic people accounts 12% of annual health insurance budget in Taiwan.

Diabetic shared care program had been promoted in Taiwan for more than 10 years. But the efficacy has not been reported by primary care clinics. Herein, we presented the outcome in a primary care clinic by a non-diabetic medical doctor.

#### Purpose/Methods

From July 2006 to June 2010, 246 type 2 diabetic patients treated at least 1 year were enrolled in the diabetes shared care program (DSCP). 41 patients did not follow the rules of DSCP regularly and were excluded. Totally 205 patients were evaluated. The patient's data were collected and followed according to DSCP guideline. The program required physicians, diabetes nurses and dietitians to work together. Education program was held every 3 months. All data were analyzed by SPSS software.

#### Results

HbA1c level, Blood Pressure, triglyceride, fasting plasma glucose level decreased after 1 year follow-up. We further analyzed the relationship between the subgroups and changes of HbA1c level. We found the severity of HbA1c, BMI  $> 24 \text{ kg/m}^2$ , LDL  $> 100 \text{ mg/dl}$ , CHOL/HDL ratio  $> 5$  were significantly associated with the likelihood that HbA1c would be improved ( $p < 0.05$ ). Multiple linear regression analysis revealed that 3 factors contributed most to improvement in HbA1c status: plasma creatinine ( $> 1.2$  vs  $0.6-1.2$ ), CHOL/HDL ratio ( $> 5$  vs  $\leq 5$ ) and a higher HbA1c level at baseline.

#### Conclusions

Our report proved that diabetic patients in DSCP handled by a non-diabetic medical doctor in a primary care clinic can gain improvement after 1 year follow-up. If participants can adhere to the program, they can not only improve HbA1c status, but also their BMI and dyslipidemia. The advantage of DSCP in a primary care clinic is better and close relationship of participants with health educators. The disadvantage is participants can change to community hospital or medical center freely without limitation.

#### Comments

DSCP is difficult to be promoted in a primary care clinic because Taiwan's health insurance can not restrict patients' medical behavior effectively. They can visit any doctors and hospitals very freely. Many factors will lead the patients to leave the DSCP. Since 10 years ago, many primary clinics began to involve diabetic care program. Our clinic was the only one which gained the honor of high-quality diabetes health promotion organization.

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## Effect of Resistance Exercise Training Education on Exercise Behavior and Physiological Indicators in Type 2 Diabetes Patients.

**PAN Chao-Kuei, CHANG Shu-Chuan, HUANG Sen-Fang, LEE Ming-Shinn**

### Introduction

Aerobic exercise combined with resistance training is the best strategy of exercise for type 2 diabetes mellitus patients. It improves diabetic symptoms controls blood glucose, improves blood lipids and attenuate chronic complications. But Resistance training educations are very rare seen in Taiwan.

### Purpose/Methods

The purposes of this study were to investigate the effect of resistance exercise education on exercise behavior and physiological indicators in type 2 diabetic patients. A quasi-experimental design was conducted by using convenient sampling with 71 type 2 diabetic patients from a hospital. Control and experimental participants had regularly received health and exercise education. Experimental subjects received individual resistance exercise education with a handbook of the resistance exercise education for type 2 diabetic patient edited by the researcher.

### Results

Results showed that exercise behavior were significantly increased, and physiological indicators including body weight (BW), waist and hip circumferences (W/H ratio), body mass index (BMI), body fat percentage (BF%) and low density lipoprotein cholesterol (LDL) were decreased significantly in experimental participants after intervention three months later.

### Conclusions

Resistance exercise education enhanced exercise behavior and decreased physiological indicators including BW, W/H ratio, BF%, and LDL in patients with type 2 diabetes.

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## Daily Walking Combined With Diet Therapy Suppresses Weight Gain in Type 2 Diabetes with Insulin Therapy

**KUO Chia-Lin**

### Introduction

Weight gain is common with insulin therapy in type 2 diabetes. Excessive weight gain worsens glycemia control and increase cardiovascular risk. It can also increase diabetic morbidity and mortality if it acts as a psychological barrier to initiation or intensification of insulin therapy, or affects compliance. Insulin-associated weight gain might result from conservation of previously excreted glucose, defensive "snacking" caused by fear or experience of hypoglycemia.

### Purpose/Methods

Subjects were divided into two groups: 13 patients were managed by diet alone (group D), and 14 patients were placed in the diet and exercise group (group DE). Group DE was instructed to walk at least 10,000 steps/day on a flat field as monitored by pedometer (19,200  $\pm$  2,100 steps/day), and group D was told to maintain a normal daily routine (4,100  $\pm$  290 steps/day). The initial dosage (IU/day) of bedtime NPH was equal to the fasting plasma glucose concentration (mmol/l), e.g. 10 IU for a fasting glucose concentration of 10 mmol/l.

### Results

During the 6 months of insulin therapy, HbA1c decreased from 10.5  $\pm$  0.3% by 2.9  $\pm$  0.2% to 7.6  $\pm$  0.2% ( $p < 0.001$ ) in the DE group, and from 10.2  $\pm$  0.3% by 2.5  $\pm$  0.5% to 7.8  $\pm$  0.3% ( $p < 0.001$ ) in the D group. The DE group gained 2.8  $\pm$  0.8 kg ( $p < 0.001$  for 6 vs 0 months) during this therapy, which was 49% less ( $p < 0.05$ ) than in the D group (6.5  $\pm$  1.6 kg,  $p < 0.001$  for 6 vs 0 months). Body fat content increased ( $p < 0.001$  for both) during this therapy in both groups but the increase was smaller in the DE (1.8  $\pm$  0.7 kg) than the D (4.2  $\pm$  0.8 kg) group ( $p < 0.05$ ).

### Conclusions

Walking, which can be safely performed and easily incorporated into daily life, can be recommended as an adjunct therapy to diet treatment in Type II Diabetes with Insulin therapy patients, not only limiting weight gain, but also for improvement of insulin sensitivity.

### Comments

Insulin remains the most effective therapy for hyperglycemia, but it is associated with weight gain. Insulin-associated weight gain affects prognosis by impacting cardiovascular risk profile, and indirectly through poor compliance or delayed use of insulin. Insulin-mediated weight gain can be limited by increasing insulin sensitivity through diet, exercise and insulin-sparing pharmacotherapy.

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## Health belief, social support, and the behavior of SMBG among diabetes people

**CHANG Shu-Chuan, LIN Chia-Hui**

### Introduction

Self-monitoring of blood glucose (SMBG) has been seen as an important behavior for patient to control diabetes and prevent its complications. However, the adherence of SMBG is usually poor.

### Purpose/Methods

This study was aimed to understand SMBG behavior and related factors among individuals with diabetes. The study adopted a cross-sectional random sampling design. A number of 153 participants were selected from patients in a Medical Center in Taiwan and administered with questionnaires, which contained health belief, social support, and self-monitoring behavior of blood glucose.

### Results

(1) 146 knew that they had to examine their blood glucose at home, but 7 did not know. Most patients received education from doctors and nurses. (2) Less than half of the participants monitored blood glucose by themselves regularly. One thirds even never test their blood glucose, and 11 did only once. (3) Patients didn't think that they needed SMBG and the cost was too high. They only carried out when they felt uncomfortable.

### Conclusions

The study indicated that social and economic support and their health belief are predictive factors for SMBG behaviors and accounted for 49.7% and 11.4% of its variance. The results indicated that SMBG education plans and continuous nursing interventions need further implementation.

### Comments

Diabetes control needs different dimensions of self care behavior. SMBG play an important role. The results of the study provide a refernt for diabetes education for healthy behavior

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## The Factors of Patients with Coronary Artery Disease on Taking Medications in a Regional Hospital

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### Introduction

To be healthy for patients with chronic diseases, besides the right diet, lifestyle and exercise, medication compliance is also important. Hospital accreditation requires patients to be able to answer the names, therapeutic and adverse effects of the medications that they are taking to ensure drug safety. Patients with coronary artery disease need to take multiple drugs chronically; therefore they are required to be more knowledgeable. We would like to understand how patients take their medications and the relating factors that influence them.

### Purpose/Methods

It was a prospective study using field visits of inpatients who underwent cardiac catheterization during the study period. Information collected included basic demographics, medications used (types and doses) and knowledge of medications (the names, therapeutic effects, adverse effects, appearances, time to take the medications, route and how to store them). Descriptive statistics and ANOVA were used to analyze the conditions and the relating factors on how patients take their medications.

### Results

The average age of the patients was 64.6 years old. Majority of the patients were taking 3 kinds of medications (54.8%); 29.0% of them were taking 3 pills and 25.8% were taking 4 pills. Only 28.7% of the patients had complete knowledge of their medications; the names and adverse effects were the two items that most of the patients could not answer. The types of the medications significantly affected the knowledge of the names ( $p=.006$ ), therapeutic effects ( $p=.012$ ), and adverse effect ( $p=.005$ ). At the same time, the number of pills significantly affected the knowledge of the names ( $p=.036$ ) and therapeutic effects ( $p=.041$ ).

### Conclusions

This research found that patients with more types and doses of medications required more instruction. Although the effect of drug education was not good, most patients trust the medical team enough to take medications as directed. It is recommended to start from compliance when giving drug education, and then adjust direction individually. That way, patients can take their medications correctly and safely.

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## Improve in-hospital diabetic control - The clinical experience of Inpatient Diabetes Care Team (IPDCT)

**LO Hsueh-Mei, LO Su-Huey, HSU Jin-Chyr,  
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### Introduction

Diabetes Mellitus is a complex disorder; characterized by serious chronic complications if the hyperglycemia is not well controlled. The previous research showed that diabetes had higher admission rate than non-diabetes, and the glycemic control was closely related to in-hospital morbidity and mortality. In order to provide better service for the in-hospital diabetes patients, the inpatient diabetes care team (IPDCT) was founded in May, 2011. We can assist the clinicians by providing medical suggestions and encourage the in-hospital diabetes patients by showing our thoughtfulness.

### Purpose/Methods

The inpatient diabetes care team (IPDCT) enroll multi-aspect of diabetic specialist including: physicians, nurses and nutritionist. The IPDCT is actively participated in the diabetic care of the in-hospital diabetic patients especially in surgical ward, the team members visit the diabetes inpatient and evaluate the glycemic control daily, provide better medical suggestions and related diabetic education to the health-care staffs and the patients. During hospitalization, the diabetes care team also evaluates and screen the patient for the possibility of diabetic chronic complications. The final goal is a "comprehensive and considerate care of diabetes".

### Results

From May to December 2011, the IPDCT had enrolled 465 diabetes inpatients, the average HbA1c at admission and 3 months after discharge was 8.7% and 7.6% respectively, the average fasting blood sugar and 2hr post-prandial blood sugar at the admission and 3 days after IPDCT involved were 207 mg/dl, 262 mg/dl, 160 mg/dl and 235 mg/dl respectively. The satisfaction questionnaire showed that more than 93% in-hospital diabetic patients and 71% health-care staffs were very appreciated with the assistant of inpatient diabetes care team (IPDCT).

### Conclusions

Inpatient diabetes care team (IPDCT) actively and energetically participates in the share care of in-hospital diabetic patient, can provide the patients better blood sugar control, minimize patient's anxiety, improve health-care quality and re-enforce patient's safety. It's worth to promote to other health-care system.

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## Make insulin injection confident and comfortable - The clinical experience of "24 hours guarder 123" for diabetes outpatients

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### Introduction

From UKPDS results, the residual beta-cell function was less than 50% when type 2 diabetes mellitus (T2DM) was first diagnosed. Following the progression of T2DM, the beta-cell function was progressively downhill year by year. If patients can not achieve the goal of diabetic control (HbA1c < 7%) in spite of life style modification and maximal dose of non-insulin anti-diabetic agents, insulin will be the next or even best choice for either add-on therapy or mono-therapy. For the first time of diabetic patients to receive insulin injection, patients usually experience traumatic mental shock and helpless feeling; the diabetes care team must provide a comprehensive and delicate plan to support the patient to deal with in order to obtain better glycemic control. Our outpatient diabetes care team had provided a project called "24 Hours Guarder 123" for the diabetic patients who would receive insulin treatment for the 1st time.

### Purpose/Methods

"24 Hours Guarder 123" for the first-time insulin injection diabetes service was provided since 2007. After education of the technique of insulin injection by the outpatient diabetes care team at hospital, the team members will provide: 1. Telephone follow up at first day, first week and first months after the patient went home. 2. 24 hours assessable cell-phone consultation ("24 hours Guarder"). 3. Free glucose meter available for underprivileged minority. The adjustment of insulin dose at home was according to the recommendations of ADA and EASD guidelines for insulin treatment.

### Results

Total of 249 T2DM patients were enrolled in this service project with female gender predominant (woman 149(59.8%) vs. man 100(40.2%)), average history of diabetes was 13.5 years, the average HbA1c before insulin intervention was 10.3%, 3 months after receiving basal insulin treatment was 9.3%, 76% patients had improved HbA1c level. 99.1% patients kept insulin injection after 3 months follow up and 99.5% of patients was very appreciated and satisfactory with this service.

### Conclusions

For the first time of diabetic patients to receive insulin treatment, patients usually experience a difficult time; the diabetes care team must provide a more humanistic and delicate plan to encourage the patient in order to obtain better glycemic control. "24 Hours Guarder 123" for the first-time receiving insulin injection diabetes service seems workable.

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## The application of patient empowerment education into self-monitoring of blood glucose for diabetic patients

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### Introduction

WHO have advocated patient empowerment education and expected patients to play active roles in managing their health. Self-monitoring of blood glucose (SMBG) could improve blood glucose monitoring through the development of healthy diet, lifestyle and exercise. In Taiwan, only 30 % of diabetic patients practice SMBG and only 4.2 % of diabetic patients self monitored blood glucose once a day. This study was to apply the concept of empowering patient education and evaluate the effectiveness of SMBG in diabetic patients.

### Purpose/Methods

Participants were members, who participated in a diabetic patient support group during 22 March to 6 September, 2011. The support group held activities once per season and provided blood glucose meters and test strips. This patient empowerment education included demonstration and return demonstration in utilization of the meter, medication safety and healthy diet. We collected pre-and-post data regarding blood glucose, HbA1C, body weight, BMI, blood pressure, times of self monitoring and conducted descriptive analysis and t-test.

### Results

After the intervention, among 168 days, the average times of SMBG per person were 148. The blood glucose value of 70% of participants was above the normal level; that of 16 % of participants achieved the normal level and that of 12 % of participants was under the normal level. Achieving rate of SMBG increased from 87% in the second gathering to 89% in the third gathering. HbA1C statistically significantly decreased by 1.1%, and pre-meal sugar decreased by 26mg/dl.

### Conclusions

This patient empowerment education program addressed patients with non-insulin treated diabetics. Blood glucose meters and test strips free of charge, competition activities, and the patient support group are effective in self-monitoring of blood glucose. During the half-year patient empowerment education, the daily SMBG rate increased from 4.7 % to 88%, which effectively reduce HbA1C and pre-meal glucose.

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## Meanings of illness in type 2 diabetes - from the perspective of patient-centered health care

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### Introduction

Nowadays, it is emphasized that diabetic patients should be encouraged to assume an active role in their health care. Physicians can better promote their patients' adherence after truly understanding them from patients' perspective. While the term "illness" refers to, from patients' point of view, the psychosocial experience and meaning of perceived disorder, we, here, focus our qualitative analysis of depth interviews with diabetic patients to illuminate their "meanings of illness" to facilitate more effective patient-centered health promotion service.

### Purpose/Methods

Our data comes from 3 periods of studies with similar but differently weighted protocols in central Taiwan. The 1st one enrolling 22 depth-interviewees and 53 participants in 7 focus groups, investigate patients' cognitive explanatory model; the 2nd involved 32 depth-interviewees, aimed at exploring patients' life-world experiences; and the 3rd with 16 diabetics emphasize the socio-cultural influences on meanings of illness. After audio-taping the dialogue, we transcribed verbatim and combined the analytic strategies of editing and immersion/crystallization to formulating our results.

### Results

Most participants regarded diabetes as a "chronic disorder of sugar metabolism" with 3 implicit concepts. Taking "sugar" as core makes some overlook the importance of other RFs of CVD; the "chronic" notion implies "inevitably-deteriorating" dominate negative viewpoints; being regarded as a specific disease identity rather than a syndrome indicate simple uni-dimensional instead of diverse clinical courses. Though with generally consistent perceptions, our participants, based on different life experiences and socio-cultural value systems, have diverse attitude and take different health-care measures.

### Conclusions

The "meanings of illness" of our participants comes from their perceptions of diabetes as a "chronic disorder of sugar metabolism", which embraces some misconceptions leading to non-adherent behaviors. These acknowledges plus knowing their individual life story and unique value and belief enable professionals to better realize their health care behaviors. Thereby, we suggest physicians can use the framework of "patient's meanings-centered clinical method" to help patients gain self-control and integrate their illness into life values and beliefs.

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## Building capacity for health promotion in persons with diabetes : a problem based learning approach.

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### Introduction

Some persons with diabetes fail to take action for promoting their health although they know the positive impact of healthy lifestyle on human health (Britt, Hudson & Blampied, 2004). That might be because persons with diabetes do not grasp concepts and skills of healthy diet, exercise, medication, blood sugar monitoring, do not have adequate psychological adjustment, cannot foresee the outcome, and then lose confidence and reduce their willingness to manage their health.

### Purpose/Methods

We held a 5-day program through an interdisciplinary and patient-centered approach. During this program, persons with diabetes lived together, exercised together, learned blood glucose monitoring skills, and undertook small-group discussion based on a problem-oriented learning approach to enhance their ability of self-management.

### Results

Participants monitored their blood glucose 7 to 8 times a day and found that fluctuations in blood glucose levels with meals and the difference between pre- and post-prandial blood glucose levels gradually decreased. A 3-month follow-up of glycated hemoglobin showed that the average value decreased from 8.1% to 7.2%. Also, participants perceived significant improvements in knowledge of diabetes, and satisfaction with their blood glucose monitoring and quality of life.

### Conclusions

This study concluded that a healthy and supportive environment was conducive to mutual learning between patients hands-on practices, input from interdisciplinary team of experts made education more multidimensional and interesting. A problem based learning approach empowered patients to learn blood glucose control skills, and enhanced their confidence and willingness to manage their health.

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### Introduction

Diabetes has been the fourth leading cause of death in Taiwan since 2002. To improve self-management and disease acceptance amongst people with diabetes, the Bureau of Health Promotion has encouraged the establishment of community and hospital based diabetes support groups. Presently, a total of 447 such support groups exist throughout Taiwan. These support groups have five major functions: 1. Psychological support; 2. Collective identity development; 3. Knowledge and skill learning; 4. Behavioral approaches to blood sugar control; and 5. Advocacy.

### Purpose/Methods

Purpose: To explore the functioning of diabetes support groups. Methods: Six discussion sessions were conducted and included 38 participants: the organizer, support group instructors, support group leaders and support group members. Purposive sampling was used to select support groups throughout Taiwan. Preference was given to study participants who had been involved in diabetes related activities for at least 2 years, had received appropriate training, and who were able to share and discuss their problems in depth.

### Results

A number of factors contribute to the functioning of diabetic support groups including support from national and local health departments, public health units or hospitals; characteristics of group leaders and members; and motivation towards good blood sugar control. We also found a number of benefits from participating in a support group including improved blood sugar control, enhanced knowledge and collective identity, development of healthy behaviours, psychological support, advocacy, improved mood and social interactions, and the benefit of helping others.

### Conclusions

The five major functions of diabetes support groups are achievable and beneficial. Therefore, the continued development of such groups is an important aspect of diabetes related policy. The successful development and maintenance of such groups requires the support of relevant departments and organisations, as well as financial support. In addition, the selection of appropriate support group leaders and the provision of adequate training, is vital to ensure effective results.

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## Characteristics and functioning of diabetes peer support groups

**CHIOU Chii Jun, WANG Ruey Hsia**



## The Preliminary Results of Systemic Integrated Vascular Computer Care Intervention in Metabolic Syndrome Patients on the health promotion.

**TSAI Ling Jane, SU SL Hung CH, CHOU CL Hsieh LL**

### Introduction

Some previous researches about people with metabolic syndrome were proposed. The future probabilities of getting diabetes, hypertension, hypercholesterolemia, stroke and cardiovascular disease is 2-6 times normal population. Other studies showed early taken appropriate intervention could avoid disease progress. Famous examples are given to prediabetes improving in Finland, China, United States and India which can be reduced 40-58% to diabetes chance. We try to develop a systemic integrated vascular computer care system as intervention tool.

### Purpose/Methods

Methods: A systemic integrated vascular computer care can analyze metabolic syndrome participant continued testing results in Changhua Christian Hospital. Conjugated with different specialists' advisements to enhance patient insights for motivate their lifestyle changing. All participant of metabolic syndrome with the medical team involved in promoting healthy lifestyles can reduce the risk factors.

### Results

Body weight, body mass index, total cholesterol, low-density lipoprotein cholesterol, triglyceride and hemoglobin A1c demonstrated improvement with statistic significantly by Wilcoxon signed ranks test. Dieting behavior including less fat, red meat, animal skin, night snacks and mixed with sauce also ameliorated significantly. The amounts of water intake increased progressively. The frequency of smoking and alcohol consumption became less but still insignificantly.

### Conclusions

Using this systemic integrated vascular computer care and medical team consultation as a holistic care model can improve metabolic syndrome patient motivation. Strengthen self healthy management abilities and impose their actions to control the risk factors.

### Comments

The initial data was obtained but still not good enough. The future plan shall be expanded to other abnormal healthy checkup following to build up early intervention actions.

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## The intervention therapy of urinary incontinence in women who received screening in the Eastern Taipei City

**CHANG Chang-Chi, LU Shing-Hwa, LIN Huang-Fu, CHIU Yi-Chun, HSUEH Thomas Y., CHIU Allen W.**

### Introduction

Many female Taiwanese bothered with urinary incontinence but they were too embarrassed to seek for help. This study screened the prevalence of urinary incontinence of women in the eastern Taipei city. We also clarified the improvement of the symptoms and life impact of urinary incontinence after intervention therapy.

### Purpose/Methods

The urologic divisions of Zhongxiao branch of Taipei city hospital screened women of the eastern Taipei city to get the prevalence and life impact of urinary incontinence. Two questionnaires were used, Urogenital Distress Inventory-6 (UDI-6) and Incontinence Impact Questionnaire-7 (IIQ-7), to survey the prevalence and life impact of urinary incontinence respectively. The women bothered with urinary incontinence were referred to the urologic outpatient department of our hospital for further survey and management including Kegel exercise, biofeedback and magnetic stimulation therapy.

### Results

1311 women were screened and 1286 questionnaires were analyzed. Total prevalence of urinary incontinence (stress, urge incontinence and urine leakage) is 51.6% (664/1286). The prevalence increased as age became older, from 27.3% (12/44) of 2nd decade to 93.3% (14/15) of 8th decade,  $p < 0.001$ . 836 women's UDI-6 score were equal to or greater than one. Among these women, we observed a positive correlation between the UDI-6 and IIQ-7 ( $r = 0.62$ ,  $p < 0.001$ ). Significant improvement of mean UDI-6 (5.52 to 2.01) and IIQ-7 (5.02 to 2.09) were found after intervention therapy ( $p < 0.001$ ).

### Conclusions

Through this study, we find that the prevalence of urinary incontinence of women in the eastern Taipei city is as high as 51.6%. The prevalence increases as the age is older. The more severe the urinary incontinence is, the greater the life impact is. The symptoms and life impact of urinary incontinence have significant improvement after intervention therapy.

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## Application of the HPH strategies to the improvement of quality of life of patients with interstitial cystitis /Painful bladder syndrome(IC/PBS)

**WU Huei-Ching, LEE Ming-Huei**

### Introduction

Patients with IC experience poor quality of life related to alienation, depression and even the intention of suicide as the result of urinary frequency, nocturia and lower abdominal pain. However, there is lack of integrated healthcare for these patients nowadays, which results in the phenomenon of hospital shopping. This study aims to develop an integrated health promoting healthcare for patients with IC based on the HPH strategies and evaluate its effectiveness.

### Purpose/Methods

This study used the pelvic pain and urgency / frequency patient symptom scale by and O'Leary-Sant symptom index and problem index to collect pre-post-test data during 6 months. This model include a comprehensive needs assessment (PAT-1); an physician-patient / relatives meeting by an intersectional team (PAT-2); provide health education, psychology consultation in a specialized room and establish a supportive environment for experience sharing (PAT-3); case management including diet diary (PAT- 4&5); establishment and development of the IC association (PAT-6)

### Results

The score of pain improvement increased from 3.8 to 4.5; improvement in urinary frequency from 3.4 to 4.2; sexual activity from 0.4 to 0.7; sleeping from 0.6 to 0.7. The score of nocturia frequency reduced from 2.3 to 1.8. Other outcomes included increased knowledge of patients and the community through the website of the IC association, and increased members of the association up to 325 people and positive feedback from patients

### Conclusions

This study proved the effectiveness of the application of the HPH strategies to the improvement of quality of life of patients with IC. However, long-term follow-up of the patients is needed for the examination of the long-term effectiveness. In addition to the patients themselves, more attention needs to be paid to their relatives regarding the IC knowledge

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## Toward ubiquitous health promoting environments for patients with interstitial cystitis/Painful Bladder Syndrome

**WU Huei-Ching, CHEN Yung-Fu, LIN Jen-Yung, LEE Ming-Huei**

### Introduction

Interstitial cystitis/Painful Bladder Syndrome (IC/PBS) is a chronic disease which is impossible to be completely cured and highly degrades the quality of life for patients in patients. IC patients live and work in the community, and how to alleviate the pains and uncomfortable feelings of patients after hospital discharge becomes essential in the IC continuous health care. Information and communication technology (ICT), proved to be effective in health care of chronic and ambulatory patients, should be integrated into the IC health care.

### Purpose/Methods

In this paper, we applied ICT to develop an IC continuous health care framework for building ubiquitous IC health promoting environments.

### Results

This framework integrated cellular phone and internet for caring IC patients to alleviate their pains and bothering syndromes. An inter-sectoral healthcare team was established and effectively cared IC patients through the internet platform. Nursing care managers communicated with IC patients through mobile phone SMS and internet to elevate healthcare efficiency by directly solving their complaints or problems through real-time communication. Health education can also be done through internet by asking the patients to check contraindications, habits, and behaviors weekly

### Conclusions

This study concluded that this system could be applied in clinical setting and has great potential in alleviating pains and uncomfortable syndromes for IC patients. The effectiveness of an application of ICT into the IC continuing health care can be evaluated in the future

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## Holistic health promotion for women with interstitial cystitis/painful bladder syndrome (IC/PBS)

**CHEN Wei-Chih, LEE Ming-Huei, CHIU**

**Chiu-De, WU Huei-Ching**

### Introduction

Early stressful experience, such as childhood sexual maltreatment, has been considered as an environment risk factor for IC/PBS. However, it is unclear to what an extent this experience prevails in patients with IC/PBS and links to its symptom profile. The aim of our study was to investigate the traumatic experiences prevalence in IC/PBS patients and correlation between traumatic experience and subjective symptoms

### Purpose/Methods

Fifty female patients compatible with the NIDDK criteria were included and assessed by O'Leary-Sant Symptom (ICSI) and Problem Index (ICPI) and Pelvic Pain and Urgency/Frequency (PUF) questionnaire. Chinese Brief Betrayal-Trauma Survey (BBTS) questionnaire was used to measure prevalence of potentially traumatic experiences (natural disasters, traffic accidents, physical and sexual assaults, emotional maltreatment, and witnessing other's negative events) in childhood and adulthood. Subjects were tested individually in two sessions to avoid fatigue. Two hundred randomly selected college students served as controls

### Results

The prevalence of physical attack and emotional maltreatment by someone close to the patients showed 14% and 27% compared to control groups, 9% and 12% respectively. Another prevalence of physical attack and sexual maltreatment by someone not so close to the patients showed 8% and 6% compared to controls, 12% and 6% respectively. Correlation analysis with Pearson correlation coefficients showed negative correlation between ICSI and sexual maltreatment by someone close to the patients ( $P=0.06$ )

### Conclusions

Our study showed that, the prevalence of interpersonal abuse, especially those inflicted by someone close to the patients, was higher in patients with IC/PBS. However, potentially traumatic experiences did not reliably predict the symptom profiles of IC/PBS. It is suggested that the health promotion strategies for women with IC/PBS focus on psychosocial influences, take a holistic approach and account for the needs of the individual

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## The exercise cardio-pulmonary responses and quality of life in COPD patients

**LIH-LIH Chou**

### Introduction

Lung function is traditionally used to define chronic obstructive pulmonary disease (COPD) severity, but this does not exclude other factors. This study investigated the impact of BMI on exercise responses and quality of life in COPD patients matched for FEV1. All patients were evaluated by spirometry, cardio-pulmonary exercise test, respiratory muscle strengths and St. George's Respiratory Questionnaire (SGRQ). The characteristics were similar ( $p>0.05$ ). SGRQ, Underweight COPD patients have lower respiratory muscle strengths, and poorer quality of life.

### Purpose/Methods

Lung function is traditionally used to define the severity of COPD, but this does not exclude other factors. There are many published studies about the impact of body weight in COPD patients but the patients studied were not lung function-matched subjects. This study were to investigated the impact of body mass index (BMI) on exercise cardio-pulmonary responses and quality of life in COPD patients matched for forced expiratory volume in 1 second (FEV1). 75 patients with COPD were divided into three groups: underweight, normal-weight and overweight matched for FEV1 were studied. All patients were evaluated the following outcomes with: spirometry, cardio-pulmonary exercise test (CPET), respiratory muscle strengths and St. George's Respiratory Questionnaire (SGRQ).

### Results

There was no baseline difference in participants characteristics and mean FEV1 of the three groups ( $p>0.05$ ), and SGRQ, respiratory muscle strengths were lowest in underweight patients ( $p<0.05$ ). In exercise cardio-pulmonary response, the lowest oxygen uptake ( $VO_2$ ) at anaerobic threshold (AT) and peak exercise, highest ventilatory equivalent and lowest oxygen pulse ( $O_2P$ ) were in underweight patients ( $p<0.05$ ).

### Conclusions

This study shows that the underweight COPD patients have lower respiratory muscle strengths, impaired exercise capacity, earlier anaerobic metabolism, lower  $O_2P$ , ineffective ventilation, and poor health-related quality of life (HRQL). It is important to manage underweight COPD patients. Exercise training can result in improvement in weight gain, exercise capacity, and HRQL.

### Comments

Pulmonary rehabilitation programs with exercise training should be part of the clinical management of COPD patients, especially for those who are underweight.

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## The Importance of Disease Management in Asthma Control

**CHEN Feng-Luan, TU May-Yu, LEE Kuan-Hui, WOO Peter, MA Hon-Kwong**

### Introduction

The high prevalence of asthma severely affects the daily activities of patients and also threatens their life. Asthma prevention has already becoming an important world-wide health issue. The Department of Health initiated asthma prevention since 1998. Moreover, a care model based on disease management was introduced in 2001.

### Purpose/Methods

This study is to evaluate the efficacy of symptom control in asthmatic patients using disease management care model. The inclusion criteria in Trial for the Improvement Scheme of Medical Reimbursement for Asthma Care by BNHI are employed. Upon follow up visits of patients in OPD, PEFR was measured, improvement in symptoms was evaluated, compliance in medication was asked, and so as prevention of exposure to allergens. Aiming at individual items, education and instructions were provided by an asthma case manager.

### Results

From March 2009 to November 2011, a total of 135 patients were enrolled, in which 35 of them reached completion. Among cases under disease management by case manager, 58% received continuous treatment while 42% received intermittent treatment. Clinical condition was classified into 3 groups. In patients receiving continuous treatment, 81% clinically improved, 19% remained stable, with no patient deteriorated. In patients receiving intermittent treatment, none improved, 49% remained stable, while 51% deteriorated.

### Conclusions

Based on the results of our study, through the intervention of disease management, patients with continuous treatment clinically improved or remained stable, while one half of patients with intermittent treatment still remained in stable medical condition. With the integration of various studies comparing the efficacy of symptom control with and without the intervention of disease management, the importance and necessity of this care model is revealed.

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**The impact of body weight on exercise cardio-pulmonary responses and quality of life in lung function-matched patients with COPD**

**CHOU Lih-Lih, SU Chiu-Ping, LAN Chou-Chin, WU Yao-Kuang**

### Introduction

Lung function is traditionally used to define the severity of chronic obstructive pulmonary disease (COPD), but this does not exclude other factors. There are many published studies about the impact of body weight in COPD patients but the patients studied were not lung function-matched subjects.

### Purpose/Methods

This study were to investigated the impact of body mass index (BMI) on exercise cardio-pulmonary responses and quality of life in COPD patients matched for forced expiratory volume in 1 second (FEV1). 75 patients with COPD were divided into three groups: underweight, normal-weight and overweight matched for FEV1 were studied. All patients were evaluated the following outcomes with: spirometry, cardio-pulmonary exercise test (CPET), respiratory muscle strengths and St. George's Respiratory Questionnaire (SGRQ).

### Results

There was no baseline difference in participants characteristics and mean FEV1 of the three groups ( $p>0.05$ ), and SGRQ, respiratory muscle strengths were lowest in underweight patients ( $p<0.05$ ). In exercise cardio-pulmonary response, the lowest oxygen uptake ( $VO_2$ ) at anaerobic threshold (AT) and peak exercise, highest ventilatory equivalent and lowest oxygen pulse ( $O_2P$ ) were in underweight patients ( $p<0.05$ ).

### Conclusions

This study shows that the underweight COPD patients have lower respiratory muscle strengths, impaired exercise capacity, earlier anaerobic metabolism, lower  $O_2P$ , ineffective ventilation, and poor health-related quality of life (HRQL). It is important to manage underweight COPD patients. Exercise training can result in improvement in weight gain, exercise capacity, and HRQL.

### Comments

The current study has some limitations. First, we did not check fat-free mass (FFM) in the study patients. Reduced FFM may occur despite normal BMI [40]. Second, most of the COPD patients were male. It is necessary to confirm the results in female patients, especially since there are considerable differences in body composition between males and female patients. Exercise response may also be different between female and male patients.

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**A Poker for High Phosphate Diet Education to Reduce Hyperphosphatemia in Hemodialysis Patients**





## YUEH LING HUANG, TSUN-HUI YU, FENG-CHIN LIANG

### Introduction

Hyperphosphatemia is a well recognized risk factor associated with increasing 27percent cardiovascular mortality in hemodialysis patients. On the other hand, dialysis patients are incapable to comprehend the actual phosphoric amount in each food clinically. The team developed a 「quantitative food exchange list for phosphate」, using the red-yellow-blue light symbols to remind hemodialysis patients about the quantity of phosphate in different foods. The team members taught patients by using food exchange tools and to restrict their diet phosphate.

### Purpose/Methods

In 2009, we conducted a quality improvement project aimed to increase patients' awareness of diet phosphate restriction. Accordance on the Department of Health, and Taiwan area food nutrient content database. (Department of Health, 2003) After obtaining the phosphoric data of each kind of food, we weighed those foods on the same scale and under the same condition, and then quantified them into 100 milligrams, took photos; finally we took on the standard poker card pattern, and made the Hyper Phosphate Food Poker Cards.

### Results

After a 5-month's intervention, the prevalence rate of hyperphosphatemia decreased from 23% to 7.64%, and the recurrence rate decreased from 42.85% to 28.34%.

### Conclusions

The results of this project clearly demonstrated the effectiveness of the innovate teaching device. Finally, proper use of user-friendly, patient utilization focused teaching aids could increase patients' awareness and self-management behavior of phosphates control among hemodialysis patients.

### Comments

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## The Relationship Between Impaired Fasting Glucose and Risk of Chronic Kidney Disease

CHEN Hung-Sheng, LAI Wen-An, CHAN Tam, HUANG Chin-Yin, SHEU Huei-Heng

### Introduction

Nowadays, preventing CKD is an important task of health promotion service. Though CKD is strongly associated with diabetes, many of them appeared before the onset of type 2 DM. Thus, whether impaired fasting glucose, which is also called pre-diabetes, a risk factor of CKD is an important issue. After cross-sectionally analyze a large adult health checkup dataset, we hope our results can help resolving this issue and contribute to develop more effective prevention programs of CKD.

### Purpose/Methods

We collected 14175 patients from adult health checkup from a teaching hospital in central Taiwan. We excluded participants with hypertension, DM, dyslipidemia or obesity with BMI  $\geq 27$ , measured blood pressure  $\geq 140/90$  mmHg, fasting plasma sugar  $\geq 126$ , total cholesterol  $\geq 240$ , triglyceride  $\geq 200$ , serum urate  $\geq 9$  mg/dL. After estimated GFR with the abbreviated MDRD equation. We compared the normal and abnormal sugar groups by t-test, and regression analyzed the impaired fasting blood sugar with eGFR.

### Results

In the t-test of comparing normal and abnormal blood sugar, the difference of mean eGFR reaches statistical significance in both genders. In simple regression model of abnormal blood sugar with eGFR, the coefficient of regression is -3.14 ( $p=0.006$ ) and -0.479 ( $p<0.0005$ ) in both genders respectively. In multiple regression model of all biochemistry profiles with eGFR, only urate, triglyceride, blood sugar in male group, urate, blood sugar, total cholesterol in female group enrolled in the stepwise regression analysis.

### Conclusions

In the patients with impaired fasting blood sugar under the limited conditions in this study, neither male nor female's eGFR fulfill the CKD criteria. Though inverse relationship do exist between impaired fasting glucose and eGFR, the blood sugar itself does not strongly contribute to kidney damage compared with other known risk factors. However, we still can not ignore the long term effect to kidney damage resulted from impaired fasting glucose.

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## Different Case Management Model Effect on Progressive Kidney Dysfunction And HbA1C in Patients with Diabetic Nephropathy

KUO Yi-Chun

### Introduction

Diabetes Mellitus(DM) is one of large problem in Chronic Kidney Disease(CKD) patients. Without proper control many Diabetic Nephropathy(DN) would developed to end stage renal disease and would also be burden of medical insurance. This work was designed to explore the different case management model effect on progressive kidney dysfunction and HbA1C in patients with diabetic nephropathy.

### Purpose/Methods

A retrospective study design between March 2007 and March 2010, A total of 185 diabetic nephropathy patients were recruited, 88 of whom were enrolled in a DM with CKD management and 97 of whom received CKD management. Measurement were completed at baseline and at 1 month after enrollment, included laboratory parameters (HbA1C, MDRD-GFR) were evaluated.

### Results

Characteristics at baseline were: 61.1% of subjects were men, mean education duration were 24.74 +/- 15.51 months, the beginning HbA1C was 7.97 +/- 1.86 % and MDRD-GFR was 25.06 +/- 13.35 ml/min. After a period of time we found MDRD prognostic rate no significantly differences between intervention and comparison group (-4.50 +/- 6.82 vs -3.35 +/- 7.97, p 0.295). HbA1C was significantly differences between intervention and comparison group (7.62 +/- 1.51 vs 7.08 +/- 1.57, p 0.018).

### Conclusions

DM with CKD management combined program was found not reduce MDRD progression status. The current study suggests that we can monitor blood sugar and control kidney function well in CKD management. The patients does not need consulted Endocrine and Nephrology, can reduces the medical cost.

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## The socio-economic determinants of health based on food-frequency questionnaire analysis in kidney transplant patients.

### KIISK LIIDIA, ROSENBERG MAI

### Introduction

Chronic kidney disease (CKD) epidemic remains largely a "silent" epidemic but receiving increasing attention by the public and policymakers among the other well-known diseases epidemics like cardiovascular disease or diabetes. Fortunately, only small part of CKD patients (pts) experience the progression of CKD and the need of dialysis or transplantation. Pts feel after the transplantation better because their health status and nutrition

improves. Aim of the study was to analyse the data of individual nutritional habits in kidney transplant pts.

### Purpose/Methods

The nutrition habits research was carried out of basis a special food-frequency questionnaire (FFQ) in renal transplant pts. FFQ consisted of the questions about the socio-economic situation, nutritional traditions of the family, the patient's own nutritional habits, marital status, education, occupation, attention to eating in the family, number of mealtimes a day, regularity of breakfast, the richest meal in the family, alcohol consumption, usual number of warm meals, the time of the first meal in the morning and morning appetite.

### Results

FFQ was carried out in transplanted pts 1.5 year after the kidney transplantation (males, n=12; females, n=16). The economic situation of the family was considered poor in 17% male, and, in 13% female pts. Satisfactory was the economic situation in 75% male and 69% female pts. Good appetite was found in 75% male and 63% female pts. Complete lack of appetite was mentioned in 6% of female pts. 92% of men and 56% of women did not have food-related complaints.

### Conclusions

Monitoring of the socio-economic situation and individual nutritional habits is important in order to explore and prevent the onset of health problems in CKD pts. Dialysis and kidney transplant pts need special attention and the help of dietologists because of the severity of renal failure. Thus, complex management of transplant pts involves also FFQ beside other life quality assessments.

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## Effects of Self-Management Program on CAPD Patients

### HSIEH Chun-Chin, LIN Yu-Ying, ZHOU Shiu-Fen, LAI Hsiu-Wen, SHEN Yen-Ling

### Introduction

The main purpose of research is evaluating the plan of self-management to the effect of continuous ambulatory peritoneal dialysis (CAPD) patient. According to statistics the period from November 2009 to December 2009, there are average of 5 patients choose continuous ambulatory peritoneal dialysis (CAPD) treatment monthly. Due to CAPD is independence to the self-management treatment, dialysis catheter placement caused bloodstream infections over and over again to extend in hospital, increased the cost of health care more even complications and mortality. Thus enhancing patient self-management and how to reduce complications are important. Explore of



CAPD patients to the plan of self management is anticipation. It can be reduce complications, and enhance the quality of care.

#### Purpose/Methods

The research methods have three phases; the first phase is structure of questionnaire to patient's agreement. The subject of research is a purposive sampling in thirty CAPD patients at teaching hospital from January 1, 2010 - April 30, 2010. The second phase is conceptual framework of plan self-management, to design the planning of self-management for CAPD patient. It contains contain routine treatment, daily management, catheter and catheter exit of the care and treatment of abnormal conditions. The third stage is individual health education, practical operation and experiences sharing, adopted the one group pretest posttest design to patients at the health education and experiences sharing to measuring effectiveness of planning of self management.

#### Results

Results of the analysis of data by the software of SPSS 17.0 to "the plan of self-management on CAPD patients" revealed the CAPD patient self-management plan to enhance the overall awareness to 91.8% (+15.8%), in which the abnormal situation is handled by 63.7% increased to 83.4% (+19.7%), catheter care and catheter exit from the 77.6% increase to 96.3% (+18.7%), individual health education for patients, practices, operation and experience sharing after the satisfaction, the overall increase of 92.7 % (14.4% improved).

#### Conclusions

Care on the application adopted by the CAPD patient self-management program is not only to improve patient self-management skills and dialysis coexists and prevents disease but also enhances the quality of care.

#### Comments

Explore of CAPD patients to the plan of self management is anticipation. It can be reduce complications, and enhance the quality of care.

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## The Study on Intervention and Effects of Oral Health Prevention for Chronic Mental Patients

### SU En-Ping, CHIU Hsien-Jane, SHEN Shu-Hua

#### Introduction

With cognition change of mental disease and function degeneration, mental patients' personal health degrade and oral care and health can't be practiced. Bureau of National Health Insurance

shows decayed teeth rate of mental disabilities is 91%, but the rate of decayed teeth filling is only 31%. Moreover, the decayed teeth rate of mental disabilities who are more than 45 years-old is 98.73%, and the rate of filling is 20.7%. Therefore, promotion of oral health and intervention are important.

#### Purpose/Methods

This study explore if the participation in cleaning of teeth stone and the filling rate of recovery mental patients is improved after the intervention of oral health course. We also use questionnaires to evaluate the degree of satisfaction to provide accordance for oral health and prevention courses in the future. nursing staff evaluated patients' situation of teeth check up and calculated the cleaning rate of teeth stone and filling rate.

#### Results

we proceed the training courses. 36 nurses completed, and the achieving rate was 54.5%. We provided 237 patients took oral checkup and cleaning of teeth stone, and the rate of teeth check and cleaning of teeth stone was 74.53%. The average DMFT was 11.92 and the filling rate was 18.82%. we made degree of satisfaction survey of dental checkup. 222 recovery mental patients participated, 78.38% patients noticed more about oral health and 73.87% patients knew their teeth situation more.

#### Conclusions

Since oral guidance skill of mental nursing staff was not practiced enough, it was a challenge to make patients to take oral checkup actively. Therefore, this study noticed that after the intervention of oral health course, nursing staff improved their skills which could guide patients to care oral health. The intervention of health education courses, it improved patient to clean teeth stone and to fill actively which both improved oral health knowledge and participation of oral prevention for patients.

#### Comments

With cognition change of mental disease and function degeneration, mental patients' personal health degrade and oral care and health can't be practiced. It is important to training staff about oral prevention and health for mental patients. By training nursing staff, providing patients relative education to increase the oral prevention volition of patients, we can achieve health promotion and fulfilling social responsibility of mental hospital, and also achieve the goal of holistic health care.

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## Session P1.8: Pain-free health services

### A Humane Method: Painless Suture For Open Wound of Children

**CHANG Yuh-Lin**

#### Introduction

The primary experience is crucial in developing personality. To receive injection and wound closing is usually a terrible experience for children. To reduce the fear of needling, we developed a humane method, pain-free suture.

#### Purpose/Methods

There were 12 cases with open wounds of face enrolled in this project. The criteria were children younger than 12 years of age and cooperative. The procedures were performed under special local anesthesia. The intensity of pain was evaluated with Visual Analog Scale (VAS) and another modified pain scale designed for little children.

#### Results

The Visual Analog Scale (VAS) and modified pain scale scores were zero at local injection and zero throughout the closing procedures. All of these patients and family were satisfied with the pain-free procedures.

#### Conclusions

The pain free procedure of closing wound is possible and helped tremendously in relieving the fear of injection and suturing in children.

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### Evaluation of pain associated with Pap smear by self-report numeric rating scale

**HSU Wei-Pang, LI Shioh-Zhi, CHANG Rei-Yeuh, HSIAO Pei-Ching, CHOU Ming-Chih**

#### Introduction

The Papanicolaou (Pap) smear is a golden test used to detect pre-cancerous and cancerous lesions in the cervix. It is an easy, simple and widely used method; however, pain-panic and embarrassment often impede its performance. Pain perception is subjective to a certain degree. Pain expression varies and the use of parameters to describe it also differs. Pain-free hospital

services are the goals of all the hospital staff and patients. So we aim to investigate the pain with Pap smear.

#### Purpose/Methods

We want to quantify the pain patient suffered during the Pap smear manipulation in a teaching hospital in central Taiwan. This was a cross-sectional observational convenience-sampling study. The assistant presented a numeric rating scale (NRS) to women who just undertook a Pap smear sampling with Cyto-brush. After explaining the meaning of number (from 0 to 10) on the NRS, patients chose the number they considered most matching the scenario they had just gone through and presented it to the assistant.

#### Results

From May 2011 to November 2011, 164 patients were recruited. The results of the numeric pain scale are as the following: 95 (57.9%) patients reported painless experience, with the scale of 0. 59 patients (35.9%) rated the scale between 0-3. 9 patients (5.5%) reported the scale between 3-6. 1 patient (0.6%) rated the scale between 6-9. None (0%) experienced extreme pain, with the scale of 10.

#### Conclusions

Our preliminary data show that more than half of the patients assessed the Pap smear performance as a painless medical procedure. This could be encouraging news to empower women to participate in cervical cancer screening.

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### Monitoring and quantifying the result of the non-pharmacological treatment in hospice patients by bio-feedback machine.

**LIN Che-Pin, FANG Wen-Lin, SU Chiu-Jung, PERNG Suh-Jen, ZHANG Shiu-Feng**

#### Introduction

By measuring stress condition with biofeedback machine before and after non-pharmacological treatment of cancer terminal patients, we can quantify the therapeutic effect of music therapy and aromatherapy. Furthermore, the tailor-made non-pharmacological treatment might be available.

#### Purpose/Methods

We collected 91 cases of cancer terminal patients, who received palliative care. The first group 30 patients received music therapy and monitored their skin temperature (Thermo), and Galvanic Skin Resistance (GSR). Second group 30 patients, received music therapy and monitored Thermo and Heart Rate Variability (HRV). Third group 31 patients received aromatherapy and monitored thermo, HRV. We studied the difference before and



after non-pharmacological treatment by biofeedback parameters.

### Results

Both group 1 and group 2 showed Thermo response significantly changed (group 1  $p < 0.001$ , group 2  $p = 0.017$ ) during music therapy. But in group 1 patients the GSR changed variably ( $p = 0.906$ ). And in group 2 HRV showed significant change ( $p < 0.001$ ). Owing to group 1 and 2 results, we used Thermo and HRV to monitor aromatherapy response (group 3). In Group 3 patients, both Thermo and HRV revealed marginal significance (Thermo  $p$  value: 0.048, and HRV: 0.054).

### Conclusions

Using biofeedback machine we can demonstrate the quantity effect of pressure relief by music therapy and aromatherapy in cancer terminal patients. We found that Thermo and HRV are better monitor parameter than GSR. Moreover, the music therapy seemed more effective than aromatherapy by our limited data.

### Comments

From this study, we demonstrated the role of non-pharmacological treatment in relieving pressure. Next step we can use biofeedback machine to monitor individual person, deciding which non-pharmacological treatment is most responsive. Tailor-made therapy thus can be applied to them.

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## Increasing The Using Rate of Patient-Controlled Analgesia (PCA)

**WU Hsing-Chun, CHENG Hui-Ling, CHANG Mei-Chi, LIU Shu-Yuan, PENG Tsui-Chin**

### Introduction

Postoperative pain is an inevitable side effect of the surgery. To decrease postoperative pain not only can prevent certain surgical complications, but also decrease medical costs as well. Compared with other hospitals in Taipei which has 14% to 18% of patient-controlled analgesia (PCA) using rate, our hospital was 13%. Our department conducted a survey during the periods of January 1st to January 26th 2011 on the topic of "How do you know to use PCA as an analgesic agent after surgery?". Results showed that 29.4% of these patients, who decided to use PCA prior to the surgeries, made their decision based on surgeons' recommendation. 25.5% of the patients made their decision by taking advices from anesthesiologists prior to the surgeries. Even among the patients who decided to use PCA postoperatively, 30.3% had no ideas of PCA until recommended by hospital staffs. According to the fact that patients' lack of knowledge about PCA, we planned to focus on

this issue and to improve the quality of postoperative pain control in order to facilitate PCA using rate.

### Purpose/Methods

1. Anesthesiologists offer the information of PCA when providing preoperative anesthetic consult.; 2. Put up posters in surgical floors, including GYN department.; 3. Once patients arriving at post-anesthesia recovery room, we can offer patients, especially to those who have received two doses or more analgesics, and their families the information concerning PCA according to patients' condition and pain levels

### Results

Since we conducted this project on the month of May, the PCA using rate has improved from 13% to 14% with an improving rate of 7.7%.

### Conclusions

Our study showed that by offering more information of PCA, patients can more easily involve in their postoperative pain management and further increase their satisfaction of overall hospital stay.

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## Analgesia efficacy and side effects of low concentrations levobupivacaine combined with fentanyl used for continuous lumbar epidural labor analgesia in parturients

**CHEN Shao-Yi, LEE Mei-Ling, SHIH Ping-Cheng, LEE Chun-Yi, CHEN Cay-Huyen, HUANG Chun-Jen**

### Introduction

4 continuous lumbar epidural analgesia regimens, including A)levobupivacaine (0.04%) plus fentanyl (2 $\mu$ g/mL), B) levobupivacaine (0.05%) plus fentanyl (2 micrograms/mL), C) levobupivacaine (0.06%) plus fentanyl (2 micrograms/mL), and D) levobupivacaine (0.08%) plus fentanyl (4 micrograms/mL), have been used for labor analgesia in our institute. We sought to compare the analgesia efficacy and side effects of the 4 regimens.

### Purpose/Methods

Via chart review, 304 parturients receiving lumbar epidural labor analgesia were included. According to above 4 regimens, patients were designated as the group A (n=118), group B (n=44), group C (n=95), or group D (n=47). Pain scores were assessed via a visual analogue scale (VAS) with scores from 0 to 10 where 0=no pain and 10=worst pain possible. The satisfac-

tion scores were also assessed via VAS with scores from 0 to 10 where 0=poor and 10=excellent. Between-group differences in pain scores, satisfaction scores, and side effects were compared.

#### Results

Wilcoxon Signed Ranks test revealed that pain scores after analgesia of the 4 groups were significantly lower than those before analgesia (A: 9.15  $\pm$  1.01/2.81  $\pm$  1.46; B: 9.02  $\pm$  1.15/2.64  $\pm$  1.48; C: 9.20  $\pm$  0.94/3.31  $\pm$  1.79; D: 9.17  $\pm$  0.92/2.43  $\pm$  1.87; all  $P < 0.001$ ). However,  $\chi^2$  test revealed that the incidence of breakthrough pain was significantly higher in group A (42.4%) than the other 3 groups (22.7%, 22.1%, and 12.8%;  $P = 0.03, 0.00$ , and  $0.00$ ). The satisfaction scores of the 4 groups were comparable (9.15  $\pm$  0.69, 8.98  $\pm$  0.79, 9.23  $\pm$  0.69, and 9.34  $\pm$  0.64;  $P = 0.51$ ). Moreover,  $\chi^2$  test revealed that the differences in the incidences of vacuum-assisted delivery (3.4%, 4.5%, 6.3%, and 2.1%) and Cesarean delivery (8.5%, 4.5%, 6.3%, and 12.8%) of the 4 groups were not significant (both  $P > 0.05$ ).

#### Conclusions

Low concentrations levobupivacaine combined with fentanyl provides satisfactory epidural labor analgesia in parturients. However, parturients received the regimen of levobupivacaine (0.04%) plus fentanyl (2 micrograms/mL) had higher incidence of breakthrough pain.

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## Investigation about current practice on painless gastroduodenoscopy and colonoscopy in Taiwan

LO Shu-Yi, WANG Chih-An, LIU Shu-Yuan, HUANG Chun-Jen, CHEN Cay-Huyen

#### Introduction

Painless endoscopy (gastroduodenoscopy and colonoscopy) are getting more popular nowadays, so the quality of anesthesia during the examination are much more emphasized. To understand the current status of practice on painless endoscopy, we made questionnaires by definition some subjects and spread to the anesthetic performers including anesthesiologists and anesthetists.

#### Purpose/Methods

The questionnaires were spread in the annual meeting of Taiwan Society of Anesthesiologists in Sep, 2010. There were a total of 44 questionnaires completed.

#### Results

1. Profiles of anesthetic performers: anesthesiologists accounted for 86% of all while anesthetists for 14%. In addition, the investigation on years of experiences on anesthesia showed

32.5% of 0-5 years and 5-10 years respectively, and 35% of more than 11 years. 2. Profiles of the hospitals: medical centers accounted for 54.6%, regional hospitals for 43.2%, and local hospitals for 2.2%. 3. Medications: (multiple selection) Propofol accounted for 95.4%, midazolam for 72.7%, and alfentanil for 95.4%. 4. The most common reaction during painless endoscopy were body movement (65%), cough (50%), and partial awareness (40%) in order. 5. The most common reaction after painless endoscopy were abdominal fullness (73.6%), dizziness (63%), and somnolence (56.3%). 6. The most common reaction on 24 hours after painless endoscopy were abdominal fullness (47.3%), nausea (26.3%), and dizziness (23.6%). According to the impression of the performers, 23.1% of patients were very satisfied and 76.9% for satisfied.

#### Conclusions

The results revealed that patients had high satisfaction on painless endoscopy. In addition, the undesired reactions during painless endoscopy including body movement, partial awareness, post-examination somnolence and dizziness should be analyzed and further improved in order to promote the qualities of painless endoscopy.

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## Using Two-Step P.D.C.A. Method to Decrease the Incidence of Hypoxia Phenomenon After Heavy Sedation on Patients Who Underwent Painless GI Panendoscopic Examination

WU Yueh-May, WANG Yu-Chi, TSAI Yeh-Chi, CHEN Zi-Ying, HSU Kui-Yao, CHEN Cay-Huyen

#### Introduction

We provide heavy sedation to people receiving GI panendoscopic examinations in our hospital. During the examination, hypoxia phenomenon was the most common side effect along with heavy sedation. Therefore, we applied P.D.C.A. method to decrease the incidence of this undesired complication.

#### Purpose/Methods

1. Detail monitoring and recording during examinations.; 2. Using fishbone diagram to analyze and determine causes of hypoxia and modifications.; 3. Apply the modified methods during examination.; 4. QA discussion every month.; 5. Adjust modification accordingly of SOP and inform staffs of new adjustments; follow up regularly



### Results

First step of P.D.C.A. From Dec 2009 to March 2010, the average incidence of hypoxia was 8.5% counted from a total subjects of 1521. We planned to decrease this number to 4.5%. We provided 3 mins preoxygenation before given anesthetics to people with HTN, DM, CAD, and age > 60 years old. The result showed that the incidence of hypoxia was decreased to 4.5%. Second step of P.D.C.A. From Nov 2010 to April 2011, the average incidence of hypoxia was 5.7% counted from a total subjects of 2313. Our goal was to decrease this to lower than 4.0%. Technicians are required to follow the actual steps to spray the local anesthetics twice in the throat to decrease intravenous anesthetics use. To provide oxygen via O2 mask and instruct patients to take 5 deep breaths. Results showed that the incidence of hypoxia was decreased to 3.4%. With these positive results, we continued to evaluate, adjust accordingly and followed up.

### Conclusions

By using P.D.C.A. model, we successfully decreased the incidence of hypoxia caused by heavy sedation and reached our goal to provide safer anesthesia during GI panendoscopic examinations.

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## The degree of grief and related factors for people losing relatives in the palliative care unit

### CHANG Ying-Ying

#### Introduction

Losing relatives is a great loss. If it is not handling properly, it is likely to affect physical functions even cause mental disorders. At the worst, the motivation for committing suicide may be triggered in the end. Therefore, understanding the degree of grief for people losing relatives and related factors are very important to the palliative teams. As a result, it is a critical issue to be studied.

#### Purpose/Methods

The purpose of this research is to understand the degree of grief and related factors for people losing relatives for over three months in the palliative care unit. Questionnaire survey was used in this research. The data was collected by purpose sampling in a medical center in central Taiwan. The questionnaires and consent form for data collection were mailed to people whose relatives have passed away from the palliative care unit over three . The criteria for participants are: age over 18 years old, conscious, literate and able to write.

### Results

From March to June, 2009, there were 49 effective surveys among 103 copies. The returns-ratio is 47.57%. The data analysis was processed by SPSS. The average score, degree of grief, for losing relatives is 60.33(SD=16.94). The correlation between patients' age and the degree of grief for people losing relatives is significant ( $p < .05$ ). There are quite significant differences for the grief between the understanding for relatives who are going to die ( $p < .05$ ) and the acceptance for relatives who are going to die ( $p < .01$ ). Furthermore, the variation for these three factors to explain the degree of grief is 32%

### Conclusions

The results of this study suggest that people who fail to accept the fact their relatives are going to die or patients' death age is rather young are identified as higher risk groups for grief.

### Comments

Further counseling for grief is recommended.

## Session P1.9: Patient safety

### An evidence-based health promotion project-strategies for patient fall prevention and outcome evaluation

### SHIEH Shewfang, KAO Chen-Ching, LIN Yen-Ju

#### Introduction

Fall prevention has been seen as a critical issue related to patient safety and health promotion since it makes up the largest category of reported incidents in the hospital. The serious falls would lead to both physiological and psychological harm on patients and families. It also causes increase of medical cost in society. Therefore it was concerned and challenged by healthcare providers. Several strategies and interventions were promoted through a multifaceted approach. It would be valuable to evaluate the outcome.

#### Purpose/Methods

The aim of the project was to examine the effectiveness of fall prevention for hospitalized patient in Taiwan. A quantitative research with file data analysis was used in the study. The data was retrieved from reported incidents of fall. The incidence and degree of injuries of patient fall in the hospital was collected and analyzed from Jan. to Nov. 2011. Total 118 fall cases of 2011 were collected and evaluated. It was also compared with the concurrent data of 2010.

### Results

The results shows that the incidence of patient falls in 2011 was 0.07% compared with the incidence in 2010 (0.06%) was nearly same. The degree of injury revealed 68.1% as none injury, 12.5% as mild injury, 11.1% as moderate injury, 8.3% as serious injury, and 0% as extreme injury which were acceptable. It shows that the protocol and interventions of fall prevention were effective

for reducing fall incident in the hospital. However, severe injury happened in most elderly patients was also noticed.

### Conclusions

Facts shows that the implementation of fall risk assessment and protection measures of intervention are very important. Although some prevention strategies are obvious and may be used with many patients, other patients present more of a challenge and demand creative and innovative solutions to ensure patient safety. Accordingly, fall prevention interventions would be continuously performed and incorporated into health promotion activities aimed at reducing falls among older adults and hospitalized patients.

### Comments

Fall prevention has been a global issue and need to monitor and evaluate periodically. A comprehensive health promotion activity could be developed and expanded in the community to reducing the incidence of fall. Patient education via innovative methods would be further emphasized to improve the effectiveness of intervention.

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## A project to decrease the patient fall rate in the medical ward

LEE Chia Lun, TSAI Ya-Ling, HSIAO Chih Chun

### Introduction

26 incidents of falling down occurred during 2010 in our ward. The average rate of falling down was 0.19%, which is much higher than the average obtained from the whole hospital 0.08% and the threshold obtained from the Taiwan Quality Indicator Project (TQIP) 0.05%. Possible reasons were: 1. Incorrect assessment of the situation and improper intervention on the nurses' behalf and lack of knowledge on prevention falls on the patients and caregivers' behalf; 2. Lack of standard procedures to prevent fall; 3. Many risks in the ward.

### Purpose/Methods

To decrease the patient fall rate to less than the threshold obtained by the Taiwan Quality Indicator Project (TQIP) 0.05%. In order to reduce the fall rate, colleagues used the decision matrix analysis to develop interventions including: development of protocols to prevent falls in the ward, assessment of risk factors, establishment of care and guidance sheets, increase accurate evaluation of patients at risk of falls amongst colleagues, and improve completion rate in preventing falls, change the placement of warning signs, and removal of risk in the surrounding environment.

### Results

After implementing the interventions, the rate of falling down decreased to 0% ~ 0.09%. The average score of knowledge the patients and caregivers had regarding prevention of falls rose from 51.1 to 64.5 points. The nurses' accuracy in evaluating situations presorting as high risk of falls rose from 63.2% rose to 87.5%. The completion rate in fall prevention rose from 36.0% rose to 64.7%. The average score of fall prevention knowledge rose from 92.0 to 96.3 points.

### Conclusions

The project's interventions can effectively reduce the patient fall rate in the ward. They can also enhance the knowledge of fall prevention amongst nursing staffs, patients, and caregivers.

### Comments

We suggest the participation of Doctors, pharmacists or rehabilitation specialists in the prevention of fall. In addition to medication use, we can have specialists providing rehabilitation of lower extremities, and team work to help maintain patient safety.

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## The effectiveness of Health Education System-Strengthening intervention to prevent patients falls in a chronic ward

HUANG YA WEN. Wu Y.C .

### Introduction

Falling down is one of the accidental events in the hospital. To learn how to prevent falling down is very important in healthcare. Patient may get some negative hurt including afraid to get out of bed, head injury, open wound, fracture, increase medical expense, and medical dispute by falling down. The aim of this research was to perform a System-Strengthening intervention in a chronic ward to reduce the falling rate and hurt.

### Purpose/Methods

System-Strengthening intervention was defined as patients' falls prevention health education policy in a chronic ward. The research evaluated the falling rate and hurt in a chronic ward in Taiwan from November 2010 to August 2011 by high dangerous group sheet and Taiwan Quality indicator Project (TQIP). After evaluating the risk factors of falling down of inpatients, the high dangerous group was figured out and the individual instructions for 30 minutes were performed. There were 480 patients accepted the patient instructions. The quantitative data including the falling rate and hurt and qualitative data including Interviewing, observation, and nursing record were used.





Triangulation analysis was used for qualitative data to increase the validity of the research.

### Results

The falling rate was reduced from 6.3% between November 2010 and Feb. 2011 to 3.35% between May 2011 and August 2011. The rate of hurt was reduced from 54.5% to 51.5%. After offering patient instructions, the results were as follows, patients will go to toilet in the assistance of caregiver, patients can use the electric call bell to ask for nurse to assist getting out of bed if their caregiver is going out, and the caregivers will notify nurse when they go out. According to observation, patients with weakness in the lower limbs have learned to use potty-chair, jordan or diaper. The result of nursing record analysis revealed improvement in the attitude and behavior of preventing falling down among patients and families.

### Conclusions

After offering patient instructions will reduce the falling rate and hurt. The results of this research emphasize the importance of the patient education in chronic ward.

### Comments

After offering patient instructions will reduce the falling rate and hurt. The results of this research emphasize the importance of the patient education in chronic ward.

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## The Effectiveness of Hand Hygiene Promotion in Mental Hospital

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### Introduction

Jainan mental hospital is a regional teaching hospital at the southern of Taiwan; there are 500 acute and chronic beds, 200 daycare beds. It is very important to avoid institution infection in mental hospital due to patient's character. To create a therapeutic and safety environment, hospital needs to promote the quality control activity for hand hygiene through education and training, complete equipment, and practical intervention. This hand hygiene promotion activity can enhance patients and staffs to perform hand hygiene effectively.

### Purpose/Methods

The purpose of this program is to explore the effectiveness of hand hygiene promotion in mental hospital. The aim of this program is reduce the risk of infection events and provide patients and staff a safety and therapeutic environment. Three hand hygiene strategies were promoted actively in hospital, 1. Plant the hand hygiene roots- education program, complete hand-washing equipment. 2. Blossoms upwardly-design the

slogan of "love and care from hand wash", hold "I am the best of hand wash" drama performance, hand hygiene poster, and creative education, 3. Quality control activities

### Results

The hand-washing compliance rate of patients improved from 73% to 94%, hand-washing compliance rate of health care professional from 80% to 93%. It is significant effectiveness. This hand hygiene program was certificated that is the outstanding hospital by Disease Control Department in December, 2011.

### Conclusions

It needs to internalize into the hand hygiene in daily life, to achieve the purpose of the implementation of hand hygiene to reduce the risk of health care associated infection events, and thus provide patients and medical staff a safety and therapeutic medical environment.

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## Promotion of Handwashing Compliance of Nursing Staffs in the General Medical Ward

**CHEN CHING-YI, HONG SIN-YI, CHEN JHEN-YU, LIU SHU- HUI, YU PEI- LING, HUANG WAN-CI**

### Introduction

According to the estimation of WHO, medical care workers around the world do not actually perform hand hygiene in about 60% of the occasions during the process of patient care. From Jan, 2011 to May, 2011, the original handwashing compliance of our unit is 50%. Therefore, we chose the improvement project as the theme to develop a correct understanding of handwashing, prevent the collective outbreak and increase the quality of medical care.

### Purpose/Methods

We established the project team on June1,2011 which also means the handwashing compliance of the project are expected to come to 74%. The details are listed as follows: 1. education of knowledge about hand hygiene; 2. posting the "Five Occasions of Handwashing" file on the nursing trolley, and paste a banner of "Have You Washed Your Hands?"; 3. check the hand sanitizer devices regularly on every Wednesday; 4. placing a bottle of hand cream; 5. setting a reward system.

### Results

Our unit used QCC method to improve the hand hygiene of nursing staffs. The handwashing compliance was only 50% before the improvement. During the improvement process from July, 2011 to Sep, 2011, the handwashing compliance of nursing

staffs are 63.33%, 70% and 73.33% respectively; the rate of target completion is 97.21%; the progress rate is 46.66%.

### Conclusions

Our unit used QCC method to improve the hand hygiene of nursing staffs. During the improvement process, we obtained the findings below: the concern and the frequent reminding of leaders which help nursing staffs to establish a good habit defined in the "Five Occasions of Handwashing" as well as education and film play promoted to properly explain the five key occasions of handwashing will surely and effectively improve the handwashing compliance.

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## Using Cause and Effect Diagram to Reduce Urinary Tract Infection in Respiratory Care Ward

**KAO Ching-Mien, KUO Chun-Hua, CHUNG Chih-Huan, KUO Tsung-Cheng**

### Introduction

Urinary tract infection (UTI) was the first leading cause of infection in respiratory care ward (RCW) (3.23 per mille in 2008 and 3.08 per mille in 2009). It caused a huge wasting of nursing manpower and medical expenditure. It is important to decrease the UTI rate in respiratory care unit.

### Purpose/Methods

We developed cause and effect diagram after reviewing literature for the causes of UTI in RCW. There were totally 643 events related to UTI in RCW between January and December 2010. Based on the result of the diagram, we set up the standard protocol for bladder training, time to change diaper after diarrhea, caring of urinary indwelling tube, and monitoring for nursing skill.

### Results

The rate of UTI decreased from 3.08 per mille to 0.99 per mille, and the daily cost for antibiotics decreased 46.4 US in average. Nursing care decreased 45 min/day and the skill performance test increase to 100 % correct rate. All the staff showed a positive response in the five dimensions in the radar diagram.

### Conclusions

It is important to evaluate the necessity of indwelling catheter and to remove the catheter as soon as possible. Continue monitoring and quality improvement can reduce the UTI and reduce the cost of hospitalization.

### Comments

It is useful to set up the nursing standards of indwelling catheterization for clinical care, education for care givers, the system of monitoring nursing working efficiency. Besides, also designed surveillance efficiency to monitor.

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## Application of Team Resource Management for improving safety of medical inpatient examinations

**LEE CHIN-JU, YU CHIN-YI, MIAO CHING-CHEN, YANG JIN-MAUN, YANG SHIN-HSIEN, HUNG SU-YING, LIN SHOEI-LOONG**

### Introduction

Inpatients most likely need to receive frequent examinations. Inter-sectoral communication and coordination can improve relationship among medical team members and in turn improve safety of medical inpatient examinations. This study aimed to apply Team Resource Management (TRM) to improve communication for effective handover and patient transport.

### Purpose/Methods

We inspected the process of examination delivery of new internal patients in a regional and teaching hospital, and conducted a questionnaire survey. It applied the concept of TRM-ISBAR into improving abnormal handover information delivery including introducing and ensuring handover subjects, situation control regarding patient current status and observed change, background with medical history, utilization of particular medication and treatment, assessment for updated life sign and examination, and recommendation about consequent measures.

### Results

After introducing TRM-ISBAR, communication among health professionals improved, and a standardized communication protocol for effective handover was developed. The complete handover rate of patient examination increased from 45% to 94%. The percentage of the medical team members who understand ISBAR increased from 23% to 85%. The complete rate for inpatient examination increased from 54% to 92%.

### Conclusions

The introduction of TRM effectively improved medical team communication, productivity and work efficiency, team work satisfactions, and reduced man-made mistakes so as to build safe working environments and increase patient satisfaction.

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## Project for promoting the transportation safety of hospital patients

**WAN-CHI Kao, WAN-HSIN Lai, CHIA-NI Ho**

### Introduction

Improving medical care effectiveness of communication among staff has been an international issue and promotes patient safety. The project aim to understand the transference and safety of inpatient among nurses and assistants. In October 2009, according to the hospital norm and references, the total number of inpatient transfer was 120. The executive and safety rate of patient transfer among nursing staff was 88.4%, while the executive rate among assistants was 76.4%. Incomplete patient identification during transference that led to the erroneous event of examination. In order to improve the safety of inpatient transfer, I set up a special working group. After establishment of "checklist of inpatient transfer" and "standard process of transference", the executive rate of patient transfer among nursing staff and assistants was 100% and 99.2%. There was no abnormality during transfer process. In order to standardize the consistency of nursing care, the result of this project will be promote to all units of the hospital.

### Purpose/Methods

The purpose of this project was aim to promote the safety of patients during transportation for exam or to different unit./The clinical site observation was used to collect the context of transportation. The team members carry the observation one by one by structured-checklist during the October 2009.

### Results

There were 120 cases was observed. The accurate transport rate was 88.4% for registered nurses and 76.4% for nursing assistants. The data also showed that the patients' identification was incomplete and also cause mistake for sending patient to the wrong examination unit. The strategies to overcome these problems were emerged by brain-storming of this project team. It includes "the audit and checklist of patient safety transportation", "the standardized procedure of patients' transportation". After implementation of this project, the accurate transport rate was 100% for the registered nurses and 99.2% for the nursing assistants.

### Conclusions

Hospitalized patients may need to receive examination or different care regimens thus need to leave the original unit to other unit. The transportation safety is one of the most components of patients' safety. The result of this project showed that the standardized procedure can improve the accurate rate of patients' transportation and may maintain the safety of hospitalized patients effectively.

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## Session P1.10: Mental health promotion for patients

### Construction of Case Management System for Patient With Schizophrenia

**JANG Shwu-Ling, WU Pei-Lin, YEN Yu-Ting**

### Introduction

Patients with schizophrenia is accompanied by discontinued care, the need to coordinate the services involved for the benefit of individuals has led to the conceptual development of case management. To construct a comprehensive, clear case management system of schizophrenia can effectively track the status of the case back to hospital, and provide an individual medical care intervention for patient with schizophrenia. This could avoid duplication of medical resources, and improve quality of care.

### Purpose/Methods

The purpose of this study is to construct a case management system for patient with schizophrenia. Subjects were 1541 patients screened by the information resource management system since Jan. to Nov. in 2011. To construct the case management system for tracing their treatment compliance. Brief Psychiatric Rating Scale as tool for evaluation the mental status. Subject were monitored the status dependence on their OPD returned status such as regular, irregular and loss of follow up, provided individual intervention for difference subject.

### Results

The average doctor visiting time for each person was 1.64 times every month. 14% was irregular to see the doctor in hospital. Acute ward readmission rate in 6 month was 11%. The emergency used rate was 8%, lose of follow up rate was 2%. After applying the case management system, the doctor visiting rate improvement up to 3%.

### Conclusions

Although the emergency used rate and readmission rate were no obvious decreased after this intervention, health care professional should be involved more disease cases in health education, and create information warning system to alert physician's attention to the case treatment plan. This case management module provided a regular treatment for schizophrenia patient, and improves treatment compliance through active intervention by doctor. The patient function and quality were improved by the case management system.

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## Exploring recovery process in patients with suicide attempts: From psychiatrists' view who serve as roles of caregivers

**CHI Mei-Ting, CHIANG Yung-Chih, KU Yan-chiou, JEANG Shioh-Rong**

### Introduction

The purpose of this study was to explore the experience of suicidal patients from their treating psychiatrists to understand recovery process in patients who do not have suicidal behavior within one year after suicide attempts. A qualitative semi-structured interview was conducted with 5 psychiatrists from a medical center in Southern Taiwan who took care of these suicidal patients without suicide attempt within one year.

### Purpose/Methods

The purpose of this study was to explore the experience of suicidal patients from their treating psychiatrists to understand recovery process in patients who do not have suicidal behavior within one year after suicide attempts. Method: A qualitative semi-structured interview was conducted with 5 psychiatrists from a medical center in Southern Taiwan who took care of the suicidal patients without suicide attempt within one year. Constant comparison and the NVivo 9 computer software were used to analyze the collected data.

### Results

The recovery process could be divided into five stages: (1) Denial stage: helplessness and hopelessness, feeling lack of life, and interpersonal imbalances; (2) Seeking-for-help stage: seeking help from professional professionals, social support and the strength from religious belief; (3) Reorganization stage: try to reorganize self-awareness, going through past experiences, and choices of life and death; (4) Adjustment stage: emotional catharsis, role changes, and strengthened family strength; (5) Acceptance stage: facing reality, accepting treatment, and finding "self" back.

### Conclusions

The nursing application: This research analyzed the recovery process of patients with suicidal attempts from the view of patients' treating psychiatrists as role of caregivers in order to serve as a reference for medical professionals offering clinical intervention for patients with suicide attempts, helping patients to walk out of shadow of suicide and re-adapt to life.

### Comments

The results should be able to serve as a reference to the psychiatric nursing staffs about the future clinical intervention model in assisting suicidal patients to recover, adapting to the shadow of suicide, finding their "self" back and facing their life again.

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## Quality of provided services from patients' perspective

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### Introduction

Medical staff in Republican Vilnius Psychiatric Hospital, acting as deliverers of psychiatric services to patients, and striving to enhance the quality of treatment and the trust in the institution, want to be sure their activities meet patients' needs and expectations so they would be coming again in case of necessity. In order to ensure efficacy and safety of provided services a research project was started "Evaluation of the quality of delivered services, specialists' performance and environmental factors at republican Vilnius psychiatric hospital". Both the staff and the patients had their opportunity to declare their evaluation of the main issues of service quality reflected in service availability, timelines and efficacy, style of communication between staff and patients, empathy to the patients and their relations, mutual trust and respect, safe and cosy environment, trend for rehabilitation and integration in community.

### Purpose/Methods

The study aims to examine the evaluation of service quality, staff activity, adaptation of environment and psychological climate in the hospital. Methodology: a questionnaire with 4 item groups according to the aims and objectives of the study: 1. Evaluation of the quality of delivered services.; 2. Evaluation of the staff competence and behaviour.; 3. Evaluation of the hospital surroundings and psychological atmosphere.; 4. Socio-demography of respondents. The questionnaire was filled in by 200 patients and 200 employees of the hospital. Inpatients and various specialists made the general group. Results of patients with illness duration up to 5 years and over 5 years were compared.

### Results

Patients with longer illness duration tend to believe the services are provided timely and promptly, in accordance to quality standards and patients' needs and expectations, with respect and consideration for patients. These patients are less inclined to estimate positively the surroundings and premises of the hospital, and 20% of them indicate psychological and physical violence experienced by patients and even more by staff. Quite a lot of patients with shorter illness duration think they do not receive services in due time and quickly. 18% complain of insufficient communication when services are delivered. Only 5% observed psychological or physical violence experienced by patients or staff. They were satisfied with the hospital premises and technical condition.

### Conclusions

patients with shorter or longer duration of illness disagree in evaluating the quality of services, the environment and the contribution of the staff. The quality of services is evaluated higher by patients with longer duration, while the other group was more satisfied with psychological atmosphere and surroundings.



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## The Association between Metabolic Parameters and Psychopathology in Chronic Patients with Schizophrenia

**LIN Yu-Chung, CHIU Hsien-Jane, LIN Chieh-Nan, WU Chia-Ling**

### Introduction

Given the high prevalence of metabolic syndrome in subjects with schizophrenia, metabolic syndrome is supposed to be related to the etiology of schizophrenia. Limited evidence also suggests that serum metabolic parameters, such as total cholesterol (Chol), triglycerol (TG), Low-density lipoprotein (LDL), very low-density lipoprotein (VLDL), or high-density lipoprotein (HDL) are correlated with the patients' response to antipsychotic treatment. The association between psychiatric symptoms and metabolic parameters in schizophrenic patients deserves to be explored.

### Purpose/Methods

The study aimed to investigate the cross-sectional correlations between psychopathology and metabolic parameters. 217 Taiwanese patients with schizophrenia were recruited from chronic wards or day wards. Clinical ratings, including Positive and Negative Syndrome Scales (PANSS), Global Assessment of Functioning (GAF), Simpson-Angus Rating Scale, Abnormal Involuntary Movement Scale, and Barnes Akathisia Rating Scale, along with clinical metabolic parameters, including Body-mass Index (BMI), waist circumferences (WC), systolic/diastolic blood pressure (SBP/ DBP), fasting blood glucose, TG, Chol, HDL, and LDL levels, were analyzed.

### Results

BMI, WC, and BW were higher in those aged < 45 than ≥ 45. WC and BMI were negatively correlated with PANSS total scores, positive symptom scores, negative symptom scores, and general psychopathology scores. Fasting glucose and S/D BP were negatively correlated with PANSS total scores and negative symptom scores. BMI, WC, S/D BP were positively correlated with GAF scores. Those who were diagnosed as metabolic syndrome had lower PANSS total scores, lower positive symptom scores, and higher GAF scores.

### Conclusions

Patients with schizophrenia may present with metabolic problems when they are younger. Higher levels of metabolic parameters, including WC, BMI, BP, and fasting blood glucose, but not Chol, TG, HDL, or LDL that are noted by previous studies regarding treatment responses, are related to less psychopathology and higher GAF scores. The findings suggest a fundamental correlation between schizophrenia psychopathology and meta-

bolic syndrome. Further studies on the factors mediating these interactions are necessary.

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## Mental health promotion in emergency nursing of surgical cancer patients

**VILJANEN Mari, KOSKILIN Ritva**

### Introduction

Health promotion in Finland is based on the Primary Health Care Act and its importance is emphasised in the new Health Care Act. According to the Health Care Act (paragraph 11) the hospital district should offer its expertise and support to the municipalities and spread out evidence-based operation models and good practices for prevention of diseases and problems for the municipalities to use (paragraph 36). Health promotion within specialised health care is challenging. Nursing in a fast tempo, short duration of therapy and serious illnesses create challenges in implementation of health promotion. Cancer patients are a substantial group of patients within the specialised health care. Every fourth Finn gets cancer during life. Depression, and in relation to this anxiety, symptoms of hopelessness and fear are common for cancer patients. According to studies, cancer patients and their relatives experience that they don't get enough mental support from the nursing personnel. Also the nurses experience the situations of interaction with cancer patients and their relatives as difficult.

### Purpose/Methods

The development project's purpose is to develop guidance in the early stages of the disease for patients who have abdominal and urologic cancer. The purpose is to support and improve the cancer patients' mental health with resourcing guidance. The study includes patients who have recently (< 6 months) been diagnosed with abdominal or urologic cancer. In the first study phase the patients (n=12) are interviewed on the last day of the hospital stay. The purpose with the collected results is to create an indicator for carrying out quantitative research. The enquiry in the second phase is aimed to be implemented to all surgical cancer patients in the hospital.

### Results

The results will be published at the HPH conference in April 2012.

### Conclusions

Health promotion in emergency nursing within specialised health care is an important future challenge, which should be answered. The development project results can be used when planning guidance within specialised health care for surgical cancer patients at a pre-operative visit at the outpatient ward

as well as when arriving for surgical treatment at the inpatient ward. With the results a model of resourcing guidance can be developed to promote the mental health of surgical cancer patients.

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## An exploratory study of the satisfaction to antipsychotic medication of patients with schizophrenia in Hong Kong

**LIU Tai Wa**

### Introduction

To improve the treatment outcomes of patients with schizophrenia, it is important to enhance their adherence to antipsychotic medication in order to reduce the chance of being disengaged from pharmacological treatment. Overseas studies indicated that patients' satisfaction is correlated with their adherence to antipsychotic medication but patients' satisfaction towards their antipsychotic medication has not been explored in Hong Kong.

### Purpose/Methods

To investigate the factors related to the satisfaction with antipsychotic medication and the relationship between satisfaction and medication adherence of patients with schizophrenia in Hong Kong. This study utilized a qualitative research method using focus group interviews to explore issues relating to satisfaction level and medication adherence. A purposive sample was recruited from the psychiatric units of a regional hospital in Hong Kong. Two focus groups were conducted and 20 participants who were diagnosed with schizophrenia were recruited. The focus group interviews were transcribed and data were analyzed by content analysis in its original language (Chinese). Meanings were formulated from the significant statements and phrases that directly pertained to participants' satisfaction of antipsychotic medication and then organized into clusters of themes.

### Results

**Results:** The findings revealed participants were most satisfied with the perceived benefits of antipsychotic medication. However, they were not satisfied with the information provided to them about the possible side effects caused by their antipsychotic medication and not being involved in treatment decision. Although participants were experiencing side-effects, they continued to take their medication because the perceived benefits outweighed the side-effects burden. Furthermore, they would be more satisfied and willing to take their medication if they could be well informed and involved in treatment decision. Lower satisfaction was associated with lower adherence level of antipsychotic medication.

### Conclusions

**Conclusion:** The findings suggest that mental health professionals should consider the factors influenced the satisfaction of patients with antipsychotic medication in order to tailor medication regimes that are effective and acceptable to patients with schizophrenia.

### Comments

Education and information of the antipsychotic medication and illness are important to promote patients' level of satisfaction. Patients should be involved in their treatment decisions in order to enhance their adherence to antipsychotic medication.

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## Application of Horticulture Therapy in Health Promotion

**LEE Kuan-Hui, LEE Sen-Ying, HUNG Ling-yu, TSOU Jhi-Chyun, WOO Peter, MA Hon-Kwong**

### Introduction

Issues of commercialized society engagement, metropolitan lifestyle tension, and labor population work stress are becoming increasingly important. Due to nature refreshment can attain physical relaxation and spiritual calmness, horticultural activities to relief stress are therefore emerging.

### Purpose/Methods

Efficacy of Horticultural Therapy Evaluation Form, Warwick-Edinburgh Mental Well-being Scale (WEMWBS), and Taiwanese Depression Scale (TDS) are employed for pretest and post test. Through the participation of our colleagues, the purposes are to evoke positivity, appreciate life, relax body and mind; also to expand horticultural knowledge and promote peer collaboration. A horticultural therapist is employed to conduct the activities. Three stages are processed in 2011, each lasting six weeks, with a total of fifty participants.

### Results

Using ANOVA to evaluate the efficacy before and after horticultural therapy, all items attained remarkable improvements except only mild improvement in interpersonal relationship. Using t-test to analyze WEMWBS and TDS, an increase in WEMWBS mean and decrease in TDS mean were observed, but neither reached statistical significance.

### Conclusions

Although some portions of pretest and post test data analysis did not reach statistical significance, the introduction of horticultural activity still had efficacy. At present, most of the health promotion plans in workplace focus on smoking cessation, betel-nut cessation, weight reduction etc. Activity aiming at



relieving mental stress for labor is relatively infrequent. Through the introduction of our horticultural activity, hoping that a positive mood can be induced by personal experience, a consequent change in behavior can be promoted.

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## The Research of Relevance between the Spiritual Health and Spiritual Care Behaviors of the Nursing Staffs

**HUANG Feng-Yu, CHOU Chuan-Chiang, KU Yan-Chiou**

### Introduction

Spirituality is the essence of human being existence and destiny. Many studies suggest that spirituality is the core of holistic care in nursing practice. So, spiritual health is important for nurses who provide spiritual care. However, few studies focused on spiritual health and spiritual care behavior of nurses. This study explored the relationship between spiritual health and spiritual care behavior among clinical nurses in Taiwan.

### Purpose/Methods

A cross-section research design was developed and implemented in which 769 nurses were recruited from a medical center located in Southern Taiwan. A self-administered questionnaire was employed to gather data on respondents' demographic, spiritual health status and self-reported spiritual care behavior information. A total of 690 valid questionnaires were collected (98.9% retrieved). The coefficient in dependent t-test, one-way ANOVA, and Pearson's correlation were applied to analyze subjects' responses.

### Results

Major research findings included: (1) The mean scores for spiritual health and spiritual care behavior were 77.5 and 29 respectively. (2) Personal background including age, working years, perceived health status, religious belief and taken spiritual related courses all had significant influences on nurses' spiritual health status. (3) A positive correlation was found between spiritual health status and spiritual care behavior among clinical nurses in this study.

### Conclusions

The findings of this study may serve as useful references for clinical nursing, nursing education and nursing administration in developing spiritual health promotion related strategies to improve quality of nursing care.

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## The immediate effects of the first session of abdominal breathing training among patients with anxious mood

**TU Kuan-Yu, LIOU Jiunn-Ying**

### Introduction

Abdominal breathing training is widely used to reduce anxiety level. This study discussed whether the first session of this training brings immediate effects.

### Purpose/Methods

We recruited forty volunteers suffering from anxiety and randomly assigned them into experimental group (operated abdominal breathing) or control group (non-operated abdominal breathing). We examined the difference in HRV (SDNN, TP, LF and HF), finger temperature, HR and self-reported anxiety level between two groups in baseline, anxious and relaxed stages.

### Results

There were no significant difference between two groups in all dependent variables in baseline and anxious stages. We could confirm two groups had the same level of baseline and anxious arousal. We found the experimental group's score was significant higher than the control group in SDNN ( $F=21.59$ ,  $p<.001$ ), TP ( $F=23.17$ ,  $p<.001$ ) and LF ( $F=65.56$ ,  $p<.001$ ) in relaxed stage.

### Conclusions

The immediate effect of the first session was found in HRV (SDNN, TP and LF). HRV might be more sensitive than other indexes, but not the only factor to reduce the anxiety level, there might be still other facts may cause one feel relaxed. Based on the results, we concluded that the significant HRV changes in abdominal breathing training group, that it could raise the individuals' motivation to join later training.

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## A pilot study on music therapy in improving anxiety disorder

**WU Shiun-Jie**

### Introduction

This Study will investigate on the effects of Music Therapy in improving health problems and symptoms in hospitalized patients with anxiety disorder.

**Purpose/Methods**

This study is a quasi-experimental study with patients from psychiatric acute wards from a certain hospital selected as study samples in the implementation of Music Therapy. Changes of negative symptoms by the implementation of Music Therapy in the patient's first day and 30 days after being hospitalized will be used for comparison.

**Results**

Effective sample total to 50 samples. Prior to the therapy, 90% (n=45) patients in overall sample show inactive acts of isolation, and 88% (n=44) patients show lack of will and interest. 70% (n=35) of patients in the evaluation for social interaction show lack of interest for his/her surroundings with patients with aversion to social interaction (n=30, 60%). After Music Therapy, overall sample show a general decrease in the ratio of patients with inactive acts of isolation (n=10, 20%) as well as in the ratio of patients with lack of will and interest (n=8, 16%), patients with lack of interest to his/her surroundings (n=6, 12%) and patients with aversion to social interaction (n=5, 10%).

**Conclusions**

Music Therapy is found effective in the improvement of hospitalized patients with anxiety disorder. In the future, Music Therapy can be used in taking care of patients with other mental illness with further studies on its effects.

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Participants are asked to evaluate their communication anonymously with ten-point Likert scale check list. Differences between post- and pre-test indicate the improvement of communication. Participants can give written feedback anonymously.

**Results**

The Camp had held 3 times with a total of 35 teams participated from 2008 to 2010. The differences between post- and pre-test for both parent and adolescent all show statistically significant. Along with the written feedback, participants express not only they improve their communication but build strong relationship with their teammates. Staffs participated and approved the camp composed of an Employees Mental Health Promotion Volunteer Group to promote Parent-Adolescent Cooperation Camp in the hospital.

**Conclusions**

From the result, the camp successfully improves parent-adolescent communication and relationship. The camp demonstrates when parents and their adolescents learn how to communicate effectively, their conflicts reduced and their relationship promoted. The free written feedbacks after the camp tell us the communication skills learnt from the camp also help managing workplace relationships and emotions. Based on the above results, improve family communication benefits both family relationships and workplace relationships.

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## The improving effect of Parent-Adolescent Cooperation Camp on parent-adolescent communication for hospital staff

**CHANG, Yu-Ping, YAU Shiojing, WU Ming-Hsien**

**Introduction**

Family support is important for general health for everyone (Clark, 2005). According to Chiayi City (in Taiwan) suicide notification of 2011, 15 to 24 year-old group ranks third of all age-groups, and the first cause for youth suicide is parent-child conflict. Therefore, if we can help staff establish good communication with their adolescent to deal with their conflict, we may not only reduce their life pressure, but also promote their general health. This is the purpose of the Camp.

**Purpose/Methods**

The camp is a two-day overnight program. In the program, a staff and one of his adolescent work together to overcome several challenges, which push them to focus on each other and communicate. During the process, they can observe how the other teams communicate. Before and after the camp, partici-

## The Project of Improving Overweight in Chronically Psychiatric Inpatients

**SUN Ya- Fen, HUANG Ya- Huei, KAO Yi- Ju, TSENG Su-Mei, HUANG Tzu-Hsin**

**Introduction**

The aim of the project is to explore the incidence and causes of overweight and to improve overweight among chronically psychiatric inpatients.

**Purpose/Methods**

We measured body height and body weight by an electronic scale and calculated body mass index and incidence of overweight from February 11 to 28 in 2011. Strategies to improve overweight included multiple and regular exercise programs, holding diet group education, and reward program based on attendance cards between March 1 to June 20. We evaluated outcomes by measuring body mass index, test of knowledge about weight control, and satisfaction surveys from June 21 to July 15.

**Results**

Incidence of overweight decreased from 80% (N = 64) to 58.8% (N = 47). The rate of participating multiple exercise pro-





grams was 100%, and satisfaction levels was nearly 80%. The rate of correctly answering questions of the test regarding diet knowledge of body weight control increased from 68.8% to 92%, the rate of attending diet group education was 100%, and the satisfaction levels was 98.2%.

### Conclusions

This project is effective to improve overweight among chronic psychiatric inpatients. To maintain the motivation of doing regular exercises is a challenge for this project. Moreover, the involvement of hospitals, communities, and family is needed for chronic psychiatric inpatients to reduce the health problem of overweight.

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## Depression and Related Factors Among Regular Hemodialysis Patients

**LIN Tzu-Chen**

### Introduction

Depression is a important problem in regular hemodialysis patients. The detection and management of depression in hemodialysis patients is often challenging but may have significant clinical benefits. The purpose of this study was to analyze 93 hemodialysis patients' depression and the other variables.

### Purpose/Methods

The study employed a cross-sectional research design and purposive sampling was used. 93 subjects were recruited from a southern Taiwan teaching hospital. Data were collected by the Beck Depression Inventory (BDI) and Some relevant laboratory parameters (hematocrit, creatinine, urea, calcium, phosphorus, KT/V) were evaluated. The BDI is a 21-item, 4-point Likert-type scale.

### Results

There were 93 patients with regular hemodialysis who fully filled the BDI. The degree of depression: 8.6% was mild, 5.3% was moderate, and 4.3% was severe. Other investigate patients not depression symptoms (81.72%). The BDI found: Problem number one is tiredness or fatigue (0.81 +/- 0.92), two is Changes in sleep (0.62 +/- 0.98), three is indecisiveness (0.61 +/- 0.96), four is loss of energy (0.55 +/- 0.84), and five is loss of pleasure (0.52 +/- 0.77). Laboratory parameters no significantly difference.

### Conclusions

Depression is still an important problem in regular hemodialysis patients. Although depression population not large, but if the depression persists, or interferes with their ability to cope with the ADL, we suggest psychiatric consultation may be needed (prevention suicide). This study results can help nurses

develop nursing caring for patients with hemodialysis to improve their hopeless with depression.

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## The Effects of Music Therapy on anxiety and sleep quality among critical ill patients

**SU Chiu-Ping, CHOU Lih-Lih**

### Introduction

The purpose of this study was to investigate the effects of music on anxiety and sleep quality among critical ill patients. This is an experimental design based study. The subjects were recruited from a medical intensive care unit in Taipei City from January 2009 to December 2009. All these patients had been admitted in a single room in medical intensive care unit. The participants were randomly assigned to the experimental group (14 patients) or the control group (14 patients).

### Purpose/Methods

In the experimental group, the patients received 45 minutes of music intervention. Control group, the patients received routine care. The patient measurements included demographic data, a music preferences assessment form, a VAS assessing anxiety, the VHS Sleep Quality Index, various physiological indices and polysomnography. We collected baseline data from the two groups and recorded the EEG, blood pressure, heart rate and breathing rate every 5 minutes of the music therapy.

### Results

The results showed that in the control pre-test value between the two groups of anxiety and heart rate are significant differences ( $p < .05$ ). While the quality of sleep, the subjective quality of sleep, the stage II sleep, stage III sleep are significant differences ( $p < .05$ ).

### Conclusions

These results showed that music therapy, when use with critical ill patients, is able to significantly reduce anxiety as well as being able to improve both objective and subjective sleep quality. Thus music therapy is worthy of inclusion in the clinical nursing care of critically ill patients in order to reduce anxiety and improve sleep quality.

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## The effectiveness of intervention with Day Care Center for mild dementia's happiness

**LIN Yu-Chen, KUO Ying-Hua, LAI Shu-Chen, WANG Hsin-Yi, JEN Ruei-Shing, WU Lei-Lan**

### Introduction

Background: Dementia is far more common in the geriatric population with its occurrence rate positively linked to age. As a progressive degenerative illness, dementia can reveal itself in a variety of symptoms, such as intellectual deterioration, loss of recent memories, loss of cognitive ability or psychological and emotional problems.

### Purpose/Methods

This study aims to understand the influence of mild dementia's emotion after intervention with Day Care Center. A Subjective Happiness Scale and Wilcoxon Signed-Rank Test was adopted, with baseline assessment and follow-up one month later, to measure and test the difference of 9 patient's degree of happiness.

### Results

Results: After one month care with Day Care Center, all of patients with dementia held significantly increasing a mean score of 7.5 on happiness ( $P$ -value  $<0.05$ ).

### Conclusions

Conclusions: As the results found by earlier researches, the emotion of patient with dementia will be improved through the Day Care Center accompanying well-designed activities.

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## Application the Interpersonal Interaction Group to Improve the Interpersonal Conflict in Psychiatric Acute Ward

**KAO Feng-lan, LU Huei-Lan, SHEN Shu-Hua**

### Introduction

The aim of this study is to explore the effectiveness of interpersonal interaction group in psychiatric acute ward. Patient learned how to apply the method of emotion self-management and interpersonal interaction skill for reducing the interpersonal

conflict through the process of interacting with others in the group.

### Purpose/Methods

This study used one-group pretest-posttest design. Data were collected from 3rd January to 21st January, 2011. 11 psychiatric inpatients with stable condition were recruited in this group. Inpatients were required to participate 6 group sections and receive the interpersonal relationship skill program. The Multifactor Emotional Intelligence Scale used to estimate and data analysis before and after the group therapy. The higher the score represent the better ability of emotional self-management and communication skill of the inpatient.

### Results

Due to the intervention of interpersonal group, the average score of the ability of emotional self-management and communication on patients is 65, higher than the previous score of 33. This result shows patients are rarely aware their emotion state, and often deal with emotion (self or others) by ignore or suppress. This study reveals that patients have improved the ability of emotional self-management and learned how to deal with the interpersonal relationship with others after the therapeutic group intervention.

### Conclusions

The intervention of interpersonal group achieves remarkable success in improving the ability of emotion self-management and communication in acute psychiatric inpatients. Similar courses can be arranged in clinical nursing care and can be promoted as a mode of nursing care. Moreover, include the group skills training and group leadership experience in the content of nurses' continuing education to enhance professional competence of nurses.

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## Screening for psychiatric morbidity using the five-item Brief Symptom Rating Scale (in a medical setting)

**CHIU Ching-Wen, SHIU Mien-Mien, WU Chia-Wen, LAI Ying-Ching, CHENG Chao-Chieh, CHIEN Chih-Cheng**

### Introduction

Depression affects approximately 5.8-9.4% of the chronic medical patients. Accurate identification of mental disorders associated with depression and anxiety in non-psychiatric medical settings is important to reduce medical complications as well as suicide risks. However, recognizing psychiatric morbidity in a medical setting may be challenging. The purpose of this study was to explore the prevalence of psychiatric morbidity



ty among the medical inpatients by using reliable and valid short screening tool.

#### Purpose/Methods

The participants were recruited from a community general hospital located at eastern district of New Taipei City. Inpatients who were admitted to a chest ward during the period from October 1 to December 31, 2011 were included, and we excluded patients without recording full Glasgow Coma Scale score. All of the participants were screened for possible mood disorders by using the five-item Brief Symptom Rating Scale (BSRS-5), and the cut-off point of BSRS-5 was set at 6.

#### Results

Among 294 inpatients admitted during this period, 201 patients (68.4%) completed the screening. There were 120 (59.7%) men and 81 (40.3%) women with a mean age of 66.5 years (SD +/- 17.8 years). 21 participants (10.4%) were screened as positive, and the severity of them were respectively as 61.9% mild mental disorders, 28.6% moderate mental disorders, 9.5% severe mental disorders. The diagnoses of them were respectively as chronic obstructive pulmonary disease (38.1%), asthma (23.8%), lung cancer (19.0%), cerebrovascular accident (14.3%) and tuberculosis (4.8%).

#### Conclusions

Psychiatric morbidities were not uncommon among medical inpatients. Short screening tool such as BSRS-5 facilitate the large task of detection of emotional disorder in patients under investigation and treatment in medical ward. With better recognition of psychiatric morbidity, mental health interventions and suicide prevention in a medical setting can be better achieved.

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## The self-esteem and perceived stigma in mental illness consumers of different recovery phases - a polity study

**LIU Wen-Sheng, HUANG Wan-Ju, HUANG Wen-Yi, CHIEN Ying-Chun**

#### Introduction

The "recovery" means consumers could transcend the influence of mental illness, and develop a meaningful and goal-direct life. In their recovery process which can be classified four recovery phases, consumers change their attitude, value, feeling, goal, skill, and role. According to clinical experience, low self-esteem and "perceived stigma" are barriers to recovery. So that, using empowering methods to enhance self-esteem and reduce "perceived stigma" is common methods in clinic. However, we

still don't know what the self-esteem and "perceived stigma" in consumers of different recovery phase is.

#### Purpose/Methods

Finding the relationship of self-esteem and "perceived stigma" in consumers of different recovery phases. We examined the cross-sectional condition of self-esteem and "perceived stigma" in 123 consumers with mental illness. The self-esteem evaluation was based on Rosenberg Self-esteem Scale (RSES). The "perceived stigma" was assessed by Perceived Psychiatric Stigma Scale (PPSS) which designed with local Taiwan characteristics by Der-Yan Han and Sue-Huei Chen.

#### Results

The RSES average score in different recovery phase groups is 25~28.3, and it means consumers have moderate to high self-esteem. The PPSS shows different between recovery phase groups in "fear of social ostracism" and "self-deprecation caused by psychiatric codes".

#### Conclusions

The higher self-esteem and lower perceived stigma is found in 3rd and 4th recovery phase groups. Enhancing self-esteem and reducing "perceived stigma" may be protective factors, but we need more evidence to demonstrate the causal relationship.

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## Effects of group music therapy on patient with schizophrenia in psychiatric nursing home: a randomized controlled trial

**LU Shiou-Fang, CHANG Shu-Chuan**

#### Introduction

Music therapy has been used worldwide in various psychiatry disorders for rehabilitation and improvement symptoms and global function. There was no evidence in nursing home setting.

#### Purpose/Methods

To examine the effect of group music therapy on improving psychiatric symptoms, depression and quality of life for patient with schizophrenia in nursing home. Eighty patients with schizophrenia were randomization assigned to experimental group and control group. Both groups received medication and routine care. Additionally, the experimental group received group music therapy. Assessments were complete at baseline, 1.5 months and 3 months follow-up.

#### Results

There was no statistically difference between the two groups in baseline data. A statistically significant difference was noted at

1.5 months after group music therapy on depression status, psychiatric symptoms .

### Conclusions

Group music therapy is an economic, easy- to-administer method for improving depression, psychiatric symptoms and quality of life.

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## Using Focus Groups to Explore the Group Music Therapy Experience of patient with schizophrenia in psychiatric nursing home

**LU Shiou-Fang, CHANG Shu-Chuan**

### Introduction

Schizophrenia affects about 24 million people world wide, schizophrenia is one of the most serious mental disorders. Music therapy has been used worldwide in various psychiatry disorders for rehabilitation and improvement symptoms and global function. However, so far, there was no evidence of music therapy on schizophrenia patient in psychiatric nursing home setting

### Purpose/Methods

The purpose of this study was to explore the patients with schizophrenia in nursing home experience and perceptions of group music therapy. The participants received group music therapy for three months. Afterwards, two interviews were conducted in focus groups of between twelve and fourteen of the participants. Their ages ranged from 35 to 65. The tape-recorded interviews were transcribed and analyzed using content analysis.

### Results

Five themes emerged regarding the patient's experiences and perceptions of group music therapy, as follows: (1) getting stress release; (2) promoting verbal expression; (3) being shift concentration ; (4) improving personal interaction; and (5) improving depression, psychiatric symptoms.

### Conclusions

Group music therapy is an economic, easy- to-administer method for improving quality of life for the patients with schizophrenia in nursing home. For the patients, nurses are the most closely interact with the residents. Therefore, it is necessary to educate nurses the skills of applying the group music therapy. Familiar with techniques of musical activities that can be qualified to lead this work provides the mentally ill more humane, a wide range of psychiatric rehabilitation care.

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## People with mental illness participating in patient safety actively to create safe empowering and therapeutic environment

**HSU fang-yu, HUANG wen-yi, HUANG yin-jie**

### Introduction

In order to continue the spirit of people with mental illness participating in patient safety, Patient Safety Committee of Jianan Mental Hospital, Department of Health, Executive Yuan, ROC, invite people with mental illness to take on a member of Patient Safety Committee, and this member could provide client-centered thoughts and ideas about patient safety. This study tries to take action to put the empowerment theory into effect, then let people with mental illness carry out activities of patient safety. The purpose of this study is to reduce accidents by increasing knowledge about safety and participating patient safety actively could benefit people with mental illness with therapeutic effect.

### Purpose/Methods

Besides people with mental illness, the members of this study includes the occupational therapist who is responsible to grade activities and encourage them to do tasks with competent and achievement and other workers who teach what safe environment is and what accident should happen in our daily living. The other worker organizes the patrolling course around the hospital that people with illness would carry out and remind the department that the area in charge may be dangerous to improve. In order to reduce accidents around the hospital and empower them to concern their living surrounding, people with mental illness improve knowledge to patient safety and enhance attitude by workers announcing the issues about contamination and safe environment first. Second, all of them vote for "helper of patient safety" who discuss and plan the patrolling course and items with workers. This would empower them to engage safety tasks gradually. Third, the helper of patient safety learns how to patrol around the hospital and report. At last, the experienced helper of patient safety could share what they do and what they feel to inpatients and outpatients.

### Results

People with mental illness filled out the questionnaires about patient safety before and after announcements. There are 82% right answers and 155 people with mental illness take part in every activity. There is no accidents of jumping off since patrolling and the helper of patient safety improves their self-esteem owing to patrolling, which is 25 score higher than 22 score on an average from the Rosenberg's Self-esteem Scale score. Their



efficiency, influence and self-approval are improved from the modified empowerment scale at the same time. In addition, they gain 99.27% satisfaction from outpatients. We found effect of rehabilitation from this process.

### Conclusions

There is less study about empowering people with mental illness to engage in patient safety, but we find some outcomes from our result. By training and educating knowledge, discerning danger in their environments, the accidents is reduced. Then their self-esteem, efficiency, influence and self-approval of the helper of patient safety are improved owing to patrolling and checking. In the future, clinical workers in the hospital could encourage and push patients to participate activities of patient safety, creating "our" safe and therapeutic environment.

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## The Mental Health Need Promotion with Empowerment Mode in Psychiatric Rehabilitation Ward

**CHIU Hsiao-Tan**

### Introduction

The purpose of this study is to understand the perception and experience of patient who take the role as a room chief in psychiatric rehabilitation ward. The experience of empowerment mode leads patient to know the positive recovery process and mental health need in hospital.

### Purpose/Methods

Focus group was used to understand the experience and perception of 8 psychiatric patients who took a role as the room chief in rehabilitation ward. There were 60 minute interviews during the study period, researcher instructed patient to discuss their experience in group process. Qualitative content analysis was applied in this study. The group interaction process was recorded for analysis and induction the perception and experience.

### Results

The representatives perceptions and experience including : it is feel good to provide service for others, to get a sense of accomplishment, help each other, be a role model , learned from each other, real experience to help others and given their beliefs and motivation to change their lives.

### Conclusions

Patient with psychiatric illness have struggled with keeping personal power over their life, thus to promote the mode of empowerment in psychiatric rehabilitation is important. Psychi-

atric health provider need to keep in mind and provide an empower role in the psychiatric rehabilitation.

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## Health Education and Quality Improvement Programs for Psychiatric Hospital Waiting Room

**LU Wen-Lan, CHANG Shu-Min**

### Introduction

As the outpatient generally waiting for long time in the psychiatric hospital, health education is dedicated to teaching people in an effort to enhance health information to public. There were a few participations in 2010; therefore, an aim of this study is to enhance participations and satisfactions.

### Purpose/Methods

To enhance patients and publics participate in health education and satisfy with the content while waiting. The study used psychiatric outpatients in the southern hospital design. Data were collected from September to November, 2011. After collecting health information requirements from publics and changing from the previous speech mode, speakers show their presentations by TV and interact with people in the waiting area. Analyze the participations of health lectures and course satisfactions, and compare them with which in 2010.

### Results

45 lectures were held in the waiting area with a total number of 609 participants; comparing with which in 2010, there were 27 lectures and 408 participants increased. The average number of participants was 13.5 in 2011; there were 11.7 participants increased. Since 71 valid questionnaires were used for the final analysis in 2011, more than 96% of participants were satisfy with the education methods and the course contents.

### Conclusions

Holding health educations in the waiting area makes audience feel more comfortable. Doctors who introduce their own medical expertise can get more audience response; moreover, a simple way of education is easier to increase people's interest.

### Comments

Only find out what the publics need about health information, and plan courses to train them, effective health information can be provided.

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## Analysis of Oral Cancer Risk Factors for Patients in Psychiatric Hospital

**FANG Chiu-Ping, CHANG Shu-Min**

### Introduction

Tobacco use is more common for psychiatric patients. In response to Bureau of Health Promotion, D.O.H., for cancer screening, and in order to raise public awareness of oral cancer, outpatients were investigated for risk factors.

### Purpose/Methods

In order to realize patients' conditions of oral cancer risk factors, patients were taught to motivate to quit cigarette smoking, betel nut chewing and improve health during health education process. The study used psychiatric outpatients in the southern hospital design. Data were collected from July to October, 2011. Patients were surveyed by questionnaires, which were analyzed to determine the conditions of cigarette smoking and betel nut chewing.

### Results

There were 767 response questionnaires, and 302 patients (39.37%) used cigarette or betel nut. 133 patients (17.3%) chewed betel nut; 98 patients quit chewing; 9 men chewed over 20 for more than 10 years, and 6 patients uses betel nuts every day. Moreover, there were 299 patients (38.9%) used cigarette; 82 patients (27.42%) quitted. 75 patients (24.74%) used over 20 daily for more than 10 years, and 48 patients (16.05%) used less than 20 a day for less than 10 years.

### Conclusions

The number of patients with both tobacco smoking and betel nut chewing is 130 (43.04%), which means the rate in patients with oral cancer risk factors is 43.04%, and it shows the significance of health educations in waiting room.

### Comments

Doctors are suggested to spread non-smoking and non-betel nut chewing awareness during interrogating patients and improve patient compliance. The government will have measures to encourage the patients by health insurance payments.

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## Raising health awareness and improving weight control results among overweight mental disorder clients during rehabilitation period

**YU Wen-Wen, HUANG Hsin-Shu**

### Introduction

This project investigates the reasons that influence mental disorder clients' incapacity of weight control during rehabilitation period, and adopts a health education curriculum, "Step into health", and behavior modification to raise health awareness among overweight mental disorder clients during rehabilitation period in order to improve results of weight control.

### Purpose/Methods

This project uses matrix analysis to set up practicality, significance, benefits, and costs of weight controlling strategies. By choosing one of the most appropriate resolutions for this project, we implement a series of relevant guidance and teaching plans on appropriate exercises, healthy diets, health maintenance, in order to improve results of weight control among mental disorder clients.

### Results

Evaluation of this project's outcomes shows that correct rate of diet cognition has raised 21 points among mental disorder clients; personal habits that cause overweight have raised 13.5 points; average weight loss is 1.06 kg; average BMI falls by 0.4 kg/m<sup>2</sup>; average bicycle riding miles have increased 1.97 km for every twenty minutes.

### Conclusions

The results demonstrate that diet and health education as well as behavior modification have positive impacts on overweight mental disorder clients during rehabilitation period. The results of this project can provide a reference for carers to improve health issues among overweight mental disorder clients.

### Comments

Weigh control is a long-term project. It is suggested that the results of this project require collaboration from family members in order to continue on tracking subsequent results and changes. With family collaboration, overweight mental disorder clients during rehabilitation period could keep an ideal weight in a healthy way under an environment with positive supports.

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## Oral health promotion programs for chronic mental illness effectiveness of oral hygiene

**LIN Yen-Chi**

### Introduction

According to the Department of Health statistics prove that those who obtain a chronic mental illness, to the end of September 2011 total 207,932 people, but often because of symptoms and drugs likely to cause oral health problems, and clinical nurses are often easy to overlook, so the implementation of



chronic mental patients count of oral health promotion painting, to provide quality oral health care patients.

#### Purpose/Methods

Objective: To implement chronic mental illness oral health promotion program, providing patients with quality oral health concepts and clinical care. Methods: The central region of a psychiatric hospital, to understand the plight of patients with oral health, to facilitate the select 32-bit sampling for the study of chronic mental illness, the implementation of oral health promotion programs to enhance the number of teeth and clinical quality of care.

#### Results

Results: The results found that "oral health promotion programs," intervention, brushing frequency from 36.1% to 87%. Most patients said that a better understanding of the importance of oral health, clinical care nurses to have followed the direction of, and improve quality of care.

#### Conclusions

The results showed that "oral health promotion programs" can help reduce the chronic mental illness case of poor oral health threat posed by the implementation so that these patients achieve long-term physical, psychological and clinical work to meet the safety, extended care in the field of clinical practice.

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## The improvement program to increase the accuracy of high risk factor assessment form about fall in psychiatry ward

**YEH Chien-Ching, LIOU Kai-Ling, CHEN Siou-Yu, CHANG Hsiang-Yi, HUANG Su-Tsai**

#### Introduction

In the program to ensure the safety of patients, fall prevention is the most important item. The injury caused by fall may not only endanger the life of patient but will also increase medical cost and medical tangle incidence (Li, Xie. 2006). In psychiatry ward, patients will be affected by the diseases and other factors, some patients are prone to have daily life dysfunction such as gait instability under the medication, so we intend to design standard assessment items of fall prevention in psychiatry acute ward. By analyzing the statistic data of assessment, we can reduce and prevent the fall accidents during the hospitalization period of patients. Therefore, we proposed the improvement program to increase the accuracy of high risk factor assessment form about fall in psychiatry ward.

#### Purpose/Methods

1. Analyze the basic attribute of inpatient cases and fall cases from 2008 to 2010. 2. According to the analytic results, amend the high risk factor assessment form about fall in psychiatry ward. 3. Try the new version of high risk factor assessment form about fall in psychiatry ward.

#### Results

According to the gender and age of all the psychiatry inpatients: 1. 30-49 age group (27%), the fall incidence of 30-39 age group (10.2%) and 50-59 age group (14.6%) are relatively high. 2. The gender ratio is comparable (male 52%; female 48%), but the fall incidence of female is higher (51%). So we changed the assessment items as 1. age  $\geq 65$  changed to age  $\geq 50$ ; 2. Gender changed from male to female. We counted the data from 2/26/11 to 12/30/11, collected and assessed 3641 subjects. The results showed that the high risk factor of fall, for male, the average score dropped 0.6; for female, the average score increased 1.5.

#### Conclusions

From gender, the Odd's Ratio of female fall and male fall is 2 ( $p=0.106$ ), without significant difference; From age, the Odd's Ratio of  $>50$  age group and  $<50$  age group is 4 ( $p=0.001$ ), presenting significant difference; By choosing the high risk population of fall, the accuracy of fall assessment form around the hospital is 50%, and the accuracy of high risk population fall assessment form (new version) comes to 64%.

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## Application of team resource management to reducing fall incidence in an acute psychiatric ward

**CHIA-ZUNG LIU, HSU Tzu-Ling, LIAO He-Chien, LIN Shoei-Loong**

#### Introduction

Cognitive function of acute psychiatric patients and side-effect of medication are primary causes of fall incidence. However, most medical errors and adverse events come from systematic mistakes. The fall incidence in acute psychiatric ward in our hospital was 0.41%, which was higher than that in peer hospitals, 0.18%. It was suggested that system improvement can improve cooperation and communication among professional team members and in turn enhance patient safety culture.

#### Purpose/Methods

This study aimed to develop effective strategies to prevent falls in acute psychiatric patients. We first used secondary data regarding falls in the acute psychiatric ward and conducted a questionnaire survey to analyze the primary causes of falls.

Further, we referred to "Brief, Huddle, Debrief" and IMSAFE of TRM to develop strategies.

### Results

Among the causes of falls related to biological factors, age being 65 and above was the primary reasons, 42.5% occurring in day time, 15% was hurt. Utilization of sedatives was the primary reason (19.70%) among the medication factors. Associated with environments, slippery floors were the key reason (25.75%). After TRM intervention, falls in an acute psychiatric ward decreased to 0.25%. The completion rate of SOP team in the acute psychiatric ward achieved 97.5%, overall averaging at 95.6%. Esprit de corps also improved.

### Conclusions

This study proved the effectiveness of application of team resource management to reducing fall incidence in an acute psychiatric ward. In the future, fall incidence prevention in an acute psychiatric ward would require more support from high-level leaders for team works, organization-wide participation and continuous implementation.

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## Effectiveness of Self-harm Reduction for Psychiatric Patients in the Emergency Department

### BEY-JING Yang

#### Introduction

Providing safety for psychiatric patients in the Emergency Department has become an important issue in the health care community. The self-harm situation of these psychiatric patients will add to different degrees of physical and mental illness. In March 2011, a life-threatening self-harm incident occurred in an Emergency Department in northern Taiwan. A psychiatric patient committed suicide by wrist-cutting with a knife in the bathroom. Due to the severity, this incident was classified as level one tragedy. The root cause analysis of the tragedy was conducted rigorously.

#### Purpose/Methods

The objective of this study is to explore the potential measures of accomplishing self-harm reduction in the Emergency Department. The effectiveness of such measures is evaluated with root cause analysis. The root cause analysis of the tragedy was conducted rigorously. There were a number of deficiencies in the self-harm prevention initiative. First, awareness and knowledge among emergency care professionals were not constantly promoted. Second, the self-harm prevention plan and strategy were not well established. Last, adequate continuing education programs were not provided to staff members.

To prevent similar incidents from happening again, the promotion of self-harm prevention program has been considered a top priority. When a psychiatric patient is admitted to the Emergency Room due to self-harm situation, a plan shall be put in place for the patient care. The prevention plan was standardized by itemized checklist including removing dangerous items accessible to the patient. The self-harm prevention program was conducted in the continuing education courses annually as well as new hire training.

### Results

Since the implementation of the adequate training to emergency care professionals, the initiative not only provided the effective care to psychiatric patients but also eliminated any more life-threatening self-harm incidents.

### Conclusions

This study within Emergency Department can be collaborated with other specialty care professionals to better address their needs and provide safe care for this patient population.

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## Apply Family-Oriented Nursing Group in Psychiatric Day care

### LEE Mei-Hung, CHEN Sue-Fen

#### Introduction

Because the energetic sickness disease chronic causes the social function to suffer injury, needs the long-term medical service and duplicate constructs the attendance, the neurology department remains in the hospital during the day is sickness return community's enroute point, the utilization has treatment of association the plan to let sickness each other support mutually encourages, may promote result of the group activities, then the promotion looks after the quality

#### Purpose/Methods

Objective: To investigate the mental hospital patients in clinical care mode during the day, the patient group as a unit with a family name, the application of group therapy dynamics and skills involved in providing long-term support, to increase group cohesion and identity, to enhance the communication skills to achieve satisfactory of interpersonal relationships. Research subjects: the ward of a southern psychiatric hospital daycare, a total of 128 patients and 8 nursing staffs. Research methods adopt self-administered scale and the actual interviews to analyze the involved factors of effective group therapy, including three parts of group cohesion and identity, emotional support and interpersonal learning.





### Results

Results: That agreed to use the family care model can improve participants' group identity was 87.5%, agreed to provide emotional support was 86.7%, agreed to enhance interpersonal relationships was 85.7%. In the interview explored the impact on individuals: in the group can comply with specifications, subject to acceptance of the task, there are more self-disclosure and get a sense of belonging. Effect on the group: can listen to others, can use friendly democratic ways to achieve the group's targets, and can learn the appropriate interpersonal skills.

### Conclusions

The impact of mental illness leads to functional damage, patients should receive long-term rehabilitation treatment, the daycare in hospital constructs a therapeutic, supportive environment, the use of group cohesion can enhance the quality of care, and the results provide future reference to promote nursing practice.

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## First Study of Experience Sharing of Daycare in Hospital for Self-Medication Training Group

### JENG Shiun-Yin, CHENG Sue-Fen

#### Introduction

To investigate the cases of psychiatric daycare in hospital, they have high autonomy, but due to the lack of ill sense and knowledge of drug, the irregular medication often happened and led the patients in a unstable condition to affect the incidence of hospitalization caused by repeat, so the efficacy factors in the imparting of information, altruism, instillation of hope guide members to review the process.

#### Purpose/Methods

12-week, from July 2011 to September, by questionnaires, group experience sharing, group discussions and drugs arrangement and other ways to enhance the drug cognition, self-drug compliance, and maintain a stable condition to rehabilitation.

#### Results

Group members before and after the test were found that the cause for mental illness was from 58% to 75%, the result of self-medication cognition attitude was from 42% to 83%, members could explain refusing illness and using drug correlation and till willing to self-analyze for accepting the efficacy during illness and medication process.

#### Conclusions

The group provides members the opportunity to teach and learn, to understand the acceptance of drug therapy for the

importance of health promotion. Sharing suffering experience of illness and drug use must arouse the great resonance and feedback. Through group experience sharing and the questionnaire analysis can provide future reference to the peers in this field.

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## Holistic Health Promotion in Ershui Health Center

### CHEN Hung-Pin

#### Introduction

Ershui, the countryside of Changhua County, has lower cancer prevalence rate compared with the rate in big cities. As a result, the local health unit plays an important role in health promotion. In the past, the screening rate was low and there were only a few health promotion events. Ershui health unit has simplified outpatient health care procedures and organized activities to promote weight control.

#### Purpose/Methods

Standard procedures for preventive and health services were set up. Ershui health unit also integrates community medical resources to provide health care to children and the elders. In addition, it also promotes the habit of "eating smartly, exercising and measuring wrist circumference" for overweight citizens. Losing weight in a smart way has become an important goal.

#### Results

Among patients visiting Ershui health unit, the PHIS alarming system and the integral screening activities have boosted the Pap smear screening rate to 75.55%. Colorectal cancer screening rate has reached 69.53% and wrist screening rate has reached 88.42%. There are 172 citizens registering for the weight control activity. Averagely, every participant loses 2.1 kilograms and his/her wrist circumference reduced 2.5 centimeters.

#### Conclusions

The standardized procedures will increase cancer screening rate and improve prevention results. Nurses in local health units will be able to improve weight control efficiency when they encouraged citizens to participate in weight control activities. Local health unit plays an indispensable role in health promotion.

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## Reducing the incidence of pressure ulcers in internal medicine patients

**HO CHI-YING, WANG YU-TIN, HSIEH CHIN-CHUN, MIAO CHING-CHEN, CHEN MEI-YUN, HSU TZU-LING, LEE CHIN-JU**

### Introduction

pressure ulcers are an important index of quality of care, with nursing staff being an important key as well; comprehensive medical care, accurate patient assessment, and implementation of turn over skills are effective methods of reducing the number of patient hospitalization days and overall medical costs.

### Purpose/Methods

To facilitate the implementation of hospital training of new nursing staff in assessing new patients' skin conditions for pressure ulcers in addition to strengthening nursing staff's understanding of pressure ulcers in the aims of providing more complete care and lowering the incidence of pressure ulcers during hospitalization. The project is a certain internal medicine ward in a regional teaching hospital in New Taipei City, whose incidence of pressure ulcers has risen above the threshold set by the medical quality committee. Therefore, surveys were conducted at nursing staff on their knowledge of pressure ulcer prevention and through observation of nursing operation conditions, project performance could be assessed. Through the inspection of pressure ulcer causes, a systematic review and discussion took place over the three phases of planning, execution, and evaluation, giving rise to the foundations and planning for pressure ulcer prevention training, a pressure ulcer prevention standard manual, pressure ulcer prevention technical standards, and an audit system.

### Results

After the implementation of the project, there was a marked decline in the incidence of pressure sores with significantly improved results. The ability of nursing staff to care for patients with a high risk of pressure ulcers rose 95% from the previous 36%, the accuracy of the assessment pressure ulcer risk factors has risen from 73% to 93%, and the incidence of pressure ulcers has declined from 0.33% to 0.04%.

### Conclusions

During the course of the project, the largest driving force was the total cooperation of the nursing staff combined with constructive assessment and feedback, resulting in a decrease in the incidence of pressure ulcers. In addition, technical abilities, such as the inspection of critical risk sites and the implementation of correct turning techniques, has increased dramatically, in turn reducing hospitalization days and medical costs. Under the project, a pressure ulcer prevention standard manual was constructed with noticeable results: it has been referred to the nursing quality monitoring team for audit and implemented to the entire hospital, promoting the correct care for patients with a high risk of pressure ulcers.

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## Reduction the Incidence Rate of Pressure Sore in the Respiratory Care Ward

**HUI-FANG Huang, HUSI-WEN Huang**

### Introduction

The incidence of pressure sores is an important indicator to monitor nursing health quality for ventilator-dependent long-term bedridden patients. Our ward pressure sore incidence rate average 0.07% from 2009, but 2010 first quarter pressure sore incidence average rate was 0.24%. In addition to pressure sore happen can increase the risk of infection and medical cost, families must have dissatisfaction and complaints.

### Purpose/Methods

Based staff (patients, nurses, nurse attendants), three major systems and equipment for the analysis. 2 degree pressure sore was 57.1%, location to occipital pressure ulcers was 42.8%, the end of the sacrum was 42.8%, one person left ears was 14.2%, 100% patients had combined diabetes history, others complication such as low albumin, anemia, edema ratio was as high as 71.4% - 85.7%. attendants change position correct implementation rate was 72%. staff awareness of prevention of pressure sores average accuracy rate was 69.5%.

### Results

Improvement measures have 5: (1) Formulate humanoid figure tell all staff circle of pressure sores location. remind staff to implement correct position. (2) Formulate pressure sore high risk indicators, Daily morning reports tracking and early prevention. (3) Purchase U-shaped pillow, baby pillow vacant skin red parts of patient. (4) making the teaching DVD to teach attendants the right change position (5) On schedule attendants education and training etc. Implementation of measures after six months. pressure sore incidence rate from 0.06% to 0.24%. attendants change position correct implementation rate from 72% upgraded to 90%. staff awareness of prevention of pressure sores average accuracy rate of 69.5% to 90%.

### Conclusions

By development and implementation of countermeasures specially daily monitor and track by staff for high risk of pressure sore to remind all staff to prevent pressure sores happened. indirectly to enhance the patient-centered quality of care and efficiency.

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## Evaluation for drug interactions of the elderly patients in health care

**PAO Jiunn Bey, BAO Bo-Ying, YANG Winnie, YANG Ying-Pi**

### Introduction

To study the occurrence of drug-drug interaction in elderly patients, drug types, number of items, and possible interactions. This study will not only increase the vigilance of medical staffs to dispense drugs for elderly patients, but also allows pharmacist to initial analysis and assessment the prescriptions. Therefore, the whole medical team can work together to protect patient's drug safety and provide quality healthcare.

### Purpose/Methods

We retrospectively collected prescription information from outpatient patients, over the age of 65, and being prescribed more than five kinds of drugs during January to June 2011. Through built-in drug-drug interaction information system in our hospital, Micromedex, MIMS drug interaction query system, we first filtered out the primary and secondary drug interactions. Pharmacists then accessed the medical records, confirmed the impact of the drug interaction, and communicated with the prescribing physician. The results were advocated in the meeting and provided information for physician practice improvement.

### Results

Our study found that patients at age more than 65 were frequently diagnosed with chronic diseases, including hypertension, diabetes, and bone and joint diseases. The average number of drugs per outpatient prescription was 3.8, and up to 14 drugs in one prescription. The average number of drug interaction per prescription was 2.07, which accounted for 3.6% of serious drug interactions, moderate 55.7%, mild 31.4%, and use with caution 9.4%. We did not find prescription in the must not use drug interaction recommended by the Taipei district hospital drug safety team. Our analysis found that the serious drug interactions are mostly combined use of anticoagulants (warfarin) and aspirin with NSAID, amiodarone with diltiazem, telmisartan with diuretics, gout medication colchicine with simvastatin, and allopurinol with lisinopril.

### Conclusions

Elderly often have chronic diseases and see many doctors; there may be repeated medication problems, coupled with declining physical function, and liver kidney dysfunction. Through the setting of the hospital information system, outpatient drug-drug interaction information could provide prescribing suggestions for physicians and avoid adverse reactions due to drug interactions for elderly patients. Potentially serious drug interactions may not cause clinical symptoms, but the incidence is high. We should keep monitor the relevant medical examination data, observe the clinical responses, and try to avoid inappropriate drug combinations, in order to protect patient's drug safety and provide quality healthcare.

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## Application of Team Resource Management Improved Elder Patients Clinic Visit

**SU Yi-Lin, TSOU Yung-Ping, HUNG Kuei-Ju, FU Mei-Chiung, CHERN Huey-Jin, LEE Yow-Shan, YANG Jui-Neng, CHIEN Chih-Cheng**

### Introduction

Nowadays, 10.8% of population is over 65 years old in Taiwan. According to statistics show the older population will rise to 20% during 14 years. Therefore, Taiwan is from the "aging society" entering to the "old age society", and then advance to the "super-aged society". A report said the elderly go to see doctors about 27 times per year. It is necessary to provide services to close elderly needs. That will increase elderly satisfaction, quality of care, and patient safety.

### Purpose/Methods

**Purpose:**To explore the effectiveness after applying team resources management for outpatient the elderly. **Methods:**Through the team resource management to develop standard procedures of visit for outpatient the elderly. The study used structure questionnaire to collect outpatient aging people by cross-sectional study design from November to December in 2011. The questionnaire includes personal data, medical treatment behavior and satisfaction.

### Results

Team members who include guards, volunteers, clinic staff, medical examine staff, and registers. They have 100% cognition for the team work and to create five proposals to link well medical treatment process of each department for the elderly. Such as, to help the elderly to register by volunteers, to give a guidance list to know what the next procedure, to stamp big words on the paper to remind them need to fasting, and to use dementia scale and so on.

### Conclusions

As we can say, we have the same purpose in the same facility. It is a best way to through the various departments to deal with issues in order to satisfy the need of medical treatment for the elderly. Truly, after using the concept of TRM to have a conference regularly, we found TRM enhances our communication. The good reason is we need to remove our obstinate thinking for reaching a successful demand-based of patient in medical treatment process.

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## Seeing and Touching on Landscape Design of Hospice Care

**LIN Justin, Kung Yi, CHIOU Jeng Fong, CHI Wei Chu, CHIANG Pao Ling, LIU Kuo Chung, CHEN Shih Ting, SHIN Hsiang Ting, TSAI Yi Fen, LIN Yu Fang, FAN Yu Chin**

### Introduction

Mental and spiritual support in hospital health promotion for hospice care of cancer patients is an important issue in Taiwan. Our study is to develop a pilot framework of landscape design of cancer hospital for patients and to figure out the influence and relationship between landscape environment and hospice patients.

### Purpose/Methods

Four adults (one male and three females) were interviewed by snowball sampling. Interviewers included two physicians, one nurse, two social workers, two spiritual consultants and two pastors. Data were collected through in-depth interview by open-structure guideline and observations, and researcher's reflexive journals. As the data were received and transcribed, editing and immersion/ crystallization were used to represent constructs of necessary of landscape therapy for hospice patients.

### Results

These multifaceted, naturalistic contextures were elicited by multiple interviews in clinical status. Four distinct subcategories of landscape design by interviewees were emerged. Fresh air of ward included no more pity, good smell, beautiful wild natural cement, and release allergic body; the hospice admission room impact included both the soul-mind impact of the first sight and hate till face; hand touching in heart feeling included it's vivid green and colorful, dirt is not dirty, unfortunately bright; small nature in hospice nature included pleasure to life, talk and sing to plants, be back again.

### Conclusions

The landscape design in hospice cancer patients were demonstrated vividly by qualitative depth interview on soul and mental status. Well-organization of garden design in hospital environment is worthy developed for comprehensive the mental and spiritual healthy promoting of hospice care on Taiwan cancer patients.

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## A new oncological setting: colours and art to improve patient Quality of Life

**MAZZA Roberto, DEVECCHI Paola,  
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### Introduction

Health Promoting Hospital is also a movement to change the medical approach to disease. Years ago, the hospital was only seen as a place of diagnosis and treatment, but these days the hospital should be able to improve people's health and well-being. The art and color can help to change the appearance of some hospital spaces, making them more comfortable for patients.

### Purpose/Methods

Waiting rooms, medical offices and examination rooms of Radiology Breast Imaging can be transformed into pleasant environments thanks to the soft intervention on colours and with involvement of artists who, inspired by the care and health, prepare paintings to decorate the space available. The project was planned with a group of students and a professor of the Politecnico of Milan of Industrial Design, Art, Fashion and Communications and artists were contacted only by e-mail.

### Results

Painting the rooms with colors other than white does not imply any additional cost but it change customer perception of the place. The new Unit of Radiology Breast Imaging has been also decorated with 160 paintings came from different countries and it was inaugurated in June. These paintings are a wonderful gift for both patients and staff, because are works that were based on the sensitivity of the artists to the disease and, in two cases, from the experience by artist survivors of cancer. A first estimate of the collection amounted to more than EUR 160.000. We conducted a customer satisfaction survey before and after implementation of the program, thanks to which we have found a positive significant change in patient assessment and also an improvement in the climate of the staff.

### Conclusions

The art, the color and style of furniture can make the atmosphere of a hospital setting more peaceful and serene. Everything can be planned and effected without the need of having available more substantial financial resources, but thanks to the collaboration of local Universities and local artists, who are usually happy to contribute to the serenity of the patients with their works. To certify their work and to thank the artists, we published a book, which contains all the works exhibited. We document this experience so that it can be useful for the next plan for the new site of the National Cancer Institute of Milan, which will be built in 2012.

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## Can caring and relaxing hospital atmosphere be helpful to enhance patients' treatment?: Introducing music, art and laughing program in a hospital setting

LEE Hee Young, LEE Chul Hee, SON Hwan-cheol, JUNG Young Ho, CHOI Jini

### Introduction

Patients are stressed with unpleasant experiences from invasive treatments and procedures in an acute care hospital setting. In addition, patients may become depressed from discouraging news about their health and feelings of disempowerment resulting from restrictions on their everyday activities, diet, and lifestyles. Promoting the general well-being of patients has been a neglected facet of medicine which has focused almost exclusively on the treatment of patient's disease and condition. This has often led to patients feeling dissatisfied with medical care and emotionally neglected. Since 2009, we have directed new efforts to enhance hospital atmosphere to be more caring and relaxing for patients.

### Purpose/Methods

Our project aimed to offer escape and entertainment for patients undergoing physical and emotional stress and ultimately to enhance quality of life of patients as well as patients' treatment. It consisted of a variety of music, art and laughing program for patients, staffs and visitors. The programs were evaluated with periodic satisfaction surveys that were summarized yearly. The program details were: Live music performances organized weekly through an appointed coordinator to recruit local volunteer musicians.; Arts & craft program held monthly by volunteers from neighborhood arts & craft association.; Laughing program held bi-weekly by a laugh-therapy specialist.

### Results

The same questionnaires were given for each program. Participants were mostly satisfied with the programs. The results of survey were: An average of 4.8 on scale of 1 to 5 on a question whether the programs help to release the stress from personal health problem; An average of 4.9 on scale of 1 to 5 on a question whether the programs contribute to create caring and relaxing hospital atmosphere; An average of 4.5 on scale of 1 to 5 on a question whether caring and relaxing hospital atmosphere enhance quality of life as well as hospital treatment; An average of 4.9 on scale of 1 to 5 on a question whether the programs improve hospital image.

### Conclusions

The survey suggests that music, art and laughing program have a role in hospital in the areas of relaxation, patient well-being, and enhancement of the environment. Creating caring and relaxing hospital atmosphere, which helps to reduce patient's stress and to enhance patient's satisfaction on hospital stay, can be a start of reorienting healthcare service which has focused

almost exclusively on the treatment of the patient's disease and condition.

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## The Effectiveness for Promoting the Peaceful Environment of Hospital Ward

TENG An-Na, CHAO You-Chen, WU Chiu-Feng, LIANG Jane, WANG Ying-Kuan, YANG Ming-Chong

### Introduction

Hospital should be a quite and safe place for patient's treatment and rest. Studies have shown the volume higher than 70 dB easily affect the human body, it would cause tension, concentration difficulties, decreased the learning and thinking, sleep disturbance and reduce efficiency (Sim, 2001; Dong, Huang, Zeng, 2003). Therefore, reducing the ward noise in hospital, to provide patients and their families a peaceful and comfortable hospital environment is an important issue on hospital management.

### Purpose/Methods

In order to understand the status of the ward noise, we measured decibel and found the voice over 70 dB of the main sources as follows, so we make the implementations to improve the noise as follows: The use of the empty carton and pharmacy scrap foam, making "dot matrix printer enclosures". Changing the nursing car wheels to the quiet style. Changing the texture of ceiling to the soundproof style. Education advocacy for the nurses to reduce the noise levels in the ward.

### Results

1 patients complaint on the ward noise from 5 reduced to 0. 2 patients satisfaction on the ward quiet from 83.5% increased to 87.4%. 3 dB dot-matrix printer the volume from 79.2 reduced to 59.6. 4 dB volume for nursing care from 76.3 reduced to 56.2. 5 dB volume for activities stand from 74.6 decreased to 55.4.

### Conclusions

Through the team efforts to reduce the noise to improve the facilities, not only significantly reduce the amount of room noise, improve patient satisfaction, nursing colleagues and also to stimulate research and innovation and inspiration, implement the extension of the concept of environmental protection material life, to block the amount of printer noise, extended to the use of ward nursing station, so that patients and their families have a more peaceful environment for quality of hospital quality.

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## Development and Implementation of Medically Unexplained Physical Symptom Screening and Referral to Treatment Program based on Multi-disciplinary Medical Care by Emergency Physician and Psychiatrist

**SONG Kyoung Jun, HONG Ki Jeong, LEE Hae Woo, CHOI Jung-Seok**

**Introduction**

Suicidal attempt, substance abuse, psychosis, and mood disorder would be psychiatric disease entities causing ED use. But, many patients with psychiatric disease were also suffered from physical symptoms like chest pain, dizziness, dyspnea and so on. We called the medical situation by Medically Unexplained Physical Symptom (MUPS). MUPS is caused by psychiatric problem like depression and anxiety disorder. And, if appropriate comprehensive medical care was not delivered, these patients also could be frequent ED users and aggravate ED crowding.

**Purpose/Methods**

To develop and implement MUPS screening and referral to treatment program based on multidisciplinary medical care by emergency physician and psychiatrist we developed psychiatric emergency care protocol and surveillance system by multidisciplinary medical care team composed of emergency physician and psychiatrist. First, if there was no medical diagnosis found after ED routine work up for physical chief complaints, emergency physician performed screening tool to detect psychiatric problem. Second, if screening result was positive, we referred the patients to psychiatric care.

**Results**

We developed the screening and referral program from March to May 2011. And we implemented the program into the ED from June 1st 2011 to August 31th 2011. During the period, we performed screening for 116 patients suspected for MUPS. 101(87.1%) patients showed positive findings from screening assessment. Among 101 patients, 59 patients were referred to psychiatric care. 58 patients (98.3%) of referred patients were actually diagnosed for psychiatric disorder by psychiatrists

**Conclusions**

We developed and implemented MUPS screening and referral to treatment program based on multidisciplinary medical care by emergency physician and psychiatrist. By this program, we identified 58 patients with psychiatric disorder who visited ED

with MUPS. This program will be helpful to the patients who visit ED repeatedly with hidden psychiatric problem.

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## Session P1.11: Workplace health promotion programmes for health service staff

### Creating winning conditions for implementation of Health Promotion Programs in the context of budget constraints

**LYNCH Ann, SOUNAN Charles, NOEL Marie-France**

**Introduction**

The MUHC was certified as a HPH in 2007 based on three existing health promotion programs (the baby friendly initiative, the Children's Hospital trauma prevention program, and the Human Resources smoking cessation initiative). Since then, the organization has been proactive in terms of raising attention regarding HPH standards, implementation and promotion.

**Purpose/Methods**

The bottom-up approach chosen to integrate the HPH concept into the organization and its culture is successful and ongoing. However, in a context underlined by budget constraints, managers responsible for the workplace health promotion dossier must be innovative and creative.

**Results**

This innovation and creativity is expressed by identifying new solutions and strategies to address challenges and issues related to HPH implementation.

**Conclusions**

This presentation highlights the key elements of the MUHC method, and most importantly describes the strategic leadership used to implement the HPH program successfully.

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## Staff wellness program in Palanga Rehabilitation Hospital

**L EVINGER Vilma, ZADEIKYTE Snieguole**

### Introduction

The program is structured to improve the health condition of Palanga Rehabilitation Hospital staff.

### Purpose/Methods

1. To promote the interest of employees in their health condition. 2. To improve the team's psychological atmosphere. 3. To form the healthy lifestyle habits. In order to clarify the current situation, the need for health procedures, an anonymous survey of employees was carried out. A total 108 employees answered the questionnaire. The working group made a rehabilitation program for the staff. Group session will be conducted free of charge. A specific group training program was formed at convenient time.

### Results

6 month results were evaluated. The offered health procedures were used by 59,4 percent of the hospital employees (152 of 256). Halo chambers were used by 54 people, physiotherapy courses of procedures in a vertical bath were used by 64 people, relaxation sessions were used by 4 people. 18 people had a group physical therapy, physical therapy pool was visited 152 times.

### Conclusions

The staff actively used the opportunity of free group sessions in the workplace. After using the procedures staff indicated that there were significant improvements in their well-being, and work capacity.

### Comments

The follow-up oral staff survey confirmed that the personnel appreciates the opportunity to use the procedures. It is noted that this has a positive impact on the psychological climate in the hospital, and encourages a discourages a discussion of health issues and more interest in healthy lifestyles.

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## Moving forward together - staff-centered continuous health promotion

**CHANG Yuchen**

### Introduction

Hospital staffs are important health providers, and yet they are usually under great pressure in the highly specialized environment. The health inequality is a big issue that has long been discussed. From a new buddy to a senior pal, hospital staffs are facing different challenges in every phases of their career progress. A continuous health promotion in every phases is highly required by the hospital staffs.

### Purpose/Methods

In order to provide continuous support for the staffs as well as their family, and to encourage them to support each other, we design a continuous program according to the different needs alongside the career progress. We divided the needs into the phases of New Buddies, Singles, Couples, and Parents. Relevant activities and support groups were conducted for each stage. Staff families were invited to participate in the programs as well.

### Results

There are 4 programs for New Buddies, 2 for Singles, 3 for Couples, 3 for Parents, and 3 for teenagers. There were about 600 (out of 2500) participating in different support groups in 2010. Demission rate is reduced in ER, where the demission rate was high.

### Conclusions

Staffs-centered continuous health promotion is an cost-effective project. It helps the hospital to value the staffs and to preserve the invaluable manpower to provide quality service. Support groups facilitate staffs to uphold each other in the hectic workplace. And the family support groups help the staffs to play their family roles better and invite their family members to identify with the hospital as a big family.

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## A First Glance on Influence of Health - Promoting Activities toward Staff's Health Situation

**CHU I-Lien, TSENG Li-Ping**

### Introduction

Developing and promoting "health promotion" has been being one of our goals for sustainable development of hospital. Also statistics show that staff's participating recreational activities and living a health promoting life style have positive correlation with the performance and achievement of hospital (Lai, Cheng & Tsay, 2011). Therefore we have been dedicated to promoting staff health activities, which are divided into four dimensions, "healthy eating habits, relief for stress, physical examination, and physical fitness".

**Purpose/Methods**

To investigate that whether our staff health-promoting activities have positive influence on staff's health situation. Randomly we had physical examination which contains six items, including weigh, waist, blood pressure, blood sugar, SGPT, and blood urea nitrogen on our staff and totally there were 200 examined in 2009 and 170 examined in 2010. We not only gathered data but analyzed to make an investigation about how staff's health situation influenced by the health-promoting activities.

**Results**

Compared with previous year, 2010, the abnormality rate of overweighted descends 15 %, the abnormality rate of over waist descends 1%, the abnormality rate of blood pressure descends 10%, the abnormality rate of blood sugar descends 4%, the abnormality rate of SGPT descends 7%, the abnormality rate of blood urea nitrogen increased 2%. Over all, it shows an entire promotion on health situation, except the little ascent on the abnormality rate of blood urea nitrogen

**Conclusions**

This research indicates that the health-promoting activities our hospital have been giving an impetus to have positive benefits on staff's health, therefore we should keep a long term of running and come up with new activities to make staff concern their own health situation and integrate health-promoting activities into daily lives.

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## The Effects of health promotion programs on Hospital employees' health in Taiwan

**KAO Lin-Yung, HSU Chia-Lin, WU Shu-Fen, LEE Lai-Ling, CHEN Pi-Fang**

**Introduction**

The study explores the implementation of workplace health promotion programs and degree of participation among the staff hospital, from the view of health promoting hospitals. Members who had BMI>24 and with circumference, or High-density lipoprotein were eligible for this study. We design stored-value card of health, to plan nutrition counseling and other after the intervention. The result show that the rate of 26.2% of waist circumference, High-density lipoprotein to improve the rate of 38.3%, and lose weight.

**Purpose/Methods**

Health examination by the hospital staff found that staff body mass index accounted for 77% too high. The hospitals provide different types of health promotion to improve the physical health of employees. The subjects for this study were 100 staff employed. The type of physical activity was selected by partici-

pants and each person was expected to exercise at least two hours per week. The parameters of physical fitness were measured for each participant pre and post program.

**Results**

Data set analysis was conducted, and we found that BMI, weight drop to 1.61%, male and female waist circumference up to the standard (26.2%), GLU-AC, fasting blood glucose (GLU-AC), and Triglyceride (TG) improved vastly. This study demonstrated that implementation of a health promotion program using group empowerment in the hospital has positive benefits on the health of the staff.

**Conclusions**

Many chronic conditions are closely related to lack of physical activity. Intervention using a health promotion program in the workplace is an important benefit for workers. The potential benefit of so doing will not only be for hospital employees; patients, who are treated by healthier nurses and doctors in healthier work environment will also benefit.

**Comments**

It was recommended that medical institutions should promote such health promotion activities. The future, hospitals will continue to lead the staff to continue health promotion, and mode of life related to health promotion extended to all employees and communities.

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## Session P1.12: Lifestyle development for health service staff

**Health promoting environment to encourage physical activity: Introducing a health promotion project called "Activate your personal health by using stairs!"**

**JUNG Young Ho, LEE Chul Hee, SON Hwancheol, LEE Hee Young, LEE Min Hee**

**Introduction**

It is becoming an issue in Korea that obesity rate of adult, especially male workers, has increased while daily exercise rate has decreased for the past several years. The result of annual employee physical exam at Boramae Medical Center (BMC) in 2010 made us concerned because employees' daily walking rate was significantly lower than the National Health and Nutrition





Examination Survey (NHNES) statics done in 2009. According to the NHNES conducted from 2001 to 2009 on adults who are older than 18 years old in Korea, adult obesity rates increased from 29.2% to 31.6%. However, for male workers, it is higher from 32.7% to 34%. On the other hand, the rate of daily walking decreased from 60.7% to 46.1%. To encourage physical activity, BMC initiated a project called "Activate your personal health by using stairs!" in May 2011.

#### Purpose/Methods

The project is to encourage stair use by changing dismal and dour stair environment to an enjoyable and vibrant one. At BMC, there are 8 stair units which are from least 4 floors to most 13 floors. Most stair units except one are not only hidden from view but also closed with doors for fire safety purpose. In May 2011, we started to decorate the stair units with theme of pianos, four seasons, trick arts and health information. Particularly, Pianos stairs was constructed to be able to play musical notes that are triggered by stepping on the steps. Visible signs were also placed by the elevators to further encourage use of stairs.

#### Results

Positive impacts were found in this project. According to preliminary survey, it showed that there was increased use of stairs after decoration done. Moving between floors through stairs increased 11%. Moving between 2 floors increased 28%. Moving between 3 floors increased 30%. Moving between 4 floors increased 14%. And, moving between more than 5 floors increased 9%.

#### Conclusions

This experience was important in several aspects. First, it was a great health promotion opportunity for patients, staffs and visitors. In addition, we learned that making a change in people's perception is not just through intense teaching or education effort. Making supportive surroundings is also very effective as well. Another very important aspect is that this showed us how much a movement in hospital can influence in community. Our stair project was featured on several newspapers, and case presentation of our project was given to several hundred health officials. Based on this experience, continuous efforts will be made to influence to patients, staffs and visitors as well as community.

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## The relationships of physical activity, health promoting lifestyle and quality of life of nurses

**YANG SHIOU-YUN**

#### Introduction

Nurses are main human resources of hospital and serve in the front line of patient care under the responsibility as well. The relationships between physical activity, health promotion and the well-being of nurses have not been adequately understood. The linkages between social and psychological well-being and physical activity need to be further explored.

#### Purpose/Methods

Measures were conducted in 2010 from 216 female nurses (mean age =36, SD = 8) in a medical center of Taiwan. Physical activity, health promoting lifestyle and quality of life status were collected, using the International Physical Activity Questionnaire, Health Promotion Life-style Profile (HPLP) and WHO Quality of Life (QOL)-BREF.

#### Results

There were 77 (35.6%) participants with vigorous activity, 38 (17.6 %) with moderate activity, 79 (36.6%) with in walking activities, and 22 (10.2%) without physical activity. The average score of HPLP was 65.78 (highest: inter-personal support; lowest: exercise). The mean score of overall QOL was 54.28 (highest: physical aspect; lowest: psychological aspect). Six subscales of HPLP were highly correlated with the four aspects of QOL. In addition, happiness, health status and self actualization were related with QOL.

#### Conclusions

Physical activity during work and daily life was insufficient among nurses. HPLP and QOL were positively correlated. This study has identified major predictors of QOL.

#### Comments

Increasing the level of nurses' physical activity is needed for hospital managers. Policies should be restructured to encourage nurses to be active by making time and facilities available. Especially, emphasizing lifelong physical activity should be promoted in worksites.

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## The Impact of Health Promotion on Female Employee Fitness Aerobic Exercise

**LIAO Su-Chuan, CHEN Mei-Chen, CHEN Xiao-Mei, CHOU Lih-Lih**

#### Introduction

According to the Council Sports Commission's report, women workers for work limited hours and take care of families with children and other factors, the general lack of exercise. Workplace campaign can promote physical and mental health staff to enhance work efficiency and morale, reduce the emotional

stress, control obesity and so on, does have positive health effects. Therefore, for the health promotion as a goal, set up in the workplace, community fitness aerobic exercise for employees to enhance physical fitness.

#### Purpose/Methods

The Court established aerobic fitness clubs, physical fitness program includes aerobic warm-up, major sports, fitness training and muscle relaxation exercise. Which most women like aerobics exercise Love, it is a diverse, interesting movement, combined with hand gymnastics, running, jumping and other activities, mainly with a fixed compact and lively music, combined with aerobic exercise and dance action, driving the body large muscle activities to achieve physical fitness.

#### Results

The aerobic fitness clubs, by the number of participants from 8-10 increase to 25-30 people. The welfare of members through the hospital funding, the publicity and recruitment, sports venue from basement to 5 Building of Department of Community Medicine, so that aerobic fitness can bring the movement to promote workplace efficiency, but also allow employees to develop sports habits, increase work efficiency.

#### Conclusions

Employees are an important asset of the hospital. To provide employees a safe and healthy working environment are hospital's responsibility. We hope that health promotion into the organization's culture and daily work in order to affect employees, patients and their families and communities for the purpose to improve health care quality, and further assume the maintenance responsibility for the health of residents in neighboring communities.

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### The Effects on Promoting Staff

### Health Situation by an Online Physical Fitness Prescription System

LU Jun-Liang, TSAI Yao-Lin, TSENG Li-Ping

#### Introduction

Health is the product we provide and the foundation of happy life therefore developing and promoting "health promotion" has been being one of our goals. We have been carrying out our policy in many ways, like in diet, adjustment for stress, and promoting sports. Most important of all, we have set up an Online Physical Fitness Prescription System (OPFPS) with the function of record and exercise recommendation as feedback to help staff improve their health.

#### Purpose/Methods

First, our staff should do the examination of "Workout 333", and OPFPS will tell you whether you are health or not and most important of all, there will be prescriptions, which will provide

you suggestions in eating and exercising. Moreover, we encourage staff to use stairs instead of taking elevators, and each department should arrange a time schedule for exercising everyday. We also set up out-walk paths, holding achievement presentation of sports clubs and annual hospital athletic meet.

#### Results

We selected the subjects at random from our staffs and calculate their Body Mass Index (BMI). There were 200 subjects examined in 2009, while 170 in 2010. We analyzed the data to investigate how staff's health situation was promoted by OPFPS. As a result, there was an entire promotion on their average of BMI. The abnormality rate of over-weighted and over waist descended 15 % and 1%. The abnormality rate of BMI was 62% in 2009 and dropped 14% in 2010.

#### Conclusions

It's quite obvious that statistics decreased in every aspect, which means many people's health status have been improved and therefore we can assume that they have been changing their exercising behaviors or habits by using OPFPS. As a result of that we have been making our efforts to help our staff exercise in a right way and establish a concept of health self-management. OPFPS offers appropriate prescription in a simple, yet efficient record tool.

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### A Research on Health Promotional Needs and Health-Fitness among hospital employees in eastern Taiwan

JIN-LAN Lin, WEN-LIN Hsu, SHU-CHUAN Chang

#### Introduction

Before initiate health promotional activities in the workplace, managers and employees need to know their own physical and mental conditions. And there is a need to assess employee's physical condition, health behavior, and attitude before effective health gain program can be carried out among the hospital staff.

#### Purpose/Methods

This study is a cross sectional examination of healthy workers in an urban hospital in eastern Taiwan. Subjects of 20-64 years old and normal function were selected. From February to March 2010, 1,406 employees completed a health needs questionnaire and had Health- fitness tests of BMI, waist and hip circumferences, hand grip strength, muscular strength and endurance, and flexibility



### Results

Among the 1,406 persons surveyed, the average age was 34 years (34.40  $\pm$  9.40). Women accounted for 70% and 88% of them had no regular exercise. Among the inactive females, 37% intended to start exercise within six months. Majority of them (73%) listed exercise as top health promotional needs, followed by health screening and weight control. Regarding Health-fitness examinations, the BMI mean  $\pm$  S.D. of the 1,406 subjects was 23.52  $\pm$  3.86, waist-hip ratio was 0.88  $\pm$  0.64, cardiorespiratory endurance value was 46.85  $\pm$  10.24, flexibility 25.52  $\pm$  10.53, hand muscle strength was 35.16  $\pm$  10.70, and muscular endurance 22.44  $\pm$  8.74. Female's BMI, waist-hip ratio, and flexibility were greater than men; but strength, muscular endurance, cardiovascular endurance were weaker. Older people had poorer physical fitness than younger person. Those who had regular exercise for more than six months showed better result than those who had no exercise ( $p < .05$ ).

### Conclusions

This study suggests that health promotion campaign of the hospital staff should emphasize exercise, and that regular exercises should be promoted. Older persons and those who had more years of service should also be encouraged to participate. This plan not only will improve physical fitness of the hospital workers, but also will reduce and prevent chronic diseases.

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## Improving Hospital Employees' Physical Fitness

### PAI Shan-Hua

#### Introduction

Survey shows top reasons that our hospital employees do not exercise are: insufficient time to exercise and no convenient places to go to. One of the reasons that cause employees' lack of exercise might be rotating work shift, which could cause abnormal lifestyles. In order to encourage employees to exercise more and improve their stamina, hospital had based on survey result in 2006 to add various exercise machines and establish different types of exercise communities for its employees. With more communities to choose from and easier access to exercise equipments, we hope employees can increase their amount of exercise. We also continually monitored employees' health status and exercise habit from 2007 to 2010 to evaluate the success of improving employees' health in working environment inside of hospital.

#### Purpose/Methods

Our study used fitness test to monitor employees' fitness condition. Based on the result of the test, we developed plans and created a convenient exercise environment to improve employees' stamina. We also kept monitoring employee's

physical fitness to find out the plan's effectiveness. According to data gathered from 2006, 41.5% of employees participated in this survey had BMI greater than 24; 44.9% of participants had substandard cardiopulmonary function and 45.3% of participants had no exercise habits. Therefore, we created many exercise communities including Five Phases of Chinese Philosophy Health Exercise, Tai Chi, Belly Dance, Pilates, Aerobics, and Ballroom Dancing, and also established 24-hour ping pong table room, health trail, and Renai fitness center to help employees gain easier access to exercise. The study kept monitoring employees' physical fitness till 2010 to analyze employees' fitness and exercise habits.

### Results

Results show that the number of participants who have BMI larger than 24 dropped from 41.5% of 2006 to 34.1% of 2010; participants who have substandard cardiopulmonary function also dropped from 44.9% to 37%. The number of participants who have no exercise habits also dropped from 45.3% to 36.7%. According to Renai Fitness Center, out of 350 monthly users, about 74% of the users are hospital employees. The study shows that by providing easier access to exercise equipments and communities, employees' willingness to exercise will increase accordingly.

### Conclusions

Spatial planning through the workplace, developing exercise related activities to improve stamina, and setting up exercise equipments that can improve cardiopulmonary function will offer employees more choices and increase their desire to exercise. Employees are also encouraged to use health trail instead of elevator so that they can increase the amount of exercise and improve overall fitness and stamina.

### Comments

If we can design an exercise space which fits employees' working type within working environment, it will increase their will to exercise and improve their fitness and stamina.

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## The Effect of Aerobic Exercise on the Health-Fitness and Health-quality of life in Hospital Staffs

### LINE Chin-Lan, LEE Ming-Hsien

#### Introduction

Moderate exercise enhances health and quality of life with helps prevents diseases. Female tend to exercise less than males.

**Purpose/Methods**

This study used a quasi-experimental design to investigate the efficacy of a group aerobic exercise intervention on the health-fitness and Health-related quality of life of the sedentary female employees at a hospital. Seventy-six qualified individuals were recruited as subjects. With 38 randomly assigned, respectively to exercise and control Groups. Cardiopulmonary endurance, body mass, muscle strength, muscle endurance, and flexibility, Health-related quality of life with the SF-36 scale of all subjects were measured prior to and after the intervention. Those in the exercise group participated in a 40-60 minutes group aerobic exercise three times a week for 8 weeks. Subjects in the control group maintained a normal daily regimen.

**Results**

At the conclusion of the intervention program, values for Cardiopulmonary endurance, body mass, muscle endurance, endurance, flexibility, and quality of life were all significantly better for exercise group subjects than for their control group.

**Conclusions**

Group aerobic exercise is an effective approach to improving the health-fitness and quality of life of individuals working at hospitals.

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## Health-Related Physical Fitness of Workers in a Regional Teaching Hos- pital- a three year study

**LIAO Wan-Chun, LI Ching-En**

**Introduction**

Health-related physical fitness (HRPF) is the state of health estimated by four physiological indexes: body composition, flexibility, muscular strength and cardiopulmonary endurance. With better state of physical fitness may positively improve work productivity. However, there was few study focus on the physical fitness state of workers in hospital, especially long term observation.

**Purpose/Methods**

Therefore, the long term HRPF of hospital workers was evaluated in this study. In a consecutive three year from 2009 to 2011, hospital workers were random sampled and received the HRPF test, which collected the data of body composition (body mass index, BMI), flexibility (sit and reach test), strength (one-minute sit-ups), and cardiopulmonary endurance (modified Harvard step test), then the individual data was compared to norm of different age and gender.

**Results**

325, 204 and 248 subjects (age from 18 to 64 years old) were tested respectively in 2009, 2010 and 2011. One-way ANOVA was used to test the differences between the three year data. Workers sampled in the consecutive year did not have significant differences in trunk flexibility, muscular strength. Workers sampled in the second and third year had body mass index and cardiopulmonary endurance smaller ( $p < 0.05$ ) than those in the first year.

**Conclusions**

With physical fitness tests in consecutive years, health condition of workers in hospital can be easily and systematically assessed, and these results may provide information not only for track of personal health care but also for health policy management.

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## Associations of Physical Activity and Fitness with the Risk of Metabolic Syndrome in Hospital Personnel

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WANG LI-YING, JENG SUH-FANG**

**Introduction**

The prevalence of metabolic syndrome has gradually increased in the past decade and becomes a significant public health problem globally. Accumulating evidence indicated that low physical activity and poor fitness may increase the risk of metabolic syndrome. However, the information regarding the associations of different levels of physical activity and fitness with the risk of metabolic syndrome among hospital personnel has been limited.

**Purpose/Methods**

This study was aimed to examine the associations of physical activity and fitness with the risk of metabolic syndrome in hospital personnel. 229 hospital personnel were collected their basic data and were examined for physical activity and cardiorespiratory fitness (cardiopulmonary index). Subjects were grouped by cardiopulmonary index and were compared for basic data and physical activity using analysis of variance. The associations of physical activity and fitness with the risk of metabolic syndrome were investigated using multiple stepwise regression analysis.

**Results**

Very low cardiopulmonary index has most frequently occurred in administrators and was found to correlate with a higher risk



of metabolic syndrome as well as overweight/obese ratio. Multiple regression analysis revealed that very low cardiopulmonary index (odds ratio [OR]=17.5, 95% CI= 4.21~72.42,  $p<0.05$ ), overweight/obese (OR=11.5, 95% CI= 4.35~30.14,  $p<0.05$ ) and a long average sitting time (OR= 1.2, 95% CI= 1.0~1.41,  $p<0.05$ ) were significantly associated with the risk of metabolic syndrome.

### Conclusions

Poor cardiorespiratory fitness, overweight/obese and a long sitting time were significant factors associated with the risk of metabolic syndrome among hospital personnel. Designation of intervention program for hospital personnel who are at risk of metabolic syndrome may focus on enhancing cardiorespiratory fitness, reducing weight and decreasing sitting time.

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## The Effectiveness of Region Teaching Hospital's Promoting Health Related Physical Fitness

**CHEN Wen Chun, SU Pei Hung**

### Introduction

In Taiwan, regardless of themselves, medical workers work so hard to take good care of patient's health. Therefore, our hospital had promoted health related exercises which help us realize our ability of whether we can adapt to the environment for staff to promote their health. Generally speaking, higher grades of health related physical fitness test represents to have a healthier body and stronger resistance against disease. Therefore the research focuses on the effectiveness of hospital's promoting health related physical fitness.

### Purpose/Methods

This research about how health situation is affected before and after the interfering of health related physical fitness mainly focus on our hospital staff, totally 875 people joined, and the pretest contains body composition, cardio respiratory endurance, muscle endurance, flexibility. What's more, we promoted a series of exercise activities like aerobic dancing, hiking, climbing stairs, establishing sports clubs, and after ten months there would be a post test.

### Results

After staff have attended our exercise activities, on the one hand, the data went down 0.48 kg in weight, 2.43 kg/m<sup>2</sup> in body mass index, 2.51mmHg in systolic pressure, 3.01 cm in waist, on the other hand, it increased 1.3 times in 1 minute bent-knee sit-up, and 2.82% in 3 minute step test, which improved in all aspects, especially in weight, systolic pressure, waist, 1 minute bent-knee sit-up and 3 minute step test( $p<0.05$ ).

### Conclusions

It shows that the health exercises that our hospital promoted help staff improve health situation, especially in weight, waist, 1 minute bent-knee sit-up and 3 minute step test, which means that the aerobic dancing, hiking, regular aerobics held by hospital are helpful for staff to improve obesity, especially the abdominal obesity, cardio respiratory endurance, and muscle endurance.

### Comments

There is no denying that staff is absolutely the important property of hospital, and healthy staffs ensure the quality of medical care. What's more, it turn out to have more benefits in improving staff health situation and lives quality that our hospital actively promote the health related physical fitness test.

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## Innovative labeling of menu for a healthy canteen programme to create awareness and increase the availability of healthier foods in the staff canteen of Changi General Hospital (CGH), Singapore.

**ONG Li Jiuen, FOO Jia Min, CHEONG Magdalin, THANGAMANY Maria, CHAN Varona**

### Introduction

CGH has a framework for workplace health promotion and has been awarded the Platinum H.E.A.L.T.H award by the Ministry of Health since 2003. As part of health promotion, the "What is Smart Eating?" (W.I.S.E) programme was initiated in June 2011 to aim for a healthier canteen menu with at least 50% of the menu providing healthier choices and also to address the needs of our canteen customers. (59% of the 160 canteen customers surveyed wanted healthy improvements to the existing menu).

### Purpose/Methods

A total of 65 food items available in the staff canteen were evaluated and identified to be "Healthy", "Less Healthy" or "Unhealthy" based on our hospital's Healthy canteen guidelines, Health Promotion Board, Singapore. A traffic light system using green icons for coding healthy food, amber for less healthy and red for unhealthy items was implemented. With regular feedback, menus placed at eye-level have smiley/unhappy faces with chef hats now replaced the coloured icons, to denote healthy food can be tasty too.

### Results

Prior to intervention, the menu comprises 26% healthy choices, 53% less healthy choices and 20% unhealthy choices. 34 out of 65 food items had to be modified to become healthier (<500kcal, <3g fat per serving). Post implementation, 90% of the healthier choices (mainly soup-based) meet the energy (kcal) and fat criteria but not the sodium criteria. To reduce sodium intake, staff were advised to refrain from drinking all the soup and food vendors advised to use less sodium in cooking.

### Conclusions

The colour coded menu is more visual in clearly differentiating the healthier food from the unhealthy ones as it provides awareness of the availability and vendors see the need to collaborate despite challenges. The next phase is to empower food vendors with healthy food preparation skills and tips to maintain food costs for sustainability. Needs/ expectations of our staff/ public may change as health awareness will increase with more health promoting initiatives implemented to improve our standards as a health promoting hospital.

### Comments

Acknowledgements to Healthy Lifestyle Committee for advertising W.I.S.E programme during the healthy lifestyle month (September 2011) and special thanks to the canteen management for supporting this programme initiated by the Dietetic and Food Services department.

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## Hospital-based Health Promotion through Healthier Food Choices

**ONG Christine, ONG Chengsi, TAN Shiling**

### Introduction

Retail food sold in hospitals can affect food choices, and perceptions of the nutritional quality of foods. Hence, our hospital aimed to make healthier foods available, and also to educate staff and visitors on healthier eating in general, so that the hospital can become a place to be well, as well as to get well. This is in line with the vision of the Singapore Health Promotion Board (HPB): "A nation of healthy and happy people"

### Purpose/Methods

The aims of the project are :1) to increase knowledge of staff and visitors on making healthier food choices when eating out 2) to increase knowledge and awareness of staff and visitors on the dietary messages promoted by the HPB and 3)to promote healthier food choices within the hospital The hospital's food court, was targetted for this project as it provides the bulk of meals. Over a 2-year period, 3 phases of the project focussing on different nutrition messages were launched.

### Results

1) During the monitoring period, 15-20% of total food and drinks purchases were Healthier Choices; 2) The Hospital's Annual Health Screening for Staff showed that 91% were aware of the project, 27% purchased Healthier Choices at least 3 times a week and 48% benefited from the health tips provided; 3) A Survey of Food Court Customers showed that about half of staff and visitors were aware of the project and had tried at least 1 of the Healthier Foods

### Conclusions

The results showed that most of the staff in KKH, and half of the visitors are aware of the Healthier Food Choices project. As a health promoting hospital, this is in line with the hospital's objective to promote healthy eating and healthy living. As nutrition is a major modifiable risk factor in the development of preventable chronic diseases, it is important to promote and facilitate healthy eating, through education as well as making healthy foods accessible.

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## Creating awareness and healthy eating at the Workplace

**CHEONG Magdalin, TAN Jessica**

### Introduction

Health care workers can have positive influence on patients and the public. Thus, a survey was designed to assess the knowledge, attitude and dietary practices of both the staff and the canteen vendors. Prior to the assessment, the canteen vendors provide meals that are on demand and the staff purchase whatever food is available which often happen to be the unhealthy variety. The objective is to provide healthier options and encourage staff to adopt healthy eating habits at the workplace.

### Purpose/Methods

Two questionnaires, one each for the staff and vendors were developed to assess the availability of healthy food in the canteen and their nutrition knowledge, attitude and dietary practices. A total of 337 participants responded and the data collected were analyzed for implementation of healthier initiatives to promote healthier practices in the workplace. Creative, colorful stickers with nutrition information were developed and placed at strategic locations including dining tables and food stalls to help influence dietary practices and healthier eating habits.

### Results

The survey confirmed that 59% of staff/public requested for more information on healthy eating while 41% wanted promotion and discounts for healthier dishes. Of all participants, 37% requested for new changes as advised and 42% suggested having monthly healthy eating campaigns. Post intervention,



68% of the staff/public agreed that the intervention motivated them to adopt healthier eating practices and 73% noticed the healthier eating stickers. 91% agreed that the canteen has a supportive environment for promoting healthy eating in the workplace.

### Conclusions

The implementation of colorful stickers with a theme nutrition message in each sticker is simple and clear for staff/public to understand. Placing the stickers at strategic locations on dining tables encourage and provide staff/public the opportunity to read and digest the message while eating their food. The repeated exposure to the nutrition message has an impact on practices and hence 68% of staff/public was motivated to adopt healthier eating practices and vendors follow the healthier eating guidelines at the workplace.

### Comments

Acknowledgement: Daphne Chen, Eunice Tay and Andrea Ng, students from Temasek Polytechnic, Staff of Dietetic & Food Services, CGH.

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## The relationship of demographic characteristics, physical activity, health promoting lifestyle and quality of life of nurses

### YANG SHIOU YUN

#### Introduction

Nurses are vital human resources of a hospital and serve in the front line of patient care under the responsibility, the health condition and quality of life should be concerned.

#### Purpose/Methods

To explore the demographic characteristics of nurses, physical activity, health promoting lifestyle and quality of life status, relationships among variables and predictors of quality of life.

#### Results

35.65% engaged in vigorous activity for 2.21 days. 53.24% in moderate activity average for 2.93 days, and 89.81% engaged in walking activities the average of 4.89 days. The average score of health promotion living style was 65.78. The highest subscale was inter-personal support and lowest subscale was exercise. The mean score of overall QOL was 54.28. With the highest score in the physical aspect (63.75) and the lowest score was in the psychological aspect (55.75).

### Conclusions

Health promoting lifestyle and overall quality of life score was positively correlated. Six subscales of health promoting lifestyle were highly correlated with the four aspects of quality of life. In addition, self-perceived happiness, self-perceived health status and self-actualization aspect were major predictors of quality of life.

### Comments

To promote the levels of physical activity is needed, and hospital policies should be restructured to encourage individuals to be active by making time and facilities available. Especially, emphasizing lifelong physical activity should be promoted in worksites.

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## Nutritional Education for Premenopausal Hospital Staff to Prevent Iron Deficiency

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#### Introduction

Preventing iron deficiency has been a main target of the World Health Organization since 1992 and it also has been included in Health 2020 of Taiwan, especially focus on 19-55 years old child-bearing women. According to the third National Nutrition Examination Survey in Taiwan, the dietary iron-intake of premenopausal women was below dietary reference intakes. A total of 836 employees, include 657 women (78.6%) in Keelung Hospital.

#### Purpose/Methods

A nutrition intervention of iron improvement program was conducted for premenopausal staff in Keelung Hospital by using supportive system and establishing personnel skill. There were 6 classes in this program which topics about 1. Am I iron deficiency? 2. Iron-rich food 3. How to increase iron intake? 4. How to increase the availability of food iron? 5. Iron supplement 6. Iron requirement during the life span. Questionnaire of knowledge, attitude and behavior (KAB) and biochemical indices of nutritional status were also investigated before and after program.

#### Results

Total 75 premenopausal staff had finished 6 classes during 16 weeks. The score of KAB questionnaire were increased significantly ( $P < 0.001$ ) and serum ferritin was increased significantly from  $36.4 \pm 4.7$  mg/dl to  $42.0 \pm 5.6$  mg/dl ( $P = 0.002$ ) but no

significant difference in hemoglobin before and after the intervention.

### Conclusions

This nutrition intervention of iron improvement program improves KAB of subject's staff and may be to prevent iron deficiency among premenopausal staff in healthcare workplace.

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## "Concerted weight loss, health plus" Independent weight loss program for hospital staff

**HSIEH Tsung-Han, CHOU Lih-Lih, SHYU  
Rong-Yaun, CHAO You-Chen**

### Introduction

Because of lifestyle changes, obesity has become the problem and can not be ignored. According to the investigate. Adult overweight of 44.1%. According to the investigate of Bureau of Health for people work full-time found that 11.8% of employees are obese, 22.7% are too heavy, and at least 15% suffering from a cardiovascular disease or chronic disease. In view, we looking forward to be "healthy eating" and "physical fitness". To implement hospital-wide control and management colleagues, and promote workplace health.

### Purpose/Methods

Physical fitness: physical fitness testing for an items of body mass index, waist-hip ratio, cardiovascular endurance. After testing given the status of guidance manuals and health and hygiene activities together by the colleagues, and log in the system, to facilitate follow-up operations. Healthy eating program: To encourage and guide the hospital staffs for easy self-control, the postural management center for "care about body weight" healthy eating programs. Main courses from the regular diet to weight loss into the way of life.

### Results

After seven months, there are over 800 people join with the plan to promote healthy postural control. After team integration, people involved in postural control, as long as the implementation of energy management and control, and with regular exercise and diet records, in the 0.5-1 kg weight loss within a week is not difficult. During the period for a total weight loss are 2 thousands kilogram in our hospital.

### Conclusions

Obesity or overweight is not an irreversible disease. Intervention complete such as diet and exercise prescription, the implementation of calorie intake management, to improve the status of the body and restore a healthy body. So look forward to the future, combine with vegetarian and the concept of

obesity prevention and treatment into the community, thus fulfilling the concept of prevention.

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## The Experience of Using Hospital Weight Control Plan to Promote Workplace Health Program

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HUI-MIN Lin, JIA-JEN Hsieh, WEN-LI Wang**

### Introduction

Hospital employees play an important role in helping patient getting well, however, they always neglect their own health. According to research, the incidence of metabolic syndrome of hospital employees is 21.33 per mille. (He Xuehua. Caizong Yi, 2011). Weight reduction is a major method to maintain health, therefore, how to lose weight safely is an important issue.

### Purpose/Methods

To provide hospital employees a safe and effective weight loss pattern by weight loss courses during four weeks. The results can be a reference to promote workplace health in hospital in the future, and increasing the effectiveness of workplace health promotion programs. A total of 20 overweight (BMI  $\geq 24$  kg/m<sup>2</sup>) and obese (BMI  $\geq 27$  kg/m<sup>2</sup>) hospital employees were recruited between July 1 and July 31, 2011. Course design: 1. Basic nutrition course, Chinese medicine weight-loss course, exercise course including: Aerobics, yoga courses and using E-health technology system (<http://ehealth.tcu.edu.tw/>) to plan the exercise schedule by themselves.; 2. Dietary behavior modification: Participants record diet in detail by electronic daily diet record, and the dietitians would amend them individually.; 3. Peer and family support.; 4 Provide a restricted-calorie vegetarian lunch. Effectiveness: 1. Body weight and body fat measurement.; 2. Nutritional knowledge assessment: Use the nutritional knowledge questionnaire (Score Sheet for the Newest Vital Sign Questions and Answers).

### Results

2 participants were excluded because their personal reasons. A total of 18 participants completed this project. Their average age is 38 years old, including 6 males (25 ~ 57 y) and 12 females (29 ~ 52 y). The average body weight was reduced from 76.5 kg to 73.5 kg (decreased 3.0 kg). The average body fat was reduced from 37.6% to 34.7% (decreased 2.9%). The average score of nutritional knowledge questionnaire progressed from 3.0 to 5.9. Nutritional knowledge also progressed from 「 indicates the possibility of limited literacy」 range to 「almost always indicates adequate literacy」 range.





### Conclusions

This plan had a good effectiveness in body weight and body fat reduction only through changing lifestyle to lose weight. However, lack of biochemical test is the limitation of our plan. Although this project participants are fewer, but we hope we can train the successful participants to be seed teachers for a large hospital weight control plan in the future.

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## Exploring the factors related to obesity, metabolic syndrome and abnormal liver function among hospital staff

**SHEN Hsi-Che, CHEN Yu-Cheng, PING Yi-Nung**

### Introduction

WHO indicated that there are about 1.4 billion populations overweight globally. One study pointed out that the number of deaths related to obesity and metabolic syndrome were similar to deaths related to cancer in Taiwan (Chen. et.al, 2009). Hospital staff under busy and stressful work are prone to have metabolic syndrome and other chronic disease (Chao. et.al, 2010). We study the health status of the hospital staff in order to create a healthier environment.

### Purpose/Methods

We study the health screening report from the staff in New Taipei City Hospital in 2010. 557 health reports were analyzed. The exploring questions of this study are as follows: a.The prevalence of metabolic syndrome, obesity and hepatic function. b.The correlations between obesity, metabolic syndrome and abnormal liver function in hospital staff. c.To offer the suggestions of preventing chronic disease.

### Results

The prevalence of obesity was 18.4%, metabolic syndrome was 14.9%, abnormal liver function was 17.5%. By using logistic regression analysis, it was found that in male population, obesity(OR=2.49), metabolic syndrome (OR=3.32)and abnormal liver function (OR=3.24) were higher than female. The risk for obesity was highest in 31-40 year old population(OR=2.04). The risk of metabolic syndrome and abnormal liver increased as age increase. The risk of abnormal liver function was higher in administrative staff(OR=3.30) and paramedical staff(OR=2.66) than medical staff.

### Conclusions

The study showed that the health status for male staffs were poorer than female. The risk of abnormal liver function was higher in administrative staff and paramedical staff. Further we

can explore their life style and design suitable health programs for them. Besides obesity, metabolic syndrome and abnormal liver function had significant relationship, so it is important to initiate weight control program for hospital staff. We should expand weight control programs and build exercise culture to prevent chronic disease.

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## The Effectiveness of Weight Loss Program in Health Promotion Hospital

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### Introduction

Jainan mental hospital has been certified to be a health promoting hospital by WHO-HPH. Hospital committed to promoting workplace health promotion, and to handle the weight loss program with the government health policy in 2011.

### Purpose/Methods

The purpose of this study is to explore Body Mass Index (BMI) change after weight loss program intervention for staffs in a health promotion hospital. Staff's age below 64, and BMI figure  $\geq 20$  were included in this study. The interventions includes: 1) Top-down policy of propaganda for weight loss, and announce weight loss results in public meeting.2) Setting weight loss incentives. 3) Encourage team competition.4) Bottom-up implementation,5) Arrange regular exercise 6) to establish the sports group,7) Encourage to walk instead of taking elevator 8)Vegetarian day per week 9)diet control and weight loss counseling.

### Results

After intervention, the result showed that 60% subjects includes every age ( $p = .000$ ), doctors ( $p = .001$ ), nurses ( $p = .009$ ), administrative staffs ( $p = .000$ ), day shift ( $p = .000$ ), BMI20  $\leq$  BMI < 24( $p = .001$ ), BMI24  $\leq$  BMI < 27( $p = .000$ ), BMI  $\geq 30$  ( $p = .000$ ) were significant improved. Subjects with male, over age of 40, medical technology pharmacy staff, three shifts, their body weight increased after intervention.

### Conclusions

This intervention program found significant improvement in staff BMI, but most are still too heavy over the range. Only a small number of successful weight loss for the overweight range. We expect keeping to implement the intervention for maintaining the effectiveness. BMI values for the intervention "increased rather than decreased," although not reached statistically significant, it is recommended that to explore their reasons in these groups.

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## Weight control behaviors of the health promotion hospital staffs and the effect of fitness test

**HUANG MU-SHENG, TSAI MEI-WUN, TU SHIH-TE**

### Introduction

The prevalence of obesity is growing up fast in the worldwide and obesity associated with many chronic diseases closely. Although the hospital staffs are the health keepers, but some investigators found their problems about overweight and obesity commonly existed. The aim of this study were to describe the weight control behaviors of the hospital staffs and its related factors, and to assess the effect of the fitness tests on weight control behaviors in hospital staffs.

### Purpose/Methods

181 healthy staffs (30.3 +/- 6.5 years old, 87.8% were female; 14.6% and 14.9% were overweight and obesity, respectively.) were recruited from a health promotion hospital. All participants completed the fitness tests and questionnaires of physical activity and weight control behaviors. Three months after the fitness tests, the staffs were followed up with the questionnaires.

### Results

According to the stage of change in transtheoretical model, the weight control behavior in 181 hospital staffs was 50.3% in "contemplation stage", 32.6% in "maintain stage", and 9.9% in "action stage". Through the fitness tests, a significant reduction in the proportion of the "contemplation stage" to 35.9%, and an increase in the proportion of the "preparation stage" from 1.7% to 15.5%, while little change was found in the proportion of "action stage" and "maintain stage".

### Conclusions

The problems of overweight and obesity also existed in the health promotion hospital staffs. Higher proportion of them remained in the contemplation stage of weight control behavior. A discrepancy between cognitive and real behaviors should be noted. The fitness test can be an useful intervention to motivate the stage of change in weight control behaviors.

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## Managing the Effectiveness of Obesity Prevention by using Balanced Scorecard.

**HUANG SuYun**

### Introduction

To reach the goal of hospital, we used the Balanced Scorecard (BSC) as a tool, put the relevant measurement index on the annual plan, drew up an action plan and started to promote it since 2008. The standard rate of Waist to Hip Ratio for staffs in this project becomes part of "Customer perspective" in 2011 BSC. To obtain over 90% of the expected average standard rate of WHR and reach the goal of losing 300kg among the staffs.

### Purpose/Methods

Set up the Measurement Index: The Standard Rate of Waist to Hip Ratio for Staff > 90%. Definition and Measurement: 1.WHR= Waist(inch)/Hips, normal value: men (0.85~0.95), women (0.67~0.8); 2.The pre-measurement was in March. Then, we had another three measurements in June, September and December, average them and will come out of the annual score.; 3. Standard Rate: WHR accomplishes / total participants x 100% Turn "Strategy" into "Action". We called on the staffs to take part in weight management, created the dietary environment and promote healthy eating and regular exercise.

### Results

1.We have 147 staffs taking part in weight management: the total kilograms we measured before March were 9447.4kg. Until December, it reduces to 9016.5kg. The total weight loss is 430.9kg, which is better than our expected goal. 2.The standard rate of WHR for staff was 86.39 before March. After average the three measurements in June (87.07%), September (90.48%) and December (93.2%), it gets 90.25%. In other words, it reaches the target value of BSC we set up.

### Conclusions

To prevent the staffs from the harm of the obesity, the hospital promote policy-based project and put the Standard Rate of Waist to Hip Ratio into 2011 BSC-KPI. It turned out to be a great success in weight loss. Therefore, in 2012, we will continue promoting this healthy weight loss activity. Our targets at this time will expand to the relatives of staffs, patients and their family members so everyone can stay away from obesity.

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## A Case Study for Employee Assistance Programs (EAPs) in two Health Promoting Hospitals



**TSAI Tien-Sheng, WANG Chun-Yu, HUANG Tzu-Hui, KO Chih-Hung, LIU Ching-Kuan**

**Introduction**

The medical institutions are highly intelligence and human resource appliance, in recent years the competition among medical institution are become vigorous gradually. If we thought hospital employees are interior customers and patient are exterior customers. Form the point of view of customer satisfaction, interior customers have more priority than exterior customers. It is become more important to introduce EAPs basics from human resource capital theory. Because of the request of hospital appraisal, modern hospitals pay more attention to improving EAPs.

**Purpose/Methods**

On the basis of there is inside customer who is satisfied with that will have the satisfactory outside customer's thinking, it is important that the medical organization pursues the staff based on capital view of manpower and helps the scheme to appear even more, and through the construction and merger of the network platform, combine the specific service scheme, to build and construct more appropriate staff and help the scheme, it will be the main purpose of this research.

**Results**

Demands for professional consultant and human resource it could be acquired from the integration of hospital. However, how to merge the web platform, the web-based EAPs, still is the important issue. This research is the comparative analysis the situation of Health Promoting Hospital about the implementation of EAPs. We chose two Health Promoting Hospitals located in Taiwan south. Through the interviews of the high-level managers and executives, we can built and construct the scene for realizing modern hospitals' EAPs.

**Conclusions**

This research found the following advantages when merging network into the EAPs: (1) the property of network anonymous can protect the privacy (2) internal resource can be used more efficiently (3) information service can be supplied more personally (4) the staff's performance can be tracked more effectively which can build more sophisticated supervisor system. The above result can offer reference to the medical institutes that pursuing networked-EAPs.

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**Session P1.13: Addressing health risks for health service staff**

**Medical gas management in health facilities under the UNI EN ISO 7396 standard "Medical gas pipeline systems- Part 1: Pipeline systems for compressed medical gases and vacuum" - The formative experience at the hospitals of Pavia province**

**GOZZI Serena, SCARPINI Gian Carlo**

**Introduction**

In modern health facilities, dangers deriving from the presence of medical gases on the workplace should not be underestimated because they could give rise to dangerous situations and even serious emergencies for patients, workers and visitors. The hospitals of Pavia have carried out a training programme directed to health operators and technicians based on the contents of the UNI EN ISO 7396 standard in order to define the responsibilities and good practices to be adopted for a safe and efficient management of medical gases.

**Purpose/Methods**

Courses dealt with these topics: Laws and rules regarding pharmaceutical aspects and safety on the workplace; Technical features regarding pipeline systems for compressed medical gases and anaesthetic gas scavenging disposal systems; Responsibilities regarding medical gas management; Alarms and emergency management; Therapeutic applications of medical gases; Risk management for potential adverse events on patients deriving from a non-conforming utilization of medical gases and their distribution systems; Supply chain management of medical gases (even in emergency case); Good storage and manipulation of gas cylinders.

**Results**

The training program -developed during the 2011- has trained the 56% of health operators to be trained. Courses contributed to sensitize hospital personnel towards medical gas management topics, in particular towards potential risks, both for patients and workers, deriving from a non-conforming utilization of distribution systems and medical gas administration. Other courses have been planned for the 2012, because personnel emerged the need to extend the number of people trained and to stress more about medical gas management topics.

**Conclusions**

Health operators that have an active role in operations regarding utilization of medical gases, as gas emergency management, training and introduction of new clinical and care protocols that could result in modifications in the need of medical gases, have received in a very positive way the initiative because they have

been made aware with the basic technical features of plants, they deepened aspects such as those pharmaceutical, those regarding risk management and safety on the workplace.

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## Effects of Exercise Intervention for Hospital Personnel Who are at Risk of Metabolic Syndrome

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### Introduction

Epidemiological studies showed that recent changes in life style and eating habit may result in poor fitness and increased prevalence of metabolic syndrome worldwide. Hospital personnel in Taiwan tend to have busy working schedule and limited time in physical activity that may have adverse impacts on their fitness and metabolism.

### Purpose/Methods

This study was aimed to examine the effects of exercise intervention on the fitness and metabolic risk factors in hospital personnel who were at risk of metabolic syndrome. An open label non-randomized trial was conducted on 21 hospital personnel who had at least one metabolic risk factor. Thirteen participated in an intensive exercise program with exercise classes scheduled three times a week for three months; eight participated in a home exercise program with exercise instruction scheduled biweekly for three months.

### Results

All participants have completed the exercise intervention. The intensive exercise group showed significantly better cardiopulmonary index (change: 9.8 +/- 7.3 vs. 2.0 +/- 5.2 steps/min,  $p=0.006$ ), flexibility (change: 6.3 +/- 4.0 vs. 1.8 +/- 3.4 cm,  $p=0.03$ ) and heart rate (change: -9.0 +/- 9.8 vs. 3.5 +/- 12.5 beats/min,  $p=0.055$ ) than the home exercise group after adjusting for pre-exercise status. The groups were comparable in the changes in all metabolic risk factors, however.

### Conclusions

The intensive exercise program was more effective than the home exercise program in enhancing the cardiopulmonary endurance and flexibility for hospital personnel. Future research needs to increase the sample size and to employ a randomization controlled study design to increase the generalizability of our results.

### Comments

Intensive exercise intervention appears to benefit cardiopulmonary fitness and flexibility in hospital personnel.

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## A new measure for the assessment of Estonian nurses' illness related risk of absenteeism

**PALOTU Eve, TAMMARU Marika**

### Introduction

Challenges of the changing health care endanger its workers' health, which in turn affects staff performance. Timely intervention would maintain the quality of work of the nursing staff. The application of a valid measure for risk assessment provides the opportunity to identify those at risk and implement targeted prevention. Nurse-WIS is a questionnaire used for risk assessment among nursing professionals. It is used for identification of the difficulties encountered by nurses at work in order to reduce illness related absenteeism.

### Purpose/Methods

To adapt the Nurse-WIS for use in Estonia; to evaluate its applicability. The questionnaire was translated following the forward and back translation methodology. Its face validity was assessed by 15 Estonian nurses. The translated questionnaire was completed by 209 nurses older than 45 years. The questionnaire's ability to distinguish between groups characterized by different levels of self-perceived health and the number of encountered environmental risk factors was assessed. The ability to predict the illness related absence from work was evaluated.

### Results

The questionnaire was well received by the participants. Cronbach's alpha indicated good internal consistency. Forty percent of the respondents had a medium or high risk of absenteeism; in accordance with the recommendations of the questionnaire's authors, they would need intervention regarding their occupational health. The risk was significantly higher among respondents with long-term illnesses and among respondents with higher exposure to environmental risk factors. With a five-point increase in score the risk of being absent from work increased 1.3 times.

### Conclusions

The Estonian version of Nurse-WIS can be applied for the assessment of absenteeism risk among nursing staff. This study enrolled nurses older than 45 years who can be considered as being at a higher risk of illness related absenteeism due to their age. Additional studies are necessary to evaluate the applicability of the Estonian version for risk assessment among younger



nurses. Research also needs to be carried out to assess the implementation of the score-based recommendations in an Estonian context.

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## Metabolic Syndrome in Health Care Workers

**YANG Yu-Wen, HSIEH Man-Ni, KU Hui-Hsien**

### Introduction

Metabolic syndrome (MS) had been proved to be highly associated with sedentary life style and will result in bad health outcomes, such as increasing morbidity and mortality. Differences in the prevalence of MS among occupations had been found in several studies. However, there are few studies focusing on the prevalence of MS in health care workers. The study will investigate the prevalence of MS in health care workers according to sex, age and different job characteristics.

### Purpose/Methods

We examined the results of annual health examination of employees working in Changhua Christian Hospital on 2010. People will be identified as MS if he/she met  $\geq 3$  components out of the following 5 components: 1. waist circumference  $\geq 90$ cm for male, or  $\geq 80$ cm for female; 2. systolic blood pressure  $\geq 130$ mmHg, or diastolic blood pressure  $\geq 85$ mmHg; 3. HDL-C  $< 40$ mg/dL for male, or  $< 50$ mg/dL for female; 4. fasting glucose  $\geq 100$ mg/dL; 5. TG  $\geq 150$ mg/dL. The criteria are defined by Bureau of Health Promotion, Taiwan.

### Results

Among 3858 health care workers, 336 (8.71%) people were identified as MS. 51% of people with MS had 4 components, and 38% had 3 components of MS criteria. 18.13% of male and 6.16% of female were identified as MS. The prevalence of MS was 5.74%, 12.32%, 14.35%, and 20.89% for people aged 26-35y/o, 36-45y/o, 46-55y/o, and 56-65y/o respectively. By job characteristics, the prevalence of MS was 24.73%, 5.09%, 7.72%, 5.94% and 13.32% for physicians, nurses, paramedical staff, administrative staff and housekeepers.

### Conclusions

According to the study conducted in Changhua Christian Hospital, male health care workers were more vulnerable to MS compared with female health care workers. The prevalence of MS was increasing with increasing age. People aged between 56 to 65y/o had the highest prevalence of MS. Physicians and housekeepers had higher prevalence of MS compared with other health care workers. With the results, we can identify the specific targeted population and should develop individualized strategies to prevent MS.

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## Workplace bullying Experiences of Nurses and Countermeasures for Taiwanese

**SHU CHING Ma**

### Introduction

Previous studies from many countries, including Canada, United Kingdom, United States, Australia, New Zealand, Pakistan, Turkey, and Japan, indicated that workplace bullying is one of important issues and leads to many negative consequences in hospital environment. The studies of workplace bullying on nursing are still poor in Taiwan.

### Purpose/Methods

To explore workplace bullying experiences of nurses in Taiwan and to develop coping strategies for nursing administrators.

### Results

Five coping strategies were developed according to four themes were selected from workplace bullying incidents.

### Conclusions

Workplace bullying is a relative new and vague concept in the nursing environment of Taiwan. It is necessary for nursing administrators to promote the understanding of workplace bullying and its negative effects to nursing development. Moreover, effective countermeasures of workplace bullying must be developed or made to improve nursing environment and to increase quality of patient care.

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## The use of screening mechanisms in high-risk health care workers accidentally exposed to scabies Preliminary Study

**WU Pei-Fang, SHI Hui-Ling, LIN Li-Chuan**

### Introduction

In this study, patients in the hospital after the arrival of high-risk group of early contact isolation protective mechanism,

whether to reduce the process of health care personnel because of the risk of accidental exposure to infected.

#### Purpose/Methods

Retrospectively study design, data collection period from January to December of 2010 hospitalized patients with single-admission nursing assessment and report card for the accidental exposure of data sources, descriptive statistics for the analysis.

#### Results

The case of high risk patients diagnosed with scabies, a ratio of 41%, of which the number of accidental exposure of more than 38.6% of patients. A total of 482 accidental exposure of medical personnel, of whom 89 were required to preventive medicine, health care workers infected a total of three people. , The occurrence of accidental exposure longest interval of 41 days, a minimum of 2 days, an average of 9.5 days.

#### Conclusions

Screening mechanism for high-risk group for high risk patients with scabies, an early implementation of contact isolation protection to avoid accidental exposure of preventive medicine to expand its influence and reduce the ratio.

#### Comments

The incubation period for scabies for a month, so there is still the risk of accidental exposure. Data collection period was only a year, reduce the risk of infection can not be rendered after the comparative costs of preventive medicine.

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## Analysis of the Effectiveness of Hepatitis B Vaccine among the Workers at a Research Center in Northern Taiwan

**YING-KAO LAI, CHUN-MEI LIN, SU-FUNG CHEN**

#### Introduction

Hepatitis B is a global health hazard. According to the statistics of the Ministry of Health in Taiwan, there are about 2.5 to 3 million hepatitis B carriers here. Since July 1986, Taiwan has included the hepatitis B vaccine into the inoculation scheme for new born infants. So far, this is the first country around the world that promulgates such large scale of "hepatitis B immunization".

#### Purpose/Methods

The subjects were 2,222 workers of a certain research center in the north; they were divided into those born before or after July 1986. They were examined and analyzed with (ECL) Elecsys

e601 Roche, and the proportion between the positive and negative reaction of the HBs AG and the Anti-HBs in serum were tallied.

#### Results

There were 2131 male& female born before July 1986: among them 203 were (9.53%) HBsAg(+) and Anti-HBs(-); for those who had HBsAg (- )and AntiHBs(+ )were 1513 (71.0%); HBsAg (-) and Anti-HBs(- )were 396 (18.6%); there were only 19 (0.89%) who were both (+) in HBs Ag and Anti-HBs. There were 91 male&female born after July 1986: 53 (58.24%) of them were HBs Ag(-) and Anti-HBs(+);the other 38 (41.76%) were negative both in HBs Ag and anti-HBs.

#### Conclusions

Based on the figure listed above, we can see that hepatitis B vaccine in infants can prevent the viral infection of hepatitis B. Among the 91 subjects who were born after July 1986, 38 of them could not find any Anti-HBs. CDC suggested that this group should receive a booster dose and then have blood test after one month. If the reaction is still negative, then they should consult a specialist and redo the three doses of vaccine again. Furthermore, there were 19 of them whose reaction were HBs Ag(+) and Anti-HBs(+). The inference was the surface protein of the hepatitis B virus created a "immunity escape variation"; subsequently, HBs Ag were able to escape being identified by the Anti-HBs.

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## Health Risks for Health Care Workers and the Healthy Hospitals

**HO Jung-Chun, CHANG Wushou Peter, HSU Jin-Huei, CHEN Chiou-Jong, YEH Ching-Ying, CHEN Ruey-Yu**

#### Introduction

Vision of Health Promoting Healthcare Institutions is to provide a healthy work place for its staff, as health care workers have been considered at higher risks for infectious diseases due to occupational exposure in the hospitals.

#### Purpose/Methods

A cross-sectional survey was conducted by questionnaire on 3,235 hospital workers in two general hospitals in Taiwan.

#### Results

2,135 (67%) reported the most common symptom was on the upper respiratory tracts (29.2%). Compared with those started to work in the hospitals at more than 40 years old, those who started to work in hospitals at the ages of 18-24 years old were at highest risks (aOR=4.66, 95% CI= 2.65-8.21) of these symptoms, as well as those of 25-29 years old (aOR=4.13, 95% CI=



2.28-7.46), and 30-39 years old (aOR=3.22, 95% CI= 1.69-6.14). Individuals with closely contacting with patients' droplets at job were shown with significantly higher risk of respiratory symptoms (aOR=1.36, 95%CI=1.05-1.75).

### Conclusions

Specific occupational risk factors were identified in hospitals in Taiwan. These will facilitate the development of healthy hospitals for the employees, patients and the communities.

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## Latent tuberculosis Infection rate among health-care workers in a southern hospital

**KU Chih-Hung, LI Pi-I**

### Introduction

Background/Purpose: Health care workers(HCWs) are one of the groups at high risk of Mycobacterium tuberculosis infection through occupational exposure to patients and their families. The purpose of this study is to assess the prevalence rate and associated risk factors for latent tuberculosis infection(LTBI) among HCWs in southern Taiwan via the QuantiFERON-TB Gold in tube(QFT-GIT) method for blood sample.

### Purpose/Methods

A cross-sectional study was conducted from July 2010 to March 2011 among HCWs in a southern hospital. The study was approved by the ethics committee of the hospital. A total of 180 HCWs(new employee) enrolled were required to provide their written informed consents. All participants underwent QFT-GIT blood test and completed a questionnaire that provided relevant information of risk factors for LTBI. Statistical analyses were performed using SAS version 9.2 software. Categorical variables were analysed using the Chi-Square test or Fisher's exact test.

### Results

There were 47 HCWs with positive reaction of QFT-GIT, the prevalence rate around 26.11%(47/180), it meant that one fourth of HCWs had LTBI. For those who living with other people(OR=5.5;95%CI=1.19-25.42), poor ventilation at home (OR=3.82;95%CI=1.45-10.06), poor ventilation in the working environment (OR=2.34;95%CI=1.01-5.44), and coffee consumption(OR=3.35;95%CI=1.35-8.32) was associated with increased risk of LTBI in multivariate analysis.

### Conclusions

This study revealed that one fourth of HCWs had LTBI, but we could not differentiate between previous and recent infection. No matter what at home or in the office, adequate ventilation is important, because of M. tuberculosis infection via close contact with respiratory droplets. For those HCWs who had LTBI

should be monitored regularly and offered appropriate medical treatment if necessary for prevention of disease progression or flare up.

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## Percutaneous injuries among nursing personnel in Taiwan's secondary referral hospitals and clinics

**WU Hsueh-Ching, SHIAO Judith Shu-Chu, CHIN Weishan, WANG Li-Jie, GUO Yue-Leon**

### Introduction

Percutaneous injuries pose a recognized occupational hazard to healthcare workers. Several studies indicated that the majority of reported percutaneous injuries were from nurses. The purpose of this study is to understand the prevalence of percutaneous injuries and their subsequent disposal among nursing personnel of secondary referral hospitals and clinics.

### Purpose/Methods

Nurses were recruited from clinics with more than 3 registered nurses, using stratified random sampling approach. Also, nurses of 40 accredited secondary referral hospitals were randomly selected to participate. There were 4,047 out of 6,156 questionnaires being eligible for final analysis, resulting a response rate of 65.7%.

### Results

Over the past year, 14.5% of the nursing personnel in the secondary referral hospitals reported percutaneous injuries while this number in the clinics was 20.4%; Odds ratio of percutaneous injuries of nurses with shift is 1.9 times compared to those without shift. Only 21.7% of the nursing personnel in the clinics have been followed up by their employers, compared to those reported from secondary referral hospital (57%).

### Conclusions

More than a half of the nursing personnel of the secondary referral hospitals and clinics considered percutaneous injuries as the No. 1 safety issue at workplace. Our study identified that clinics had higher prevalence of percutaneous injuries than secondary referral hospitals, and less than 40% of them were equipped with appropriate reporting and post exposure medical management.

### Comments

It is therefore recommended that clinics should be encouraged to establish reporting system for percutaneous injuries and implement trainings related to prevention, to improve safety of work environment.

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## Personal and work-related risk factors for multiregional musculoskeletal pain among nurses

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### Introduction

Musculoskeletal pain (MSP) is more common workplace health problem in Europe. According to the European Labour Force Survey 2007 (Eurostat 2009) 8.6% of workers in the EU experienced work-related health problems and most prevalent of them were musculoskeletal problems. MSP is also one of the main occupational health problems among nurses. It is a common cause of work-related disability and may impair functional, social, and economical well being and quality of life of nurses. Therefore, the musculoskeletal pain and their causes among nurses are becoming an increasingly important research area.

### Purpose/Methods

The study was designed to describe the prevalence of regional musculoskeletal pain (MSP) and to analyze relationships of risk factors of pain with multiregional MSP among nurses. A cross-sectional study was conducted among registered nurses (working in the Tartu University Hospital) as a part of an international survey of work and health (CUPID). The data were collected using a self-administered questionnaire, which covered demographic characteristics, occupational physical load, psychosocial risk factors, somatization, mental health and MSP in the last year and past month at six body region (low back, neck, shoulder, elbow, wrist/hand and knee). The main outcome measures were the total number of body regions' pain lasting for > 1 day in the past 12 months and the number of body regions at which pain was disabling in the past month. Data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 18 and Statistical Software R. Logistic regression was used to assess relationships of multiregional MSP and disabling pain with risk factors.

### Results

A total 238 (57%) questionnaires were returned by the nurses to whom they were issued. After checking of compliance with the criteria 221 questionnaires were allowed to analysis. All respondents were female with average age 39 years. Most of nurses studied (84%) had experienced MSP at least one body region within last 12 months. Lower back pain and neck pain were the most common with prevalence in the last 12 month and in the past month. The total number of multiregional and disabling pains were most significantly related to the somatization and physical load.

### Conclusions

This study results suggests that regional MSP is common in the group of nursing profession studied. The frequency of double-region pain was close to the single-region pain. The study findings also indicated that somatization plays a particularly important role in multiregional pain. Preventive intervention strategies should be taken to reduce the risk of MSP such as planning of excessive workload avoidance and arranging necessary resting periods for staff members. More attention should be paid on the somatizing symptoms of workers as a risk for MSP and on to development of the health promoting working environment.

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## Measures taken in response to nurses' lower back pain at Chidoribashi general hospital.

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### Introduction

As a result of having conducted questionnaires for the nurses about their lower back pain, about 74% of the nurses answered that they always or sometimes experienced lower back pain. We have started a project team to deal with this problem by introducing special sliding sheets for use by the nurses.

### Purpose/Methods

Lower back pain can be triggered by everyday activities such as lifting at work. We have introduced a "no lifting policy" by sliding sheets. We held a lecture and practical workshop for the leaders of the nurses to help them understand the importance of not lifting and the advantages for avoiding lower back pain.

### Results

We check the wards to make sure there aren't any problems with using sliding sheets, and to create opportunities for finding out solutions to reduce the risk of lifting special needs patients.

### Conclusions

Since we started this project there have been fewer complaint about their lower back pain. Sliding sheets have been used to change patients positions and transfer them from bed to bed. We are planning to examine further if this project has affected the frequency of lower back pain for the nurses.

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## Musculoskeletal Pain of Personnel at a Medical Center in Taiwan

**CHEN Chao-Ying, SHIH Fuh-Yuan, CHIU Tai-Yuan, GUO Yueliang Leon, LIN Kwan-Hwa, CHIEN Kuo-Liong, YAO Chien-An, WU Huey-Dong, LIN Chia-Te, LAI Chung-Chun, HSIEH Ni-Yun, LENG Chi-Hon, JENG Suh-Fang**

### Introduction

Although musculoskeletal pain is a common complaint in workplace, the information concerning the prevalence and influencing factors of musculoskeletal pain in hospital personnel in Taiwan has been rare. Physical inactivity might result in diminished muscle strength and endurance, poor flexibility and coordination, which could lead to musculoskeletal pain. This study was aimed to assess the prevalence of musculoskeletal pain as perceived by personnel at a medical center in Taiwan and to explore factors that relate to musculoskeletal pain.

### Purpose/Methods

This study prospectively enrolled 555 employees from a medical center in 2011 in Taipei, Taiwan. All subjects reported their musculoskeletal pain on the Nordic Musculoskeletal Questionnaire and physical activity with the International Physical Activity Questionnaire- Taiwan version. They were examined fitness that consisted of flexibility, muscle strength and endurance, cardiopulmonary index and balance. Logistic regression analysis was used to examine the associations of potential influencing factors (i.e., sex, occupation, physical activity and fitness) with the occurrence of musculoskeletal pain.

### Results

399 employees (71.9%) reported pain in the past one year that 45.4% of them perceived pain over the upper quarter (neck, shoulder or upper back) and 42.5% over the lower quarter (lower back, buttock or thigh). Multivariable logistic regression analysis revealed that females tended to encounter pain over the upper quarter (odds ratio [OR]=1.97,  $p=0.008$ ); whereas, individuals having poor muscle endurance (OR=1.81,  $p=0.039$ ) or being nurses (OR=1.83,  $p=0.031$ ) were more likely to have pain over the lower quarter.

### Conclusions

The prevalence of musculoskeletal pain was high among hospital personnel at a medical center in Taiwan. Females, occupation as nurse and poor muscle endurance were found to associate with the risk of musculoskeletal pain. Further research needs to develop prevention and intervention program to help alleviate musculoskeletal pain in hospital personnel.

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## Session P1.14: Addressing the mental health of health service staff

### The Effect of Caring Program Intervention Decrease Work Stress and Burnout Among Nurses

**HUIMIN Lo**

### Introduction

The current thesis explores the influence of social support on the stress-burnout relationship in nurses. Burnout is characterised by emotional exhaustion, depression and reduced motivation in work. The present research addresses gaps in the empirical literature by investigating the key work stressors experienced by Taiwan nurses.

### Purpose/Methods

These studies examined the effect of caring program intervention decrease work stress and burnout among nurses. A cross-sectional study involving 9 units was conducted over 4-week in 2011. one hundred and six nurses were systematically sampled. Data relating to socio-demographic, working stress factors, burnout factors and patient satisfy were collected by interviewer-administered questionnaires and interview records.

### Results

Caring program can be improvement self efficacy( $t=1.78, p=.02$ ), patient satisfaction( $t=1.13, p=.01$ ), and reducing work stress( $t=2.11, p=.001$ ). The four factors :insufficient ability, stressful reactions, heavy workload, poor management in care work. The explained variance achieved 67.88%.

### Conclusions

Caring Program had a positive impact on reducing work stress and burnout increasing self efficacy and satisfy in patients.

### Comments

The results can be promoted by appropriately program in staff to potentially decrease work stress and increase self efficacy.

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## Promoting wellness in healthcare services by an integrated approach: an experience of work-related stress management and implementation of HPH standards 1 & 4

**RIZZO Marco, AIZZA Fabio, LARESE FILON Francesca, ZORATTI Raffaele, PERESSON Maria**

### Introduction

In the healthcare services, work-related stress causes organizational impairment and may affect negatively the quality of healthcare services.

### Purpose/Methods

Our goal is to implement an integrated approach to manage work related-stress and define specific improvement actions. We tested health workers from three Territorial Health Districts, three Mental Health Centers and offices of an Healthcare Organization. Our study on organizational wellness was conducted through the following steps: analysis of objective stress indicators according to validated check-list of INAIL, survey with subjective Health and Safety Executive Questionnaires and implementation of HPH standards 1 & 4 for the assessment of psycho-social well-being of health workers.

### Results

The most critical aspects resulting from the study were job demand, tasks management and planning.

### Conclusions

The integrated analysis of organizational wellness has provided important information to reduce stress at work and promote a healthy workplace. Promoting a healthy workplace means improving not only wellness of health workers but also the quality of healthcare provided.

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## Job strain and burnout among nurses working in different healthcare setting

**YANG Shan-Wei, SHIAO Judith Shu-Chu, CHIN Wei-Shan, WANG Li-Jie, GUO Yueliang Leon**

### Introduction

Nurses are among the largest groups of health care workers and are faced with stress and burnout in the workplace. However, few studies have compared job strain and burnout status among nurses working in different occupational setting, including primary clinics, secondary referral hospitals, and public health units.

### Purpose/Methods

We aimed to study job strain and burnout status among female nurses working in different occupational setting. Study participants from (1) all primary clinic (PC) hiring more than two registered nurses; (2) secondary referral hospitals (SRH), selected by stratified random sampling; and (3) all public health units (PHU) hiring more than two registered nurses. To candidate participants, a self-administered questionnaire was sent, which included demographic information, work conditions, the Chinese Job Content Questionnaire, and the modified Chinese Copenhagen Burnout Inventory.

### Results

A total of 6,156 questionnaires were sent, and 4,048 (66%) were satisfactorily completed. Compared with PC nurses, nurses working in SRHs and PHUs had higher job strain (adjusted odds ratio (aOR)=1.6, 95% confidence interval (CI)=1.3-2.0 for SRH; aOR=2.5, CI=1.8-3.5 for PHU) and work-related burnout (aOR=2.2, CI=1.7-2.7 for SRH; aOR= 2.6, CI=1.9-3.6 for PHU), while adjusted for age, body mass index, ranking, contract stability, rotating shift, sleeping length, family income, domestic needs for elderly care, and regular exercise habits

### Conclusions

We concluded that nurses worked in public health units and secondary referral hospitals had higher job strain and work-related burnout as compared to primary clinics. Further study should examine the stressors from these workplaces and follow up the health effects of high strain and burnout status.

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## New Nursing Staff faculty's change of mood and self-esteem after participating supportive group therapy

**JEANG Shiow-Rong, CHI Mei-Ting, KU Yan-Chiou**

### Introduction

This study is to measure new staff nurses' change of mood and self-esteem after participating supportive group therapy. 28 new staff nurses participated in the study. we found participating supportive group therapy statistically significantly increased self-esteem and lowered anxiety and depression of the new staff nurses. In self-esteem section, the results of "overall self-



satisfaction", "self-respect", and "self-doubt" were statistical significant ( $p < 0.05$ ). Participants approved the effort of the supportive group therapy. The degree of their group therapy satisfaction increased everytime.

#### Purpose/Methods

To measure new staff nurses' change of mood and self-esteem after participating supportive group therapy. The subjects from the medical center in southern Taiwan are been recruited on the quasi-experimental design. The subjects are assigned to groups received 4 therapeutic sessions which last 90 minutes and was held biweekly. This study examines new nursing faculty's self-esteem, depression and anxiety were measured by Rosenberg scale and visual analog scale of anxiety and depression before, after their participation in the group therapy.

#### Results

28 new staff nurses participated in the study. According to the research results, we found participating supportive group therapy statistically significantly increased self-esteem and lowered anxiety and depression of the new staff nurses. In self-esteem section, the results of "overall self-satisfaction", "self-respect", and "self-doubt" were statistical significant ( $p < 0.05$ ). Participants approved the effort of the supportive group therapy. The degree of their group therapy satisfaction increased everytime.

#### Conclusions

It is useful to the new staff participated supportive group therapy increased self-esteem and lowered anxiety and depression of the new staff nurses.

#### Comments

We recommend new staff of supportive group therapy can be extended to allow more new staff can get support and counseling.

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## The Development of Employees Mental Health Promotion Program in Far-Eastern Memorial Hospital, Ban- Chao, Taiwan

**FAN WEN WEI**

#### Introduction

The morbidity of depression of overall population in Taiwan (8.9%) is relative higher than WHO's publishing range. An important study conducted by American Health Care Organization, indicated the industrial commercial cost would increased 46%~ 70% for depressive and stressful employees. Now, Taiwanese government has announced Employment Assistance

Program (EAP) becoming an important and basic service and indication for maintaining employment safety. Our hospital tried to establish a series of mental health promotion activities to improve the overall Bio-psycho balance of our employees.

#### Purpose/Methods

1.Increasing the knowledge and capability of creating and maintaining mental health for employees. 2.Fostering the mental health promotion educators, increasing the ability of front line mental health crisis intervention. 3.Promoting employment mental health screening. 4.Providing sufficient mental health education. 5.Providing high risk population a suitable and qualify mental health counseling service.

#### Results

1.Providing mental health education lectures and presentations since 2007, over 20 sessions had achieved. Also, the mental health educator's training has accomplished, over 200 educators had graduated from the course. 2.Establishing online health promotion webpage on the official website. The website also provides mental health information, counseling service and self screening tools. 3.Establishing 6-10 kinds of exercise groups. 4.Over 45 employees had received the counseling service and over 200 counseling sessions, and 85% service satisfaction.

#### Conclusions

The early detection and prevention of working stress and mental illness of our employees is our main goal of this promotion program. The online-learning and counseling is a convenient and fast-easy service in current society. It also could save a lot of hospital annual cost and budget. We believe this program can become a workable model for other hospitals and other nations.

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## Explore the Personality Traits - Job stress and Job Satisfaction of Hospi- tal

**SHU-CHUN chen, MING-TSUNG Tanga**

#### Introduction

This research aimed to explore the personality traits, job stress and job satisfaction of hospital administrators. The results can provide hospital administrators period reference.

#### Purpose/Methods

It was based on questionnaire survey and the administrators of hospitals from a medical system in central Taiwan were the targets. There were 595 questionnaires distributed and 442 returned.This research managed data analysis by SPSS10.0.

### Results

Hospital administrators' personal attributes reveal significant difference on personality traits, job stress and job satisfaction. Hospital administrators when the more obvious personality traits, self-awareness the stress of "job loading" will be more obvious, the job satisfaction will be better. Job stress is more significant, the job satisfaction will be lower. Personality traits of the "Friendliness", "diligence and integrity", "emotional sensibility" and "extraversion" and "job satisfaction" Jie positive impact

### Conclusions

The managers could include "personality traits" in the evaluation process while recruiting to increase the preciseness of talent selection. ; should provide stress management courses: holding stress reduction courses and recreational traveling activities, encouraging the employees to have proper exercises to comfort the employees physically and psychologically. And adjust the executives' job loading and upgrade their job skills. Administrators should buildup environmental accommodation capacities themselves: learning self-accommodation and reduce job stress to upgrade job performance.

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## The Exploration of the Stress Perceptions among New nurses in six Months

**LIN Yueh-E, WANG Mei-Fang, YU Wen-Pin, CHOU Tzung-Lan**

### Introduction

The Exploration of the Stress Perceptions among New nurses in six Months. The stress is a important issue of medical care facilities for new staffs. The new staffs are the first-line workers and provide the nursing care for the patients. It is essential to understand the change of stress during the six months.

### Purpose/Methods

The purpose of the study was to explore the stress changes and relative factors in six months of an individual new staffs. This study was designed as a longitudinal study. The researchers were 75 new nurses from August 2010 to July 2011. Every new nurse answered a questionnaire with 「staff stress scale」 in the first week, first month, second month, third month, and sixth month for data collection. Participants were recruited from a medical center in northern Taiwan.

### Results

After all data collection, the result showed there were significant differences between five stages stressor in six months (3.83, 4.36, 4.41, 4.10, 3.84 respectively) ( $P < 0.05$ )(total score

were 8 degrees). We investigated the new staffs found that the job stressor. The first week, the new staffs just learn lecture and environmental orientation with less stress, but they have the largest stress when they try to care patient independently in the secondary month. This are many stressors form unable to finish their work on time, relationship with patient ,colleagues or managers, and fast nursing work and so on. In addition, we found the skill deficiency of medical care is the largest stress in the stage.

### Conclusions

The results not only help administer understand their stressor change during six months, but also provide the reference for nursing administration about professional retention of new staffs. These findings may also provide the further study and the suggestion was offered for the nursing skills education for new staffs as soon as possible.

### Comments

From the result, We know the new staffs have the different stress level among the six months and we hope the results benefit the policy making in organizations in the future. In addition, we hope to reduce the job stress and creating a health workplace health promotion in healthcare for all new staffs.

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## Association of Job Stress with Job Satisfaction among Medical Professionals.

**FUNAKOSHI Mitsuhiko, NOMURA Norie, SATOU Takeshi**

### Introduction

This study aimed to clarify what kinds of job stress were related to job satisfaction among Japanese medical professionals.

### Purpose/Methods

Using the Brief Job Stress Questionnaire, the effort-reward imbalance (ERI) questionnaire and the sense of coherence (SOC) questionnaire (Japanese versions), 777 medical staff (136 males and 641 females) in the Japanese hospital were surveyed. The relationship between job satisfaction and stress was analyzed.

### Results

79% of staff answered that they were satisfied with their jobs. After adjusting age, gender, job categories and job classes, greater job satisfaction was significantly related with lower ERI score and greater SOC score, job control, supervisor support and coworker support.



### Conclusions

It is generally recognized that reducing job stress is important for stress management in the workplace. Our findings suggest that reducing job stress raises workers job satisfaction. Therefore stress management may not only improve mental health, but also improve job satisfaction among medical professionals.

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## The relation among emotional labor, sense of humor, and burnout of clinical nurses

**HUANG JEN-PING**

### Introduction

Clinical nurses are highly emotional laborers and need to manage all kinds of emotions for themselves or others. This process requires great psychological effort, which is regarded as a job stressor related to job burnout. It was suggested that sense of humor, as positive resources, can alleviate job stress. But, it is unknown that sense of humor can alleviate emotional labor.

### Purpose/Methods

This study referred to Emotional Labor Scale, including controlling negative, expressing positive and handling others' negative emotions. This study tested validity and reliability of the scale through the participation of 138 clinical nurses in a medical center in Taipei city. It further involved 549 clinical nurses in the questionnaire survey and examined relation among emotional labor, sense of humor, and burnout.

### Results

This study found a high level of emotional labor and burnout among the nurses. Particularly, nurses 7-11 years' seniority and worked in an emergence unit have the highest level of emotional labor. Sense of humor was significantly negatively related to expressing positive emotions and handling others' negative emotions. Emotional labor can predict job burnout but sense of humor cannot lessen their relation. Some humors strengthened the positive relation between controlling negative emotions and diminishing personal accomplishment.

### Conclusions

Emotional labor of clinical nurses is closely related to job burnout. Seniority and units affected the degree of emotional labor, and sense of humor exerted complex effects between them. Future research and nursing managers should pay attention to emotional labor and job burnout of clinical nurses to build a nurse-friendly working environment.

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## Psychosocial risk factors related to musculoskeletal discomfort among nursing personnel in Taiwan clinics.

**WANG Li-Jie, SHIAO Judith Shu-Chu, GUO Yue-Leon, HSU Jin-Huei**

### Introduction

High prevalence rate of musculoskeletal discomforts in nursing personnel due to direct patient care. The most common bodily parts complained for discomfort are neck, shoulder and low back pain among nursing personnel. The association between psychosocial risk factors and musculoskeletal discomfort has been discussed in several papers. Job stress, job dissatisfaction and burnout are also documented as major risk factors for musculoskeletal discomfort. However, little was found between psychosocial risk factors and musculoskeletal discomfort of nurses in clinic settings.

### Purpose/Methods

The aim of this study was to understand the prevalence of and psychosocial factors for neck, shoulder and low back discomfort among nursing personnel in Taiwan clinics. A total of 1,953 clinics were randomly selected as study subjects. We stratified clinics by nurse number and mailed 1~2 self-administered questionnaires to each of them.

### Results

A total of 2,075(54.33%) questionnaires were completed and returned by nurses, and 1,273 were eligible for final analysis. The prevalence of neck, shoulder and low back discomfort were 35.0%, 37.7% and 33.9%, respectively. Multiple logistic regression analysis showed that higher job stress, higher job demand and higher personal burnout were significantly associated with neck and shoulder discomfort; higher job stress, higher personal burnout and higher client-related burnout increased the risk for low back discomfort.

### Conclusions

This study identifies that job stress, job demand, personal burnout and client-related burnout were highly associated with musculoskeletal discomfort in clinic nurses. Also, by lowering job-related stress, demand and burnout, prevalence of occupational musculoskeletal discomforts in nurses would also be reduced. We suggest that reasonable workload and working conditions may improve the health status if nurses in Taiwan clinics.

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## The association of work stress and health promoting lifestyle in hospital employees

**WANG SHIH-CHUN, YEH TE-FENG, LIU SU-YING, CHENG MENG-TSUNG**

### Introduction

In recent years, the issues of workplace health promotion have been paid more attention. There had been many research to point out that the work stress was an important factor of workplace personnel health. The objective of this study is to illustrate that perceived work stress, health-promoting lifestyle, and the association between health-promoting lifestyle and perceived work stress among hospital employees.

### Purpose/Methods

In this study, a cross-sectional self administrative questionnaire will be use in a private non-for-profit hospital in central Taiwan. The questionnaire included personal characteristics, Health-Promoting Lifestyle Profile II and C-JCQ. After the pretest, all employees were included in this study, 803 of 989 replied the questionnaire, and final response rate was 81.19%. Statistical analysis included descriptive statistical, independent samples t test, one-way ANOVA, Pearson correlation and multiple regression analysis.

### Results

The results of this study indicated the following:(1) "Interpersonal relations" was the highest domain among those of health-promoting lifestyle, and "physical activity" was the lowest. (2) Psychological demands were higher in hospital employees who are the age as below 25 years old, nurses, managers, 11-15 years of experience, and those who need to work three-shifts. (3)The higher job control and coworker support are, the higher health promoting lifestyle adopt.

### Conclusions

According to the results: (1)Hospital can establish a time-flexible athletic association to encourage employees to promote physical activities. (2) Hospital can add the classes to teach the employees focusing on basic nutrition. (3) Performance inspect will chang from one way check to bidirectional inspection.(4) The policymaker of hospital must arrange a fair shift strategy. (5) To achieve the self-growth and self-confidence, hospital can add the growth classes for administrative personnel specialized.

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## The Association between Sleeping time, shift work and risk of high job stain and burnout among nurses

**CHIN Weishan, GUO Yue Leon, SHIAO Judith Shu-Chu**

### Introduction

The aim of this study was to determine whether sleeping time of working days and the percentage of night shift are associated with nurses' job strain and burnout.

### Purpose/Methods

We recruited female nursing staff from district hospitals in Taiwan. We obtained demographic information, working conditions, Chinese job content questionnaire (C-JCQ), and modified Chinese Copenhagen Burnout Inventory (C-CBI) using a self-administered questionnaire, focusing on high strain, high personal or generic burnout, high work-related burnout, and high client-related burnout. A multivariate logistic model was performed. Important confounders such as age, educational level, occupational category, regular excise habit, and major earner of family were adjusted.

### Results

A total of 1,478 nurses responded satisfactorily and were eligible for the final analysis. The adjusted odds ratio for high strain was associated with sleeping < 6 hours per working day were 1.6 (95% CI=1.2-2.3). The adjusted odds ratios for high personal or generic burnout due to sleeping < 6 hours per working day were 3.1(95% CI=2.0-4.7). The adjusted odds ratios for high work-related burnout due to sleeping < 6 hours per working day were 2.3 (95% CI=1.6-3.3). The adjusted odds ratios for high client burnout due to sleeping < 6 hours per working day were 2.1 (95% CI=1.4-3.2).

### Conclusions

This study identifies associations between shorter sleeping hours per working day is associated with job strain, personal or generic burnout and client-related burnout. Further investigation on how the working conditions of nurses could be improved is warranted.

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## Comparison of Burnout in Female Immigrant and Taiwanese Hospital Volunteers: A Cross-Sectional Study

**CHEN Mei-Ju, LEE Tony Szu-Hsien, JENG Huey-Mei**



### Introduction

The aims of this study were to describe mood disturbance and burnouts in female immigrant volunteers and compare to Taiwanese volunteers in a hospital and a health center.

### Purpose/Methods

Structured interviews were completed by 120 female hospital volunteers between November and December 2008. Of participants, 35 in a local hospital, 48 in a health center, and 37 immigrant interpreters were interviewed with the questionnaire including background questions, the Chinese version of the Copenhagen Burnout Inventory (C-CBI), the Chinese Job Content Questionnaire (C-JCQ), and the Chinese Brief Psychiatric Symptom Rating Scale (C-BSRS).

### Results

The female immigrant volunteers were younger than the other two groups, but there were no significant differences in education level and C-BSRS scores. The immigrant volunteers had significantly higher scores than the hospital volunteers on burnout in the over-commitment dimension.

### Conclusions

The burnout experienced by the female immigrant volunteers could be a psychosocial phenomenon of international importance and should not be ignored.

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## A Study of Interpersonal Conflict Among Nurses in Operating Room

**CHUNG-KUANG Chen, TSUI-FEN Chung, LIANG-YIN Chen**

### Introduction

Understanding the interactive relationship between demographic and work-related variables, interpersonal conflict management styles, and the objectives of interpersonal conflict for operating room (OR) nurses is important.

### Purpose/Methods

The purpose of this study was to determine the interpersonal conflict management of the nursing staff of OR. It was conducted by a survey design with the 201 OR nurses who had worked for more than six months in 8 hospitals in middle Taiwan. The questionnaire used in this study included three elements covering interpersonal conflict management factor analysis scale, demographic scale, and interpersonal conflict objects scale. Data was analyzed using a t-test, one way ANOVA, Scheffe test, and correlation.

### Results

(a) With regards to the factors of interpersonal conflict management, the greatest strategy adopted by OR nurses was integration, and the least was related to domination; (b) Educational background, undertake manager or not, professional career status, attended the course for interpersonal conflict, type of hospital were related to the strategy adopted frequency of interpersonal conflict; (c) License grade, professional career status, and voluntary accepted service in OR or not were related to the frequency of interpersonal conflict of objects.

### Conclusions

To enhance the abilities of junior OR nurse to adapt and control the interpersonal conflict events are essential. OR manager should offer related training program to assist the OR nursing staff to deal properly with all kinds of interpersonal conflict situations.

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## Shows loving care for the staff to start from the heart

**CHIA HUI LIN**

### Introduction

Healthy Hospital Environment needs "healthy" medical and nursing staffs and employees to complete "patient safety and health" services; mental and physical health for every one of the employees should be what the hospital really has in mind.

### Purpose/Methods

1. Staff's Health Check-up Rate; 2. Staff's Participation Rate; 3. Activity satisfaction; 4. Hospital Welfare System Satisfaction for Staff

### Results

1. Completion ratio for 2010 annual employee health check-up & examination reached 98.7%; 2. 318 of the participants for 2010 annual check-up were found with some degrees of physical abnormality & 50 of them were commented by doctors with follow-up visit status. - Currently 5 of them exhibited enhancement results with 10% of enhancement ratio in the total check-up abnormality category.; 3. The total number of employee participated to sponsored activities reached 90% during 2010 fiscal year.

### Conclusions

With the establishment of the system for hospital caring about its employees, - it provides a warm and welcoming environment for them. - This can maintain and preserve both the mental and physical health for the employees, cultivate a hospital culture that is both humanly caring with good interaction between all of them. Ultimately this will strengthen teamwork competitive-

ness as well as establish a healthy and robust hospital environment.

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## You can get all with good ways - An operative protocol shared by the involved parties in order to implement the law on alcohol and work

**TICALI Salvatore, PATUSSI Valentino, CIARFEO PURICH Rosanna, VEGLIACH Alessandro, MURAN Anna, CALLIGARO Donatella, ZORATTI Raffaele, BORSOI Gabriella, CROCCO Simon**

### Introduction

The legislation on prevention of occupational accidents and possible damage to third parties linked to intake of alcohol provides a list of jobs in which alcohol is forbidden. The base-lines are represented by the framework law on alcohol (Law 125/01) and occupational safety (Decree 81/08). Due to the complexity of the problem, in Trieste, the Prefecture has cooperated with Healthcare Service and social partners to define an effective intervention protocol for companies that operate in high risk sectors, such as port services, transport and watchkeeping.

### Purpose/Methods

We have compiled an agreement protocol regarding how to reduce the risk of accidents at work related to alcohol consumption, guaranteeing respect for human rights and dignity of workers. The goal is not to create a supervisory activities, but the empowerment of employees against the problem. To date we have completed the training of 1000 employees and company contacts for safety in workplace. We have implemented alcohol controls, with and without prior notice, in sanitation workers and in cargo handling staff of port.

### Results

At the first check with notice in sanitation workers of 71 tested were positive 3 employees and 4 have refused to submit to testing. At the end of the training, in two surprise spot checks at end of shift, only one of 157 workers is tested positive. In the port area, at the end of the training, 4 employees of 75 tested without notice were positive and were therefore removed from their job at risk. All these activities fall in the standard No.4 of the manual self-assessment.

### Conclusions

The intervention in several small companies operating in the port has highlighted the need for a different approach that includes strengthening interventions on workers and company contacts for safety in workplace as well as the activation of more frequent surprise spot checks.

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## Promoting Betel-nut-free Policy in Workplace

**CHOU Lih-Lih, LAI Yi-Chun, HSIEH Tsung-Han, SHYU Rong-Yaun**

### Introduction

According to the Statistics of the Bureau of Health in 2010, with the highest rate of chewing betel-nut (19.1%) in 30-39 years-old male. Overall, lower income, middle age, lower educational level, and high-growing counties have a higher betel-nut chewing rate. The survey also found, that many men chewing betel-nut, it may be due to the establish relationships and the need of work (such as refreshment) in the workplace. In this, we into the community and workplace to advertise betel-nut-free policy.

### Purpose/Methods

Curriculum Planning: betel nut hazards and the relationship of oral cancer, oral health screening and health care implementation, how to self-management & self-reward and betel-nut substitute, refused invitation from others for betel-nut. Objects: those who want to quit betel-nut. Promotional activities: 1. Class information in the hospital site will be published. 2. The use of the publicize screening advertise the class information in the Da-I television. 3. Telephone call technology companies and taxi drivers for the workplace by quit the betel-nut.

### Results

A total of 4 sessions for betel-nut-free class, a total number of participants 46, a total of 42 participants reduced the chewing betel-nut rate, a total of 6 people quit betel-nut, reduction rate of 91.3%, quit betel-nut rate of 13.04%.

### Conclusions

For the relationship between behavior and health, the taxi drivers are engaged positive and negative health-related behaviors to do with the overall weighting of different considerations. For technology companies, according to age and different stages of the life course of their socio-economic position, health behaviors have different formation, and compare with the taxi driver the lower number of chewing betel-nut. Data show that people's life style is conciliation with the social structure.





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## Session P1.15: Studies on the health of health service staff

### Healthy workplace, healthy bladders among public health nurses? A data from national continence promotion program

**LEE Yen-jen, HU Hui-ling, TSAI Chuan Hsiu**

**Introduction**

Many epidemiology studies were done to reveal the prevalence rate of lower urinary tract symptoms (LUTS), limited studies reported prevalence and self-management behaviors of public health nurses (PHNs). This study investigated the LUTS and the associations between LUTS and healthy bladder habits among PHNs

**Purpose/Methods**

157 subjects were recruited from district-based continence promotion programs supported by Department of Health in Taiwan. Subjects were recruited from 26 counties and representing their Health Bureau to participate a training program targeted to promoting continence. They underwent a battery of validated questionnaires to investigate their LUTS and self-management behaviors.

**Results**

The overall prevalence of storage (12%) and mixed (9%) symptoms were higher than that of voiding symptoms (5.1%). The prevalence of storage symptoms was similar across age groups, whereas voiding and mixed symptoms increased with age. Among storage symptoms, frequency was the most prevalent symptoms (46.1%), followed by leak with cough (31.2%)、urgency (23.6%) and post-void dripping (12.7%). Most nurses reported unhealthy bladder habits (63%) and their personal habits of fluid consumption at work were inadequate. Also, many nurses reported delay voiding due to difficulty in located public toilet.

**Conclusions**

LUTS were common among public health nurses, despite the fact of health care professional background. The high prevalence rate of LUTS leads to concerns about nurses' possible risk of developing incontinence and possible work-related impact on bladder and personal habits. Designing a supporting program for this group is essential to change poor personal habits and decrease possible work-related impacts on bladder health.

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## Achieving health equality : exploring the impact of economic, social and cultural factors on staff health

**JENG Huey-Mei, KAO Chen-Sheng, HU Hsiao-Ping, LIN Ta-Han, YANG Lu-Hua**

**Introduction**

The average life expectancy of citizens in Taitung County is 8.5 year shorter than that in Taipei, a capital city. Most of the employees in our hospital are local citizens who are aboriginal people or at a lower socioeconomic status. In order to achieving health equality, we conducted a needs assessment to understand their particular health needs so as to develop corresponding strategies to promote their health.

**Purpose/Methods**

In order to understand the health needs of the hospital staff and the associations between healthy behaviors, and economic, social and cultural factors, we conducted questionnaires with all employees in August 2011. The respondent rate was 76%.

**Results**

Half of employees are aboriginal peoples. Only 47% of respondents were in the normal BMI range. The senior employees performed healthy behaviors in fewer intake of snacks and food with high quantity of heat, adequate sleep, regular life-style and staying in a good mood. However, compared with non-aboriginal employees, aboriginal employees statistically significantly practiced more unhealthy behaviours in low intake of vegetables and higher intake of high sugar-sweetened soft drink and low compliance with traffic regulations.

**Conclusions**

This study also found that economic, social and cultural factors explained 25.8% of the variance in reported healthy behaviors. This study confirmed the importance of health equality in healthcare workplace health promotion. In the future, we will particularly promote physical fitness and promote health of aboriginal staff and those from agricultural family.

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## A psychiatric hospital staff in health promoting lifestyle and correlation of physical and mental health

**HSIN-FEI Chang, CHIU-FENG Pai, SHU-FANG Su, SONG-YUN Tsai, CHUN-MEI Tang**

### Introduction

Psychiatric hospital staff at both health care providers and those who need a dual role, their awareness of healthy lifestyle and practice situations, in addition to affecting their own health, the better the work directly or indirectly affected by disease.

### Purpose/Methods

The purpose(1) to understand the status quo of health-promoting lifestyle among psychiatric hospital staff;(2) to know the status of physical-mental health among staffs; (3) to comprehend relationship between health-promoting lifestyle and physical-mental health among them. The study used scales of health-promoting lifestyle and physical-mental health to evaluate such situations of staff. There were 345 effective questionnaires received which made the response rate as high as 86.5%, then, the data collected were analyzed by t-test, one-way ANOVA and Pearson's correlation.

### Results

This study found that the scores of health-promoting lifestyle scale, the age, marital status, hiring qualifications and working class reached the remarkable difference. The scores of staff in Public officials, were significantly higher than contract staff; while scores of staff in day shift system, were significantly higher than staff in shift. ( $p < .05$ ). As to scores of physical-mental health scale, the age with hiring qualifications reached the remarkable difference. They was inverse correlation between health-promoting lifestyle and physical-mental health.

### Conclusions

Hospital characteristics and decision-makers should consider the hospital staff needs and propose effective management strategies, development of appropriate staff health promotion activities to promote staff health, enhance health care services with more quality and patient satisfaction.

### Comments

According to this study, we suggest to enhance the program of health-promoting lessons at the working place.

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## The marriage strengthening effect of Program of Romantic Dinner for Couples

**YAU Shiojing, KUANG Hui-Ping, SHU Shih-Hui**

### Introduction

According to Ministry of Interior, the divorce rate in Taiwan in 2009 ranks third in the world. Divorce is the breakdown of marriage relationship. Studies show that the amount of attachment a spouse provided can predict the general health for everyone (Cutrona, Russell, & Rose, 1986). Contact among family members is the most powerful way of relieving stress (Clark, 2005). For staff's health, we design a Program of Romantic Dinner for Couples to see if it can strengthen their marriage relationship.

### Purpose/Methods

Staff and their spouse are invited to a nice restaurant with romantic setting and delicious dinner to arouse their good, old memories of love. Before dinner, we share with couples that marriage is a learning journey of mutual understanding and appreciation. After dinner, we give couples a lesson of love language, which enables them to know how to love one another. All participants complete a 5 point Likert-scale questionnaire and written feedback anonymously to evaluate the marriage strengthening effect of the program.

### Results

There are total 103 couples participate in 6 programs from 2008 to 2011. They evaluate the marriage strengthening effect with 4.4 in average and 94 points (total 100) satisfaction about the program. In free written feedback, almost all participants were touched that the hospital would provide this program. Some say it gives them the opportunity to know where their conflicts come from; some say they learn how to love their spouse. Almost all are happy and encouraged to put efforts to renew their marriage.

### Conclusions

From the questionnaire and the free feedback we learn that couples are highly satisfied with the program. Some will share their experiences with their coworkers and encourage them to participate. The program arouses a marriage renewal atmosphere in the hospital. From the references we know that good marriage rewards good health, however, if the program promotes the participants' health remains unknown. We need a longitudinal study to follow our program.

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## Hospital Staff Working Satisfaction Survey - Take a Public Hospital as an example

**SZU-HAI Lin, JUI-SHENG Sun, PO-HAO Chiu, CHIA-HUI Wu**

### Introduction

Satisfactory survey has become a useful tool on hospital management which can show surveyors' ideas and needs. Hospital could know staff's true ideas via satisfaction survey and improving communication, interactivities and working performances, building connection of hospital and staff's vision and strategy. The survey takes hospital staff as subjects to know their working satisfaction, and providing survey result and making improvement.

### Purpose/Methods

The survey takes the hospital staff as research subject, which includes work characteristics, salary and wages, career development and promotion, health promotion, interpersonal support, organization identification, communication and coordination, safety culture and overall working satisfaction; the survey is between September 7th and 19th, 100, the 1,158 pieces of questionnaire were issued by survey personal to each departments' staff who were employed before Aug. 31th, 100, reclaim effectively rate reached 91%.

### Results

The survey's descriptive statistics show that the main part of hospital staff are nursing personnel, who is 30-39 year-old junior college graduated. On survey's overall analysis, the satisfactory degree of interpersonal support is the highest mark at 66.6%, most staff choose enjoy the staff negotiation which percentage reached 13.1%; while satisfactory degree of salary and wages is the lowest mark at 36.0%, the hospital inner wages system (ex. shop) is 2.4%, hospital on duty office is 1.8%.

### Conclusions

Via survey, we can read personal support is a part most staff think highly of, for which we may know staff's need first and provide society support to improve staff's morale, efficiency and satisfaction. While most staff does not satisfy with their salary and wages, we suggest to improve each department's service quality, efficiency and attitude education, pay attention to staff's salary and wages, add tour activities and relevant culture activities to relax the working stress and improve efficiency.

### Comments

(1) Environment and facilities: environment are old (elevators, wash rooms, walls etc.), suggest to retread, re-decorate and improve environment cleanness, supervise cleaners to clean basement, health care center's wash room regularly and keep clean. Hope make dining room's dishes diversity. Staff has more choices when touring. (2) Staff wages and system: pay attention to basic level staff's wages, arrange their shifts, vacation and tour activities to relax working stress and improve

efficiency; department need effective negotiation and develop services quality balanced, improve services attitude and salary to recruit later staff with ability. (3) Questionnaire in doubt: the survey was performing unregistered department and name; each department questionnaire didn't send back to recycle bin other than nursing department.

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## The Clinical Evaluation of Health Screening for Hospital Staff in Cheng-Hsin General Hospital in Taipei, Taiwan

**WU Chihi, LIN Yeu-Tyng, CHIEN Wu-Hsiung**

### Introduction

Many hospitals have health promotion services for employees in Taiwan. Health screening also plays an important role in health promotion for hospital staff. However, most of the health screening programs are only physical examinations, biochemistry, and plain film.

### Purpose/Methods

Our hospital provides basic and further health screening for employees every year between 2008 and 2010. The screening program included blood pressure and BMI measurement, history taking, physical examination, basic blood and image exams, cholesterol and blood sugar screening, hepatitis testing, tumor markers, and mammography for female staff. For older employees, further screening such as eye and ENT exams, pelvic exams, dental exams, pulmonary function testing, upper and lower GI endoscopy, and coronary calcium score examination are also measured.

### Results

There are 1542 and 1820 employees in our hospital joined the health screening program with participation rates of 98% and 95% in 2008 and 2010, respectively. The comparisons of BMI, blood pressure, blood sugar, and blood lipid in 2008 and 2010 showed decrease in abnormal rate. The results of panendoscopy examination revealed esophagitis or ulcer in 69(61.1%) and 71(62.8%) in 2008 and 2010, respectively. The sigmoidoscopy examination in 2008 and 2010 revealed 21(20.8%) and 9(7.9%) cases of colon polyp(s), respectively. One lung cancer and one breast cancer have been diagnosed in 2009. One breast cancer has been found in 2010. In addition, 70 and 9 suspected coronary artery disease was noted in 2008 and 2010, respectively

### Conclusions

The health screening for staff in our hospital help early diagnosis and evaluation of treatment effect for metabolic syndrome,

cancers, GI lesions and cardiovascular diseases. To promote the health promoting hospital, it is worth to promote regular health examinations to hospital employees.

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## Work Ability Index of Workers with Disability

**HU Yu-Man, WANG Tzyy-Jiuan, LEE Shwn-Jen, TSAI Mei-Wun**

### Introduction

Workers with disability might be easily encountered some problems in work places, such as health, fitness, communication, and lack of social support, which usually limited their working performance. Work ability index (WAI), developed by Ilmarinen et. al., has been demonstrated as an useful index to reflect potential occupational health problems and to predict work competence in general workers. But little data has known about work ability of workers with disability.

### Purpose/Methods

Purposes: To investigate the work ability by using WAI in workers with disability. Methods: This study used the data originated from part of "survey for perception of safety and health in the work environment in Taiwan combined with Chinese version of WAI" in 2010. We identified 458 workers who had registered disability (70% male, aged 45.5 years in average), and selected 880 workers without disability by matching with age, sex, job, and education.

### Results

The mean WAI among workers with disability (37 +/- 6) was significantly lower than those without disability (41 +/- 5). According to the classification of WAI, there were 45.4% workers with disability ranked into poor level compared with 20.1% of workers without disability. Workers with disability showed less subjective estimation of current work ability compared with lifetime best, but not in relation to demands of the job. They also had more number of current diseases, sick leave during last year, and poor mental resources.

### Conclusions

Work ability index of workers with disability was lower than age-gender-job-and-educational matched workers without disability. Special attention should be paid to the promotion of work ability among workers with disability. Further research is needed to investigate the affecting factors of WAI in the disability.

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## A study of stress and its related factors on foreign nurse aids

**KAO Chieh Chun, CHEN Li Fen**

### Introduction

Foreign nurse aids have already become an important role in long term care system in Taiwan. Therefore, understanding the stress of foreign nurse aids can maintain or promote home health care quality.

### Purpose/Methods

The purpose of this study is to explore the stress and its related factors on foreign nurse aids. A cross-sectional descriptive design with purposive sampling was used to obtain data from 101 foreign nurse aids that continuous care disabled patients at home in Taiwan. Data collection was performed by well-trained research assistants and structure questionnaires. Descriptive statistics, Pearson correlation, t-test were used to analyze all obtained data.

### Results

Results showed that the average stress score of foreign nurse aids were 67.49 +/- 19.6 and the highest stress level was facing emergency situation on patient. Nurse aids preparedness was related to their stressful perception. The more stress foreign nurse aids had, the more bedsores and restraint used occurred in their patients.

### Conclusions

The study suggested that the level of stress of foreign nurse aids should be used as a clinical indicator to provide further homecare nursing service.

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## Sleeping quality on nursing work shifts in Taiwan

**YANG Chao-Ying, WU Sen**

### Introduction

Nurse needs three shifts on their job, which influence their sleeping quality. This results may influence their health and working emotion to reduce working effectiveness and the quality of caring patient. The work loading of nursing care are heavy. Moreover with different shifts, the nursing job become worse conditions in Taiwan. These situations may lead nurse to leave their jobs earlier than other occupations.

### Purpose/Methods

The purposes of this study try to understand the conditions of the sleeping quality in nurse and discover the influential factors



of poor sleeping quality. The objects were from many hospitals of southern Taiwan. The collecting data was a snowballing approach. The measurement of sleeping quality is Philadelphia sleeping tools, including self-evaluating sleeping quality, the incubation of sleep, the numbers of hours on sleep, the effectiveness of sleep, sleep disturbance, using sleeping pills, and daily functional obstacles, totally 9 items.

### Results

200 objects were included and the rate of response are 100%. Self-evaluating poor quality sleep are 68 objects (34%). The poor sleeping effectiveness (lower than 60%) is 109 objects (54.5%). 78 objects (39%) shows that they have daily functional obstacles. The influencers of poor quality sleeping are including: working at acute-severe units ( $p < 0.05$ ), having under a 3-year-old child in family ( $p < 0.05$ ), and ever having happened a shocked event within a half year ( $P < 0.05$ ), but not shifting ( $P > 0.05$ ).

### Conclusions

Near a half of nurses have a poor quality of sleep in the hospital, southern Taiwan. Shifting may not lead to poor quality sleeping for nurses but work loading, family factories and a shocked event would influence quality of sleep.

### Comments

The limitations of this study are including using snowballing approach, which may not accurate for study. And 200 objects may not be enough to manifest the hypothesis: shifting can influence poor quality sleep. Suggestions: Expanding the data and including more nurses who are from medical center may improve the study. However, the implications of study is that hospital manager should think highly of the poor environments of nurse job and to improve these poor conditions.

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## Sleep Quality in Shift Nurses: The Role of Morning-evening Chronotype and Vulnerability to Stress-related Insomnia

**LEE Ching-Yi, TSENG Mei-Chih, LEE Hsin-Chien, HUANG Lian-Hua**

### Introduction

Shift work characterizes the occupational property of most nursing staff. Chronotype and insomnia vulnerability are the important psychophysiological traits of general insomniacs; however, the extent to which they affect sleep quality of nursing staff is unknown. This study aims to investigate factors of sleep quality among nursing staff, including chronotype and insomnia vulnerability.

### Purpose/Methods

This is a cross-sectional study. All data was collected from shift nurses at a general hospital with paper-pencil questionnaire. Chronotype preference, insomnia vulnerability and sleep quality were measured with Morning-evening questionnaire (MEQ), Ford Insomnia Response to Stress Test (FIRST), Brief Symptoms Rating Scale (BSRS-5) and Pittsburgh Sleep Quality Index (PSQI), respectively. A total of 398 questionnaires from shift nurses were collected and analyzed.

### Results

97.5 % of participants were female who aged from 25 to 34 years old. The average PSQI score was 7.3, and 70.1% of participants had poor sleep quality in the past one month. There were statistically significant associations among FIRST, BSRS-4 and PSQI. In contrast, scores of MEQ was not statistically significantly associated with scores of PSQI but negatively associated with scores of FIRST and BSRS-4 instead. Multiple regression analysis found that FIRST and BSRS-4 remained positively associated with PSQI.

### Conclusions

The results suggested that higher insomnia vulnerability and emotional disturbance were crucial factors of sleep quality among shift nurses. Besides, no evidence indicates that insomnia vulnerability moderates the relationship between chronotype and sleep quality among shift nurses. These findings may be applied as references for the screen, intervention or research projects that aim to prevent sleep disturbance from chronicity.

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## A Study on the Correlation between Healthcare Workers' Stress from Work and Their Quality of Life - Based on Accredited Hospitals in Taiwan

**LIAO Mao-Hung, LIN Hsien-Mi, TANG Shu-Chen**

### Introduction

Along with the changes in technology development, economic structure and social environment, institutional workers are subject to increasing stress from work, particularly workers in medical treatment institutions. The tense stress from work not only inevitably increases jobs quitting rate and chances of workplace accidents but also affects workers quality of life.

**Purpose/Methods**

The aim of this study is to analyze the correlation between stress from work and quality of life for healthcare workers. We invited healthcare workers from non-psychiatric hospitals in Taiwan accredited by the Taiwan Joint Commission on Hospital Accreditation as our subjects. We issued a total of 12,000 questionnaires, among them 7,840 were valid, which constituted a 65.33% of valid return. We conducted t-test, one way ANOVA, Scheff post-hoc comparison and Pearson correlation analysis to check and verify the results.

**Results**

The overall average work stress value comes to 2.98 while the average value of quality of life comes to 3.13. Different demographic variables demonstrated significant differences in response to impact from different aspects of stress from work and quality of life. For example, different genders demonstrated significant difference on overall work stress, source of work stress and the extent of social relationship. Overall, The stress from work and quality of life in various aspects therefore demonstrated significantly negative correlation.

**Conclusions**

In order to lower down stress from work and bring up quality of life for their employees, hospitals not only have to take into account the sources of stress, but also to consider psychological feel as the most important part. For instance, hospital may support staff members who are under heavier stress by providing consultation, establishing channels for spiritual communication, lending books about how to minimize stress, opening classes for spiritual enhancement lectures, and sponsoring varieties of get-together activities.

**Comments**

Future researches are suggested to investigate into other feel indices, analysis for the interpretation of stress from work and its impact on the quality of life. Subsequent researches are also suggested to continue the investigation by longitudinal study for comparison to this cross-sectional study. Finally, future researches are suggested to broaden the research subjects to compare between hospitals and enterprises so as to obtain handy reference to minimize stress from work and to enhance quality of life for all workers.

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## Predicting the significant determinants of nurses' well-being in east of Taiwan

**CHUNG Hui-Chun, Hsieh Tsung-Cheng,  
CHANG Shu-Chuan, CHEN Yueh-Chih, HSU  
Wen-Lin, LIN Jin-Ding**

**Introduction**

Health has been revised as a positive dynamic state not merely the absence of disease, but also increasing a client's level of well being which was proposed by Nola J Pender (1982; revised, 1996). Health promotion is a basic concept for nursing practice. However, the significant determinants of nurses' well-being is rarely found in the literature of health promotion at hospitals.

**Purpose/Methods**

The purpose of this study was to investigate the relationships between health-promotion lifestyle, leisure coping strategies, positive practice environment and well-being among hospital nurses. Data were collected by using questionnaires. The participants are as total number of 381 hospital nurses who were 29 years old (SD=6.92), working at hospital for 7 years (SD=6.45) in average. Data were analyzed through university correlation comparative statistics followed by stepwise multiple regression analysis to determine significant predictive variables, a path analysis was conducted to predict the nurses' well-being determinants by using SPSS19.

**Results**

The results showed that all constructs of the health promotion lifestyle, health-promotion lifestyle, leisure coping strategies, positive practice environment were significantly correlated to 73.3% ( $R^2=.626$ ,  $p<.0001$ ) of the variance in the nurses' well-being. Self-actualization (Beta=1.170,  $p<.0001$ ), interpersonal support (Beta=0.581,  $p<.0001$ ), nutrition (Beta=0.495,  $p<.0001$ ), and team work support (Beta=0.328,  $p<.0001$ ) were the most significant predictors of the nurses' well-being.

**Conclusions**

The conclusion indicated the interventions that are aimed at improving those four variables can lead to the enhancement of well-being among hospital nurses in the east of Taiwan.

**Comments**

Hospital work health promotion could enhance nurses' well-being through target at health promotion lifestyle, especially on Self-actualization, interpersonal support, and nutrition.

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## Association between self-perceived health status and workload in hospital employees: a case of regional hospital in Taiwan.

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### Introduction

Philips' study that turnover employee may have negative influence to the retained ones. Insufficient works will increase the work load, and affect the health condition. (...) A study showed that more than sixty percent workers are overtime, and the average work time is 10 hours a day in Taiwan. Moreover, a quarter of the workers work 11 hours a day. (...) Thus, self-perceived health status and work load of staff is a concerned issue at a hospital.

### Purpose/Methods

The purpose of this cross-sectional study was to investigate the relationships between self-perceived health status and workload in regional hospital employees in Taiwan. We designed a questionnaire for 517 volunteer (66% of employee) and collected 516 valid ones in 2010. Analysis were performed by using SPSS 19 statistic software.

### Results

After analyzing these questionnaires, the research finds that: older and senior employee had worse self-perceived health status significantly ( $p < .001$ ). Work load was significantly different in different age, seniority and personnel category. There were significant positive correlations between self-perceived health status and workload.

### Conclusions

In recent year, manpower shortage is a common and serious problem in health care systems. So it is very important to understand how staff feel to help them adaptation and retention.

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## Session P1.16: Developing healthier workplaces for health service staff

### Project of Promoting the Percentage of Clinical Ladder-2 Nurses in an Internal Medicine Ward

**LEE Chia Lun, CHEN Mei Hsing, JEN Shu Ling, CHEN Ching Chi**

### Introduction

The percentage of clinical ladder-2 nurses with critical care competency was only 26.3% in this internal medicine ward. The motives of this project were induced.

### Purpose/Methods

The aims of this project were to promote the percentage of clinical ladder-2 nurses to 50%, and adjust the percentage of applying for the certification of clinical ladder-2 nurses to 80%. Strategies of this project included delegated mentor for individualized instruction, scheduling for preparing the certification of clinical ladder, assisting the nurses in preparing the examination, incorporating e-learning in the required education courses, and posting the enforcement ways.

### Results

The percentage of clinical ladder-2 nurses was promoted to 84.2% in May, 2010. The goal attainment rate was reached to 244.3%, and the improvement rate was 220.2%. Furthermore, the percentage of applying for the certification of clinical ladder-2 nurses was advanced to 83.3%. The goal attainment rate of applying for the certification of clinical ladder-2 nurses was 107.8%, and the improvement rate was 122.1%.

### Conclusions

After the intervention of this project, both the percentages of clinical ladder-2 nurses and applying for the certification of clinical ladder-2 nurses were promoted effectively.

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## The use of magnetic elements of the hospital nursing staff retention measures the effectiveness of the pilot study

**YANG Ching-O, HUARNG Kun-Huang, LEE Ho-Yu, WU Hui-Yu**

### Introduction

Nurses for the magnetic elements of the administrative, professional practice, knowledge and attitudes of professional development status, and the nursing staff retention measures relevance and effectiveness.

### Purpose/Methods

A cross-sectional questionnaire survey and convenience sampling method, the object of a regional teaching hospital for the chief nurse, a total of 1,287 valid questionnaires, a total of four dimensions: personal attribute information, the awareness level of retention measures, retention measures attitude, full retention measures Degree and will remain in Italy, with its internal consistency Cronbach's  $\alpha$  .904 - .963, With SPSS 18.0 for processing and analysis.

### Results

Nurses personal in remain married than single measures of satisfaction high, the higher the age the higher the satisfaction. Regression Pearson correlation analysis: (a) the level of

knowledge retention measures satisfaction on retention measures have significant positive effect, (b) the attitude of the retention measures satisfaction retention measures have significant positive effects, (c) the attitude of the retention measures remain will have significant positive effects, (d) measures satisfaction on retention will remain a significant positive impact.

### Conclusions

Hospital use of magnetic elements, such as the advanced clinical encourage promotion, adopt participatory management, self-given ability to play independent and independent, in-service education and professional skills training, opening up communication channels, provide a safe working environment etc., can also attract or retain nurses. The creative retention strategies: such as career development, the forum to solve the problem, provide retention incentives, a wide range of health promotion activities for promotion and retention of nurses are also very helpful.

### Comments

Care managers should focus on the characteristics of nursing staff, establish clear professional development system, to adopt participatory management, autonomous and independent director given the ability to play and the timely initiative of self-care and encouragement. Creative people should be encouraged to remain involved in strategic planning. Attention to a wide range of health promotion activities, the future of the hospital medical institutions may use the magnetic elements, as the retention of the nursing strategic to enhance the stay will.

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## Human Prediction of Nursing : Example Metropolitan Hospitals Teaching of in Central Taiwan

**LI YA-LING, TSAI Meng-Chuan**

### Introduction

Global nursing workforce shortages in recent years has entered the critical period of shortage of qualified nurses. The International Council of Nurses clearly showed that the nursing shortage and high labor turnover rate has been a global problem. AHCA also pointed out that developing countries such as: the United Kingdom and the United States is facing a serious shortage of nursing manpower problems, and has been a threat to these countries, local health care system and patient care quality.

### Purpose/Methods

Nursing staff, including a total order of N, N1, N2, N3 and N4 five. Rank of the transfer system by a state rank of the transfer to another state of the process. This study not only meet the

state of the state with a limited number of at least one absorbing state, also assumed that the transition probabilities don't change over time, and is associated with any previous period, use absorbent Markov chains to construct nursing manpower supply prediction model.

### Results

(1) promoted to N3 level nurses ago, stay too long and the small number of promotion From the predicted results the nurses of the rank promotion as N3 or N4 level is very little. To predict the promotion rate is too slow. (2) N1 and N2 nursing staff turnover rate is too high N and N1 class nursing class nursing staff turnover rate higher than the average 2.6% of total turnover. While N2 nursing turnover rate is also 1.74%.

### Conclusions

"Prediction" is necessary, over and lack of manpower, both will damage the organization, it is necessary to make an effective assessment of manpower, manpower forecasting assessment is no longer the organization's pain, even becomes the organization's competitive success advantage. This case study nursing labor, by absorbing Markov chain model of assessment and prediction, that may show manpower shortage occurs with development of the hospital.

### Comments

Nurses for hospitals, is a very important role. This study suggests that, should need to expand the recruiting pathway, and consider to adjust of salary structure, additional seniority allowance system to meet the psychological needs of nursing staff, nursing staff turnover rate is too high and thus reduce the problem of high turnover rate. Should hire a long-term professor to help improve the speed of promotion. Fundamentally, strengthen the skill of case report for N2 and below.

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## A project to improving the surgical nurses work overtime

**HUANG I-Ju, WU C.Y., YANG C.Y.**

### Introduction

Overtime work is the issue of health care facilities have been common problems. Due to the Patient turnover increased significantly, Nurse spend more time to shift handover. In addition to nursing activity, surgical nurses have to sent patient to operation room several times every day. Overtime issue has been gradually get worse. We reduce the patients turnover rate, Nurse Staffing Ratio, and set Standard Protocol, the overtime rate from 82.3% down to 60%.

### Purpose/Methods

Use "time-out survey work sheet" to record the patient dynamic, nursing activity for ever nurse shift. And head nurse accord-





ing to human resources computer system to verify the timeout. We try to reduce the patients turnover rate, Nurse Staffing Ratio, and set Standard Protocol. The purpose of the project reduce the time-out rate from 82.3% to 60%.

### Results

More than 222 people when the number of times by the total number decreased to 175 times more than when the rate fell 82.2% to 51.3%, a figure of 139.2%. Baiban Ping timeout are each 1.9 hours by the fall to 0.9 hours a night by a small decline in each of 2.1 hours to 0.8 hours, 1.6 hours per person from the big night fell to 0.7 hours.

### Conclusions

Nurses cause significant rebound, that work must be timed to spend time login "to work overtime because the survey", the nurses agreed time-out due to personal physical and mental stress does cause problems and family, and even affect patient safety, it is consistent with this activity reached. The reformulated or revised operating procedures and other measures after the intervention and after making the communication and coordination over time, this results with other studies to achieve improvement objectives.

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## Session P1.17: Professional attitudes of staff and quality of work life

### Applying the Revised Chinese Job Content Questionnaire to Assess Psychosocial Work Conditions among Taiwan's Hospital Workers

**CHIEN Tsair-Wei, CHANG Chih-Cheng, CHOU Ming-Ting**

### Introduction

With the increasing concern about job stress, many researchers have addressed psychosocial job stress and its adverse effects on health. The topic of occupational stress receives considerable research attention and is an important occupational safety and health issue. To develop a web-based self-evaluation diagnostic system for consultation to experts to make job stress assessment easier and quicker than ever.

### Purpose/Methods

The Chinese-version of the Job-Content Questionnaire (C-JCQ) was used to compare the prevalence rate for job strain on

workers using Rasch analysis when deriving a person measure to represent his/her level of a construct. The data were collected from 1,124 employees at a hospital in Taiwan. The dimensionality was evaluated by the principal component analysis on Rasch residuals. KIDMAP-like diagram helps employers and consultants of an organization to efficiently promote workplace mental health.

### Results

Both graphical representations of skewness 95% CI comparison and KIDMAP-like diagram can help employers and consultants of an organization to efficiently promote workplace mental health.

### Conclusions

The five-factor structure of the Job-Content Questionnaire was supported by the parallel analysis. Four types of jobs were classified using two subscales of the C-JCQ. Rasch analysis has an advantage over the summation method in the treatment of missing data. To facilitate the use of the Rasch method, an Excel module was developed to reveal valuable information for workers and mental health consultants. The prevalence rate of high strain on Chinese hospital workers was 14.57%.

### Comments

We illustrated a web-based self-administered system to make the ability of job stress resistant estimated possible. It is recommended that the Rasch method replace the summation method when representing the levels of latent traits for individual workers when missing data are in existence. The Excel-VBA module is helpful in facilitating the Rasch method and reveals valuable information about workers' job strain.

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## Ethical Climate in Nursing Practice - The Leader's Role

**LIN Li-Man**

### Introduction

In the increasingly complex medical environment today we must be aware of the hospital's mission, vision, and values, which are the keys to effective management. Management of patient care is compulsorily entangled with moral conscience.

### Purpose/Methods

The importance of nursing ethics and patient expectations is therefore continuously stressed out in line with the principles of nursing care. The impact of ethical dilemmas of nursing care quality, such as psychological stress in dealing with patient's desires and goals on one side and at the other side the medical goal of curing set on the background of the institution objectives.

### Results

Strategic establishment of ethical climate include providing a safe care, facing the treatment of unsafe treatment, respecting the autonomy of patients and of nurses, and strengthening nursing ethical awareness and use of resources.

### Conclusions

After establishment of ethical directives, the practical application of nursing practice should be continuously followed up and re-assessed with respect to the situation.

### Comments

The care directives should be established by nursing leaders to ensure a workable ethical climate where nursing practice can be established without ethical conflict. This will provide a healthy working atmosphere for nursing staff and prevent burn-out in our profession.

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## The Study of Hospital Staff Perception on Health Promotion Hospital Policy

**TSAI Chang-Yao, HUANG Paul, CHEN Ming-Huang**

### Introduction

Recently, the adoption of health promotion policies and initiation of health improvement programs for staff at workplace driven by improving staff efficiency and health condition are getting more popular both in government and private industries in Taiwan. The purpose of these initiatives is to establish staff's right concepts and attitude toward health promotion and improve capability on personal health management. This study aims to understand staff's perception agreement on workplace health promotion as hospital's management policy in southern Taiwan.

### Purpose/Methods

We developed a structured questionnaire as the tool of measurement. There were 1,453 non-physician staffs from various departments filled in a designated questionnaire after participating hospital health promotion activities in November 2009. And the collected questionnaires were analyzed using Microsoft Excel.

### Results

The overall perception agreement rate on hospital's health promotion initiatives were 93.7%. The staffs of medical department had the highest rate of agreement (97.5%), followed by nursing department (93.4%). And the administration department had the lowest rate (90.9%).

### Conclusions

Our study results showed staff's perception agreement rate on hospital's health promotion initiatives had been improved gradually to very satisfactory, as high as 93.7%, in the past 3 years. There were more and more staffs vigorously expressed ideas in the process of planning the future health promotion activities. The management of working pressure, and stress relief suggested by staffs from various department will be included in staff health promotion program schedule in the future.

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## The Study of Cognitions, Benefits and Attitudes of Medical Practitioners' towards Therapeutic Recreation.

**LAI Mei, TSAY Wu**

### Introduction

Chapter of Leisure has been alleged in 1970 to claim that human should have a right to enjoy the opportunity, the education and the resource of leisure and recreation. That has showed the importance and value of leisure. However, to compare the development with advanced countries', the cognitions, benefits and attitudes of medical practitioners on therapeutic recreation, it is at its early stage and relatively underdeveloped in Taiwan.

### Purpose/Methods

Therefore, the purpose of this study is to identify medical practitioners' current situation of cognitions, benefits and attitude towards therapeutic recreation, to realize the correlations between cognitions, benefits and attitude of therapeutic recreation and investigate the impact of cognitions, benefits to attitude of implementing therapeutic recreation. In this study, structured questionnaire was used to survey the medical practitioners in the hospitals of southern district in Taiwan. Correlation analysis and multiple regression were utilized to examine the factors influencing the practitioners' attitudes towards therapeutic recreation. 400 questionnaires were sent to the medical practitioners, include physicians, nurses, rehabilitation, physical therapist, and occupational therapists, with 355 completed. The return rate was 88.75%.

### Results

The results of the study show that, medical practitioners have positive attitude to implement therapeutic recreation. Also the cognitions, benefits and attitudes of therapeutic recreation implementation are strongly related. Finally, according to the results of regression analysis, it shows that the average value of cognitions, benefits and scope of service play important roles in affecting the attitudes of therapeutic recreation implementation.



### Conclusions

Finally, based on the results, the study makes several suggestions for Taiwan medical industries to focus on the identified problems and for hospital managers to overcome the obstacles in order to fully promote the therapeutic recreation in Taiwan.

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## Enhancing Integrity of Nursing Staff Performance in Health Education Guidance for Carotid Artery Stenting

**CHENG HUI-LAN, TUNG Sen-Mei, LIN Yueh-E, LIN YU-LI**

### Introduction

Carotid Artery Stenting is an effective method in stroke prevention and the key factor for treatment effectiveness. The survey found that nurses on carotid stenting lack of knowledge does not provide health education to guide the process and the lack of suitable tools to guide health education. The study adopts an integrated invention of health education guidance to enhance "Integrity of Nursing Staff in Health Education Guidance" from 40.5% to 100%, thereby to improve patient satisfaction towards health education guidance.

### Purpose/Methods

Enhancing integrity of nursing staff performance in health education guidance. Producing carotid artery stenting care guide, producing carotid artery stenting guidance manual, implement multimedia digital VCD for playing automatic health education film, and developing specialist quality monitoring program. Health education guide for 16 fonts and pictures help to increase the multimedia digital recording materials are bilingual Taiwanese language, health education to help understand the more complex and abstract content and additional images to enhance visual attention.

### Results

"Integrity of nursing staff performance in health education guidance" was enhanced from 40.5% to 100%, "Satisfaction of stroke patients receiving health education guidance on carotid artery stenting" was enhanced from 44.4% to 96.4% and "Cognition of nursing staff in carotid artery stenting" was enhanced from 45% to 93%. Through the use of teaching aids in the implementation of health education to increase nursing staff when the convenience and to save manpower and nursing care hours of application.

### Conclusions

Complete guide to nursing health education posters by diverse methods such as, websites, leaflets and health education health education seminars, providing patient medical information and participation opportunities for study and discussion. The inte-

gral health education guidance can exhibit the professional function of nursing staff and enhance self-care ability of patients. Patients can improve security in medical treatment seeking and quality medical care through the convenience and integrity of implementing auxiliary teaching materials during health education.

### Comments

In recent years, the number of high stroke, carotid stenosis and stroke research showed a high correlation, so the more prominent carotid stenting is important. The Carotid artery stenting expect health education guide, multimedia digital materials, and quality management monitoring mechanism can be extended to the whole hospital. Recommendation: multimedia digital materials can be extended to provide free of charge to play and out, so patients can better understand diseases and self care, to continue care goals.

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## The effect of Experiential Communication Program on medical staffs' self-awareness of communication ability

**SHU Shih-Hui, CHANG Yu-Ping, YAU Shiojing**

### Introduction

Good communication is the key to construct high-quality health care team and to maintain patient safety. According to theory of Objective Self-awareness, most people tend to think their communication performance are better than average. However, feeling good but without good communication ability often causes failure of a team. The purpose of this study is to see if Experiential Communication Program would change medical staffs' self-awareness about their communication ability. The results can provide as reference for medical institutions.

### Purpose/Methods

The program forces the participants to communicate in order to finish a difficult task. There are two kinds of participants in this research: (1) self-registration group, voluntary to learn and (2) department-enforced group, required by their director to learn. An anonymous 10-point Likert self-report scale is given to participants to assess their own communication ability before and after the program. Participants are also free to give written feedback about what they learn from the program anonymously.

### Results

There are 44 participants in voluntary group and 40 in required group. Most participants' pre-test scores are higher than 6,

which mean they really feel good of their communication ability. But after the program, the voluntary group gives lower scores which in line with their written feedback. They find they need to learn more about communication. However, most participants from required group have even higher post-test score, even though they also admit they need to learn more on communication.

### Conclusions

The research testified that Experiential Communication Program will modify participants' self-awareness of their communication ability. Participants in voluntary group may have fair evaluation of their communication ability after the program, try to improve their ability, and then enhance their team work. But different participation motivation will have influence on the result. Therefore, we suggest that in order to benefit from the program, participants are better to come voluntarily.

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## To Know the perception of the quality of working life of health professionals

**CRUZ VERÓNICA, BAGOT MARTA,  
CEPEDA MERCEDES, JUVINYÀ DOLORS,  
BERTRAN CARME, SANTIÑÀ MANEL**

### Introduction

Professional quality of life is defined as a health personnel perception of his professional, familiar and personal life. Health professionals has to keep a balance between demands and resources availables. Appropriate working conditions benefits the workers health and his wellbeing. The objective is to recognize the health personnel perception about his professional quality of life in the hospital setting.

### Purpose/Methods

The objective is to recognize the health personnel perception about his professional quality of life in the Hospital Dr. Josep Trueta in Girona. Cross-sectional study that was conducted from March to July 2011, with a convenience sample of the different classes. We used a validated questionnaire on quality of working life (PQL-35), consisting of 35 items that assesses three dimensions: perceptions demandas, Emotional Support Executives welcomed by them and motivation intrinsic, along with other socio-demographic variables and labor.

### Results

Three hundred thirty-nine completed questionnaires were received (84,1%). Mean professional quality of life was 5.63 (5.41-5.85); there were significant differences between employment status and occupational variables. Mean score for

perceived demands at the workplace was 6.15 (4.84-7.46), and mean score for emotional support received from superiors was 5.63 (4.33-6.93). Mean score for intrinsic motivation was 7.84 (6.91-8.77).

### Conclusions

Employees in Hospital Dr. Josep Trueta in Girona perceived their professional quality of life to be moderately good, perceived a moderate degree of support received, and had a high level of intrinsic motivation to cope with high demands at the workplace, although the valuation is worse between the doctors. One perceives excessive service load and few resources contributed by the organization. Target element, which can improve the quality of professional life, can be identified from these tools.

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## A study on the relationship between the nurses' social network and quality of work life

**LI-CHEN TSAI**

### Introduction

The purpose of this study was to explore the relation between social networks and nurse's quality of work life. The researcher distributed a questionnaire to 289 staff nurses of a public hospital, 277 returned the questionnaire (response rate=95.85%). The result indicate significant relationships between the individual social networks and QWL ( $p < .01$ ). The data provide evidence that social networks affect QWL. At the workplace, networks with structure holes and content lead to satisfaction and lead to dissatisfaction of different QWL dimensions.

### Purpose/Methods

This research analyzes the social capital involved in nurses' positions in the advice network, friendship network, and trust network, in order to discover how these positions influence their QWL. The research was conducted in the form of a questionnaire survey. The subjects were 289 nurses in a public hospital in the greater Taipei area. A total of 277 valid questionnaires were collected. The data were calculated and analyzed using UCINET version 6.0 and SPSS version 15.0 software.

### Results

In terms of the different aspects of QWL, the survey participants gave the highest scores to their interpersonal interaction and the lowest scores to the reward system. The data provide evidence that social networks affect QWL. The result indicate significant relationships between the individual advice network and leadership ( $p < .01$ ), salary system ( $p < .001$ ), workload ( $p$



<.01), and learning ( $p < .01$ ) and so on up to the quality of life dimensions are statistically significant correlation.

### Conclusions

The survey demonstrates that nurses' social network influences their QWL. It also shows that nurses experience a lack of correspondence between workload and reward. The research suggests that hospital management should look into nurses' unofficial network positions to gain a deeper understanding of the interactions and relationships between nurses. Hospitals can implement interpersonal interaction programs to enhance instrumental connections and thereby improve nurses' satisfaction level with their QWL. Hospital reward systems can boost the morale among nurses and help retain nursing talents.

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## Impact of the Health Promoting Hospital Accreditation on nurses' health-related indicators and job performance

### CHANG Hsueh-Feng

#### Introduction

Health-promoting Hospitals are intended to create a supportive environment for health promotion, within which through quality healthcare services are provided not only to patients and community residents in need, but also to the employees who help provide. In this process, medical personnel are both the core actors and the beneficiaries of the devotion of "Health-promoting Hospital". However, no previous empirical evidence has examined if a significance difference exists between nursing personnel in hospitals with or without a health-promoting hospital accreditation, in terms of their health-promoting behaviors, job performance, and health status.

#### Purpose/Methods

In the study, a purposive sampling approach was adopted. The participants are nursing personnel from the fourteen selected regional hospitals (seven possessing the accreditation and seven not). 420 questionnaires were mailed to the participants during the time period from May, 2009 to August, 2009, and 389 copies were collected (92.6%). In addition to demographic characteristics, the questionnaire includes instruments on health-promoting behaviors, health status and work performance. The scale response to health status is first recoded to calculate the scores for the physical component scale and mental component scale, respectively; then SPSS 12.0 is used to carry out the descriptive statistics and hypothesis testing. Furthermore, a hierarchical regression is adopted to examine the effect of health-promoting hospital accreditation on the health-promoting behaviors, health status and work performance of nursing personnel, respectively.

### Results

The two surveyed groups are similar on demographical variables except for on religion and work arrangement. Concerning the attributes of hospitals, among the hospitals with the accreditation, five of them are teaching hospitals and two not, while among the hospitals without the accreditation, three are teaching hospitals and the other four not. Overall, the scores on health-promoting behaviors, health status and work performance of the participants are 65.4, 72.3, and 74.7, respectively, after standardization. On in-depth examination shows that participants in hospitals without accreditation have higher scores on the three instruments with significant differences on both health-promoting behaviors and health status ( $p < 0.05$ ). In the hierarchical regression, the effect of "having the accreditation or not" on physical health aspect is found significant ( $p < 0.05$ ), while not significant on other aspects.

### Conclusions

To sum up, the two groups of nursing personnel share similar attributes and health-promoting behaviors are positively correlated to health status and work performance. It is worth noting that, participants from the non-accredited hospitals generally have higher scores on health indicators and work performance. The possible reason is that hospitals may become inactive on supporting and implementing related activities of health promotion after acquiring the accreditation. On the contrary, the non-accredited hospitals may put more effort into the project of health promotion under the encouragement of the Department of Health, Executive Yuan.

### Comments

It is an urgent task of the policy makers and hospital administrators to enhance the health-promoting behaviors of the medical personnel so that they remain in the optimal health status and thus provide professional services. This research also suggests that the authorities should conduct regular accreditation every few years on the health-promoting hospitals, so as to ensure the effectiveness and constant devotion of the accredited hospitals in creating a health-promoting environment.

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## Session P2.1: Supporting lifestyle development in the community and the population

### The Plan of Health Promotion Life Style and State of Health for Remote Districts Persons

**TSAI Ming-Tsu, WU Tsung-Yen, CHEN Shu-Fen, WOUNG Lin-Chung**

#### Introduction

The problems of aging of population and bad life-style became more and more serious in Taiwan. It led to not only the change of disease types but also the long-term care burden to families and country. The situation in remote districts was getting worse than metropolitan districts. Therefore, Taiwan Care for All Association held health screening and health promoting activities in remote districts to provide physical examinations and health education services for community persons.

#### Purpose/Methods

The aim of this plan was to explore the relationships among respondents' health related health promoting lifestyle, and physiology. It used two kinds of research instruments. One was "The simplified Chinese version of Health-Promoting Life Style scale". The other was health screening including intraocular pressure, abdomen echo and dementia screening. And the team conducted health education courses to teach the respondents. They were the persons in Zaoqiao Township, Miaoli County. Total of fifty questionnaires were collected, with forty-four valid samples.

#### Results

Twenty-four questions were used to measure the participants' health promoting lifestyles. The major results of this study were as follows: The mean score of overall health-promoting lifestyles was 61.14. The highest score was on the aspect of the Self-actualization, followed by Nutrition, Interpersonal Support, Stress Management, Health Responsibility, and the lowest score was the Exercise. Age and education were significantly positive correlated with the health-promoting lifestyles. And nearly half of the participants had high blood pressure condition.

#### Conclusions

Implementing health promoting and health care plans to progress step by step for remote districts persons and minority groups could be working to integrate many kinds of health workers into a team, and cooperate with local organizations (church and township, etc.) in communities. With the plan, the result suggests ways for both public and private institutions to promote health-related policies and activities.

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## Physical Activity Promotion through Marketing Strategy and Industry-University Cooperation

**HSIEH Man-Ni, YANG Yu-Wen, JHOU You-Shan**

#### Introduction

Physical inactivity had been proved to be highly associated with many chronic diseases, such as hypertension, diabetes, hyperlipidemia and cardiovascular disease. In the past, Changhua Christian Hospital (CCH) had provided many free exercise programs to improve physical inactivity in employees; but the effect is not significant. Since 2010, we applied industry-university cooperation model and marketing strategy to provide a variety of payment exercise programs for employees. We hope to assist employees in building exercise habits and then improve physical inactivity.

#### Purpose/Methods

Health Promotion Center of CCH invited sports coaches with different specialty to provide payment exercise programs for employees and their family since December 2010. For participants' convenience, these classes were set at different timeframe, and operated as a small team. A leader should be elected among participants to manage the team. Usually, each class was operated for once per week; four weeks per month. The participants need to pay for the classes. Generally, each participant paid 100NTD for one-hour class.

#### Results

There were 40 group classes operated since December 2010 till December 2011, including 17 categories of exercise, such as dancing, combat aerobics, step aerobics, resistance exercise, Yoga, Tai-Chi, children gymnastics and so on. Regularly, 4 to 7 classes were running per month. There were 7 to 15 people participating in each class, and 462 person-time was counted for total 40 classes. Most participants gave positive feedback for the programs.

#### Conclusions

Through Industry-University cooperation and marketing strategy, we provided specified exercise programs according to individualized needs of employees and their family. Learning from practice, we modified the programs with time. With little payment, participants could get much fun in the classes. In this way, employees would build exercise habits progressively; and then physical inactivity and health status would be improved. This is a successful model of physical activity promotion in workplace.

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## The effectiveness of a weight control program and a brisk walking program

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### Introduction

In light of 2010 health statistics by Department of Health, six of the top leading 10 causes of death were related to obesity. Weight control becomes an important task in Taiwan. With the support from high-level leaders in our hospital, we established an intersectoral team to implement a weight control program (WCP) and an brisk walking program (BWP).

### Purpose/Methods

This study aims to evaluate the effectiveness of WCP and BWP. These two programs were held on June to September 2011 and lasted 12 weeks. The community and hospital employees were free to take part in these two programs. 35 people participated in WCP; 33, in BWP; 7, both of them. We collected pre-and post test data related to body weight, physical fitness, biochemical data and knowledge and used SPSS 17.0 to conduct descriptive analysis, t-test and Mann-Whitney U test.

### Results

The participants in WCP had statistically significant improvement in weight, BMI, wrist circumference, body fat, cardiorespiratory fitness, flexibility, and knowledge ( $p < .05$ ). The participants in BWP had statistically significant improvement in body weight and fat ( $p < .05$ ). However, there was no significant difference between those joining two programs and one of them. The reduction in the mean of weight in WCP was more than that in BWP. The reduction in body fat in BWP was more than that in WCP.

### Conclusions

This study concluded that both weight control program and brisk walking program were effective against obesity. The weight control program was particularly effective against body weight, and the brisk walking program was effective against body fat.

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## Increased user involvement of physical activities: an application of the exercise map

**YING-YING Li, HSIN-PING Huang, JUI-YAUN Tasi, MENG-KAN Chen, YU-YING Chu**

### Introduction

To cooperate with government policy 'working out frequently and eating healthily, the community organized many exercise clubs free of charge. However, there was no integrated channel to disseminate detailed information regarding availability of exercise clubs, location and time. Therefore, we developed a community exercise map to promote participation of the community in the community health promotion activities so as to building exercise culture over the community.

### Purpose/Methods

In order to promote the visibility of community exercise activities, we investigated the community exercise environments and drew community exercise maps with the provision of activity names and time. We then incorporated this map into 'a manual for active healthy life' through which the community can easily use it and participate in the activities based on their needs.

### Results

This map achieved high satisfaction. After the provision of the exercise map, the participation of community exercise clubs increased. The exercise culture was gradually established.

### Conclusions

Due to previous invisibility of the community exercise clubs, individuals often only took a walk or did morning exercise, which may not meet their health needs. This exercise map provided multi-dimensional choices for individuals to meet their personalized health needs through increased conveniences and access.

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## Health-related quality of life among adult Tai Chi practitioners: A cross-sectional descriptive study

**LEE Linda Yin King, KWONG Alex Ho Chun, CHAN Wai Yan, CHEUNG Yan Lui, HUA Lai Ying, HUNG Ka Wa, HUI Shan Nga, LAM Ching Fung, KWOK Man Man, TONG Siu Mui, WAT Po Yee**

### Introduction

Tai Chi is a traditional Chinese form of physical activity and it is derived from the martial arts. The characteristics of being low-technology, low-cost and highly accessible make Tai Chi to be a

desirable option for health promotion. Tai Chi is being practiced worldwide and its health benefit among the older population has been extensively documented. Yet, there is limited evidence on the health benefit of Tai Chi among the adult practitioners.

#### Purpose/Methods

This cross-sectional study aimed to assess the health-related quality of life (HRQoL) among adult Tai Chi practitioners. A convenience sample of 150 adult Tai Chi practitioners was recruited. HRQoL was assessed by SF-36 (Hong Kong Chinese version). The differences in physical component summary (PCS) and mental component summary (MCS) between participants with different demographic characteristics were assessed by independent t-test or one way analysis of variance whenever appropriate. The relationships between variables were assessed by Pearson correlation.

#### Results

Participants showed a PCS of 51.10 and MCS of 50.57. (Hong Kong reference for general population: PCS = 52.83; MCS = 47.18.) Findings indicated that the PCS demonstrated significant difference between participants with different gender, health status, education level, income and marital status. The PCS demonstrated a significant weak negative correlation with age. The MCS demonstrated significant difference between participants with different occupation and marital status. The MCS demonstrated a significant weak positive correlation with duration of Tai Chi practice.

#### Conclusions

Tai Chi emphasizes the integration between body and mind. Findings support its health benefit on HRQoL, particularly in the mental health aspect, among the adult practitioners. The present study contributes to our understanding about the PCS and MCS level of HRQoL among adult Tai Chi practitioners in Hong Kong. Moreover, it has provided a more comprehensive picture on the association between HRQoL and the various demographic characteristics of this particular population.

#### Comments

This study adds new knowledge to the health benefits of Tai Chi among adult practitioners. However, it carried several limitations. Owing to the cross-sectional nature, the present study is less convincing in detecting causal inferences. Therefore, a follow-up evaluation using a randomized controlled trial is suggested. Moreover, the use of convenience sampling might have induced sampling bias. Probability sampling is therefore suggested to obtain a more representative sample.

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## Exercise Stages, Benefits, and Barriers among Menopausal Women

## CHU Tien-Shan, LEE Pi-Hsia, JENG Chii

#### Introduction

The purpose of this study was to examine the relationships among exercise stages, exercise benefits, and exercise barriers. This is a correlative and descriptive study. Two questionnaires including the Exercise Stage Scale and the Exercise Benefits/Barriers Scale were used. A total of 72 middle-aged menopausal women were recruited in the study.

#### Purpose/Methods

To examine the relationships among exercise stages, exercise benefits, and exercise barriers. This is a correlative and descriptive study. Two questionnaires including the Exercise Stage Scale and the Exercise Benefits/Barriers Scale were used. A total of 72 middle-aged menopausal women were recruited in the study.

#### Results

The stages of exercise were 59.7% in the preparation stage, 27.8% in the precontemplation/contemplation stage, and 12.5% in the action/maintenance stage. Body mass index, education, and health status were difference in different exercise stages. Perceived exercise benefit was positively related to the education level. Perceived exercise barrier was negatively related the age. Among the different exercise stages, perceived exercise barriers were different. In the psychological dimension of barriers were higher in preparation stage than in the action/maintenance stage.

#### Conclusions

Among the different exercise stages, perceived exercise barriers were significantly different. The scores in the psychological dimension of exercise barriers were significantly higher in the preparation stage than in the action/maintenance stage. The results of this study will be valuable in providing nursing interventions to promote the physical activity among menopausal women

#### Comments

The results of this study will be valuable in providing nursing interventions to promote the physical activity among menopausal women

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## Waist circumference but not BMI is the determinant factor of physical fitness performance in adult Taiwanese





## LIN Ching-Ying, LIOU Tsan-Hon, LIU Chung-Chu

### Introduction

Physical fitness is an important indicator for health. Body composition is shown to be highly associated with physical fitness. BMI is a predictor of the morbidity and mortality due to associated diseases. In addition, it has been investigated that waist circumference assumes greater value as a marker of abdominal visceral fat. This study aims to examine the association between physical fitness and body composition by BMI and waist circumference in a sample of Taipei city citizen aged 18-65.

### Purpose/Methods

During June to December 2011, subjects were collected in Taipei. All subjects received 3 categories of fitness test: 1. flexibility 2. muscle strength and 3. endurance. Data was adjusted with gender and age and each category had score of 1(poor) to 5(excellent). Global fitness score (GFS) was the sum of scores of 3 categories ranging from 3 to 15. Body composition analysis including body mass index (BMI) and waist circumference were also recorded. A  $p$ -value  $< 0.05$  was statistically significant.

### Results

A total of 2,498 subjects, 1,212 females and 1,286 males with mean age of  $36.3 \pm 14.1$  and  $37.6 \pm 12.3$  years respectively, were recruited to participate in this study. The average BMI and waist circumference were  $22.5 \pm 3.8$  and  $71.9 \pm 9.2$  cm for female and  $24.8 \pm 3.7$  and  $81.8 \pm 9.2$  cm for the male. Correlation coefficient analysis revealed waist circumference was highly associated with GFS ( $r = -0.111$ ,  $p < 0.001$ ). General linear regression analysis with stepwise method revealed waist circumference was the predominant factor for GFS ( $\beta = -1.21$ ,  $p < 0.001$ ).

### Conclusions

BMI was proven to be associated with all-cause mortality and co-morbidity. However, this study demonstrated that waist circumference is the dominant factor contributed to physical fitness performance. BMI only showed a weak association with fitness among male subjects. For health promotion, the policy maker should emphasize the importance of waist circumference rather than BMI for their general physical fitness performance.

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## Effectiveness Assessment of Physical Fitness and Diet Control

### CHEN Yi-Fen

### Introduction

Overnutrition is a critical issue in developed countries, like Republic of China (Taiwan). Although people realized healthy diet and exercising regularly are good for the health, rare people did it in their daily life. Health Community Building Project (HCBP) is one of important health programs in Taiwan since 2001. How to promote people understand, adopt and practice diet and body weight control behaviors is truly a challenge for healthcare personnel.

### Purpose/Methods

Aim of "Go Go DIY" project was to promote participants carry out physical fitness exercise and healthy diet for controlling body weight. Professional fitness training teacher and dietitian provided useful information related to healthy life style for participants and strengthen their health promotion behaviors in two months. The participants learned how to calculate calories of intake food and do physical fitness exercises; moreover, we kept track of their blood glucose, body weight, percentage of body fat and waistline.

### Results

Twenty adults were enrolled into this project, 95 % is female, and average age was  $47.6 \pm 15.3$  years old. After the interventions approached, cognition score of diet control was significantly improved from  $3.14 \pm 0.37$  to  $3.78 \pm 0.43$ , the rate of regularly daily exercise was increased from 45.0% to 85.0%, the number of ideal body fat percentage rose from 10% to 25%, and waistline decreased from  $88.3 \pm 10.9$  cm to  $84.5 \pm 11.9$  cm. But the attitude and practicing behavior of diet control were not significantly improved.

### Conclusions

The Go Go DIY project was identified successfully effective on the participants. Changing diet control behavior, regularly daily exercise and actively monitoring process were three significant intervenient approaches. As a result, the parameters of health promotion could be identified through regular exercise and diet control.

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## Organization of Lifestyle Groups in Northern Ostrobothnia Hospital District

### JÄRVI Leea, PIIPPO Terttu

### Introduction

Obesity is a major health problem in Finland. In 2007, 70% and 57% of 25- to 74-year-old Finnish men and women, respectively, were either overweight or obese. The Finnish Medical Society recommends group activity as the primary method for conservative treatment of obesity in adults. Conservative

treatment of obesity needs to be developed in Northern Ostrobothnia Hospital District, with group activity in particular needs of a new approach.

#### Purpose/Methods

A regional expert group was compiled to oversee organization of group activities in Northern Ostrobothnia. Work was launched with brainstorming to envisage the ideal situation and identify ways to achieve it. Objectives: \*Collect information on life-style groups in the Hospital District and their practices \*Identify group leaders' training and supervision needs \*Build a regional group leader network \*Select a pilot area for interventions The pilot intervention will commence in early 2012 in the Helmi Social and Health Services District.

#### Results

As a result, joining life-style groups becomes easier in future. Customers can choose suitable group from a hospital website and contact a nurse for advice. The nurse evaluates their motivation and change in phase and determines the best time to join a group. Group activities are supported by a network of counsellors. Group leaders will also get support from their supervisor and colleagues, and receive training and supervision whenever needed. The network uses various communication channels, including social media.

#### Conclusions

Organization of Lifestyle Groups enables consistent operation and facilitates health care professionals' practical work.

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## Community Empowering Programs for Weight Reducing

**YEH Hsueh Ping, WU Meng-Ping, HO  
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#### Introduction

Obesity is a medical condition in which excess body fat has accumulated to the extent that it may have an adverse effect on health, leading to reduced life expectancy and/or increased health problems. Dieting and physical exercise are the main-stays of treatment for obesity. The hospital's approach to Health construction involved in community and workplace. Strengthen staff and the public perception and attention of ideal body weight, eventually practicing health behavior maintained ideal bodyweight in daily life.

#### Purpose/Methods

The purpose of this program is trying to make a protocol to empower not only staffs of the hospital but also the community residents to reduce weights. We set up a multi-disciplinary team to provide various activities by contacting people with

posters, brochures, telephones and e-mails continuously. We hold attractive classes and activities to teach participants how to eat and control weight healthy. Furthermore, nurses have also kept following up bodyweight changes of participants by telephone regularly.

#### Results

Comparing the body weight reduction outcome of the program in 2010 which has 942 participants with total subtraction of 1079kg, a total of 1696 participants with 3957kg weight reduction is noted in this year. The total amount of weight reduction has significant improvement. Because multi-disciplinary interventions, good atmosphere and facilities for exercise and continuously monitoring strategy are provided, this program makes good progress on keeping body weight management and well body weight reduction outcome.

#### Conclusions

To empower staffs and community residents to keep proper weight, health workers should provide not only lectures, posters or brochures but also continuously keeping an eye on participants. Besides, establish a good atmosphere and environment for better accessibility of participants is also the key point. Health workers should use hospital and community resources to build community service networks so that people could receive more accessible, convenient and humanized healthy service to manage their health.

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## School weight control for promoting

**LEE Chia-jung**

#### Introduction

In light of a survey conducted in 2005 by Department of Education in Taiwan, 14.9 % of 6-12 year old students were overweighted; 10.3%, obese. Current studies indicated that unhealthy diet and insufficient exercises were identified as two key factors. Therefore, we developed a school health promotion program which was incorporated with healthy diet and multidimensional sports, and then evaluate its effectiveness in the development of childhood and youth healthy lifestyle.

#### Purpose/Methods

70 children participated in this program; 28 from primary schools and 42 from junior high schools. We conducted a questionnaire survey regarding health knowledge, diet and lifestyle. The program lasted for 8 weeks, 14 courses in total. The program included healthy diet and exercise through group discussion and practices. Healthy diet promotion was facilitated with utilization of Health Fitness Diary with food exchange table, dietary recording and nutrition knowledge. Ball and fun games were incorporated into the program.



### Results

These participant students had basic healthy dietary knowledge but their behaviors were determined by their preferences. They got used to sedentary lifestyle such as watching TV and going on internet. After the intervention, the average weight of the participants decreased from 67.07 kg to 65.84 kg. The children had the habit of using Healthy Fitness Diary and can adjust their unhealthy behaviors any time. The average amount of time to exercise increased from 1.5 to 3 times per week.

### Conclusions

This multi-dimensional intervention by the inter-sectoral team can effectively promote childhood and youth healthy diet and exercise so as to promote their health. In addition, we shall involve parents in this kind of school health promotion program because they are the key people who make food choices or lifestyles for children and the youth.

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## Healthy Diet Promotion in Business Community

**CHENG Chien-Hui, CHENG Chin-Pao,  
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### Introduction

The main characteristics of metabolic syndrome include insulin resistance, hypertension, and dyslipidemia, which promote the development of cardiovascular diseases and type 2 Diabetes. A lifestyle intervention based on general recommendations was effective in preventing metabolic syndrome. Based on the data collected from construction company health checkup in National Taiwan University Hospital (Number=182, 2011 April), the rate of metabolism syndrome and hypercholesterolemia was 11% and 47.8%, individually. Due to high rate of dyslipidemia, nutritional intervention was implemented in this construction company.

### Purpose/Methods

82 hyperlipidemia subjects without medication and attending 2011 health checkups in NTUH, were recruited from this construction company. Individual nutrition consultation and four monthly nutrition lectures were provided. The topics for lectures were diet for stress management, metabolism syndrome, fatty liver, and inflammation. Furthermore, 28 subjects made an appointment with registered dietitian for individual dietary modification. The dietary modification included Mediterranean-style diet, increase in daily consumption of whole grains, fruits, vegetables, and nuts, and decrease in saturated fat.

### Results

Most subjects were satisfied with the whole programs. Overall satisfaction rate was 98%~100%. 98%~100% subjects agreed

that these recommendations were very useful in daily-life practice. 96~100% of subjects were satisfied with the speaker. Based on data collected from subjects having second blood draw, 10 subjects had significantly reduced serum concentrations of cholesterol (mean=188.6) after nutritional intervention. The rest 18 subjects were pending for the result from the second serum biochemistry tests.

### Conclusions

This is a continuing program. The second year health checkup will be done in May 2012. As we can see, subjects will gain more benefit in the future after nutritional intervention. The rate of metabolism syndrome will be decreased in this business community.

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## The development of health promoting community setting through community-based weight loss programs

**SHIH Kuei-Mei, FAN Chun-Mei, WANG Wei-Jie, CHENG Pi-Wei, HSU Yuan Nian, HSU Jin-Chyr**

### Introduction

We have been implementing weight loss programs within the hospital since 2004. However, low participation was identified as a major factor of the limited impact of weight loss programs. In addition, the development of health promoting community setting is also a major task for a HPH. Therefore, in 2011 we started holding community weight loss in the community to enhance the accessibility of the community so as to develop healthy lifestyle and lose weight.

### Purpose/Methods

The purpose of this study is to evaluate the effectiveness of the community-based weight loss program. We collected pre-and-post-test data. The program was lasted for 8 weeks, involving diet and exercise seminar and hiking activities on weekends.

### Results

Forty people participated in the program. 3 participants were male and 36 participants were female. 64.1 % of participants were aged 40 to 49 years old. The result showed that there was a statistically significant reduction in weight, BMI and body fat. The average weight decreased from 69.34±15.29 kg to 66.22±14.68 kg; BMI from 26.76±4.91 kg/m<sup>2</sup> to 25.55±4.68 kg/m<sup>2</sup>; body fat from 36.25±7.03% to 34.40±6.90%; waist circumference from 88.83±11.31cm to 84.77±11.62 cm.

### Conclusions

This study demonstrated the effectiveness of the community-based weight loss program. It concluded that the design of health promotion programs should take access into consideration and link with the development of health promoting community settings.

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## Effect of a Community-Based Weight Management Program on Weight Loss in Taiwan

**CHENG Shu-Li, HUANG Hsin-Te, KU Yu-Chi**

### Introduction

Being overweight or obese may harm one's health in many ways. The prevalence and problem of obesity has increased significantly and has become an important public health issue in Taiwan. Exercise can reverse the diseases caused by decreased mobility. The program was to develop lifestyle behaviors that encourage an increase in caloric expenditure while decreasing caloric intake and was designed to promote motivation, healthy eating and physical exercise et al., for healthy weight loss.

### Purpose/Methods

The purpose of this study aimed to explore the effects of weight management program for general population. One-group pretest-posttest design was used. Participants were recruited from 3 facilities, there were 41 subjects (29 women, 12 men) completing the program in Taiwan. Inclusion criteria: (1) age between 18 and 65 years; (2) BMI  $\geq 24$  kg/m<sup>2</sup>. Exclusion criteria: pregnant. This study for weight loss success is defined as: weight loss of 3%. The pair-t test was used to analyze the data.

### Results

1.The average age of participants were 42.12 years. The mean of body weight, body mass index, and waist circumference were 71.23 $\pm$ 10.70, 27.13 $\pm$ 2.88, and 87.62 $\pm$ 9.36, respectively. 2.The weight management program exhibited significantly differences in body weight ( $p=.00$ ), body mass index ( $p=.00$ ), and waist circumference ( $p=.00$ ). 3.The short-term success rate of weight loss was 46.3%, for both men and women were 25% and 55%, respectively, which showed that the program is more effective in women than men.

### Conclusions

The prevention of obesity has now become a task of great urgency and necessity in Taiwan. The weight management program is an effective intervention which demonstrated the improvement of body weight, body mass index, and waist circumference. Our weight management team is a multidiscipline including: nutritionists, physicians, nurses, psychologists, occupational therapists, and pharmacists, which are based on

hospital professional staff. Consequently, more evidence-based studies with randomized design, a large sample size, and long-term behaviors assessment are needed.

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## Effects on Using Self-regulation Theory for Weight Control

**TSAI Ming-Tsu, ZHENG Ya-Juan, CHEN Shu-Yin, LIN Chi-Hsuan, SHEN His-Che**

### Introduction

WHO stated that obesity is a worldwide disease. In Taiwan, the prevalence rate of obesity in adults is about 44.1%. Among the ten leading causes of death, seven causes were related with obesity. Obesity is an important issue for public health and chronic disease prevention.

### Purpose/Methods

This program taught participants how to apply self-regulation theory for weight control. The change of body weight was recorded for comparison before and after intervention.

### Results

A total 651 participants were recruited in the study from April to September 2011. There were 69.4% female with average age 47.3 years old. The results showed that body weight, body mass index and waist circumference were significantly decreased ( $p < .05$ ) in 448 participants.

### Conclusions

This study applied self-regulation theory for body weight control. Participants learned how to solve their problem of gaining weight. By integration of information and past experience, they can effectively manage their body weight. The short term effect of this program is promising but need more time to observe the long term effect.

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## The sharing experience of Promotion of rural-base community health -- focus on housewives

**CHI-HSIANG HSU, YU-MEI CHEN**



### Introduction

Bureau of Health Promotion of Taiwan found the people of rural counties based overweight and obesity rates than urban areas seriously. Obesity and cardiovascular diseases are closely related. Research found that people with large waists have a greater risk of death than others with normal waist measurements - nearly double. The concept of the rural-based housewives on health and cooking skill are affecting the whole family health deeply, and that promoting healthy behavior of housewives creates healthy families.

### Purpose/Methods

Hospitals health promoters and community volunteers together to discuss needs of housewife and develop health promotion policies -- diet and aerobics exercise for promotion and intervention of two methods. Program contents including lecture of nutritionists and coaches designed aerobics exercise. Implementation modalities of the "fixed timing and location daily" are creating a supportive environment. Activities lasted for three months, and measure "reduce waist circumference score" for assessment activities. We redesign learning course for improve efficiency in the second year.

### Results

First year, total of 42 housewives invited to join project and the 26 who completed a full course (61.9%). The total decline in waist circumference is 62cm, dropped by an average of 2.38cm per person. Second year, total of 56 housewives invited to join project and the 35 who completed a full course (62.5%). The total decline in waist circumference is 186 cm, dropped by an average of 5.47cm per person.

### Conclusions

Each year, that have one-third of participants out of competition, show sustained exercise and learning lecture is really not easy to do. In the second year, we redesign and add successful participants in the first year to join the teaching course and let housewives learning self-motivation, found better display the effect of reducing waist circumference.

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## The Study of Healthy Weight Programs by Health Promoting Hospital

### TA-CHUAN Hung, CHING-YAO Wei

### Introduction

This program, for the purpose of self-weight management and integrating diverse promotion, is to evaluate the results of weight loss provided by Health Promoting Hospital and to establish various Healthy Weight Programs for different groups.

### Purpose/Methods

We recorded health status of three groups that were staff, patients, and community dwellers. We also provided classes such as self-health management manual, Health Day activities, weight loss experience, health guidance and body detection for 2-3 months. We wanted to understand the relation between the results and variables. Also, Pearson correlation coefficient and Analysis of variance were used to discuss the relation among the variables.

### Results

1789 participants, average age  $43.74 \pm 12.10$  years old, accepted this program. The results of weight loss showed a great difference ( $F=49.924$ ,  $p<.000$ ) in these groups, and patient group lost weight the most, up to 2.21 units. Staff group had significant correlation between weight loss and gender ( $r=-.225$ ,  $p<.000$ ). Patient group had significant correlation between age ( $r=-.305$ ,  $p<.000$ ) and gender ( $r=-.211$ ,  $p<.000$ ), but no apparent change in community dwellers.

### Conclusions

Age and gender of different groups affect weight-reducing result. Therefore, when hospital promotes Healthy Weight Programs, further consideration based on participants' conditions is necessary for devising appropriate program that makes people put into practice in daily life.

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## The Efficacy of the Weight Management Program: The Experience at Cheng-Hsin General Hospital in Taipei, Taiwan

### LI Kuan-Fu, CHIU Liang, CHIEN Wu-Hsiung, CHEN Hui-Chuan, YANG Mei-Chu, TUNG Tao-Hsin, LIU Jorn-Hon

### Introduction

The obesity could be controlled and prevented effectively by the change of life style and behavior. The 「Health 100, Taiwan activate」 program is established by the government in 2011 in Taiwan. Six hundred thousand people involved and six hundred metric tons of weight reductions are expected via diet control and regular exercise. Our institute also actively participated this program to promote the goal of weight loss.

### Purpose/Methods

The duration of weight management program was eight weeks. The time of health education by doctor of family medicine, Chinese traditional medicine, nutrition education by dietician, and aerobic exercise were one hour, one hour, two hours, and

eight hours, respectively. The inclusive criteria included age ranged 20-69 year-old, BMI  $\geq 2$  kg/m<sup>2</sup>, absence from lesson  $\leq 5\%$ , and attended at least one lesson last two week. The outcome evaluation included body weight, waist circumference and BMI.

### Results

There were fifty-two eligible subjects participated the program between December 2010 and October 2011. The mean age was  $48.4 \pm 13.0$  years. The results showed that body weight loss were  $3.57 \pm 2.31$  kg ( $p < 0.0001$ ). The subjects achieved from 4 to 8 kg decrement and 5% decrement of original weight were 21(40.3%) and 24(46.1%). Waist circumference decrement were  $6.0 \pm 4.5$  cm ( $p < 0.0001$ ). Twelve people(23.1%) reduced the waist circumference to normal range. In addition, BMI decrement were  $1.3 \pm 0.9$  kg/m<sup>2</sup> ( $p < 0.0001$ ).

### Conclusions

After an eight-week intervention, there were significant reduction in body weight, waist circumference and BMI. This weight management program was apparently effective if the participants well cooperated. We will closely follow the subjects and encourage them transfer the knowledge of lifestyle modification into real life.

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## Outcome Evaluation of Community-based Healthy Life Program

**WANG Yi-Min, HUANG Yu-Chin, YANG Xue-hua**

### Introduction

Taipei is the capital of Taiwan. It meets the development trend of international healthy city promoted by WHO. After years of hard work, Department of Health of Taipei City Government has achieved remarkable results in "Community-based Healthy Life Program". Uniqueness of each community, however, is often ignored when evaluating outcome against single criterion. Thus, we adopted multi-dimensional criteria to discuss community improvements after 3 months of health promotion efforts.

### Purpose/Methods

Communities include 21 healthy communities, 15 vital communities, 4 community health centers and 6 exploratory communities. 6 groups were formed based on their administrative districts. Each group held a monthly consultation meeting. Residents of exploratory communities participated in the meeting at least once, while others took part in the meeting at least twice. The outcome of each community was evaluated based on indicators proposed by Kegler et al.'s (2000) ecological perspective on community health building, including individual,

public participation, organizational, inter-organizational and community.

### Results

This study only presented analysis results of one group. In individual level, Jing-dong and Ming-xing Community organized events for specific targets. Zhang-qing Community had highest level of public participation. In terms of founding health building organizations, all communities were well on track except for Jing-dong Community. Jing-dong was the best example of using external resource. Hua-jiang and Jing-dong Community were highly integrated probably because events that had taken place in the 2 communities made residents to unite.

### Conclusions

Outcomes of community health building are multi-dimensional. Thus, multiple indicators are necessary during evaluation to give consideration to uniqueness of each community. When intervening, health agencies should understand specific needs of each community and allocate resources accordingly.

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## Influence of Community-based Healthy Life Program on Quality of Life of Community Residents

**WANG Yi-min, NA Shan-shan, YANG Xue-hua**

### Introduction

Moving toward a healthy city is a new trend among international cities. Taipei is the capital of Taiwan. It meets the development trend of international healthy city promoted by WHO. After years of hard work, Department of Health of Taipei City Government has achieved remarkable results in "Community-based Healthy Life Program". The purpose of this research is to examine in what way the program improves the health of community residents.

### Purpose/Methods

The research design was a pretest-post-test design. Community residents who participated in 2008 "Community-based Healthy Life Program" were recruited from 21 healthy communities, 15 vital communities, 4 community health centers and 6 exploratory communities. 10 residents from each community were selected randomly to answer Quality of Life Questionnaire of WHO during the period of July to October 2008.

### Results

Health-related quality of life contains 4 dimensions: mental health, physical health, social relations and environment. Post-test variables were dependent variables. After controlling pretest variables, regression analysis was performed to com-



pare group differences. Result of post-test of mental health and environment was subject to that of pretest but showed no group differences. Result of pretest of physical health and social relations and group differences influenced result of post-test.

### Conclusions

Community-based Healthy Life Program improves physical health of the public and social relations but has little positive influence on mental health and environment.

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## The effect of promoting health community building by training community volunteer~ Taiwan experience

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### Introduction

Gandau community has a population of 10,964, and 13.3% of them are above 65 years old, making Gandau an elderly community with an aging index of 101%. Gandau hospital is a community hospital with 374 beds.

### Purpose/Methods

We aim for building a community hospital without barrier, and we hope that by training the healthy community volunteers, we can encourage the people to participate actively, and to form a community network and social support to promote health and to create a healthy life. We adopt the Ottawa charter as our invasive strategy, and trained 42 volunteers in 2006. We empower them, and encourage them to actively participate in society. With the lead of community nurse, they participate in the promotion of health related issue, visitation of lonely elders, safety check of living environment and assist the running of elder care center.

### Results

From 2006 to 2011, the number of the volunteers remains 48 people. Retirement rate is lower than 10 %. The oldest among them is 72 years old, while the youngest is 38 years old, the average age of them is 55 years old. The hours they spend on volunteer work is an average 16~20 hours per month per person. They participated in altogether 212 health related promotion seminars, and the participants of the seminars reached 11001 people. From 2006 to 2010, the volunteers were invited 28 times for consultation of the establishing of the care center. According to the 2011 satisfactory survey using Likert scale, the top three satisfactory factors are 1. The volunteers become friends (4.27±0.52) 2. The volunteers share the same goal (4.23±0.50), and 3. The elders recognize the devotion

of the volunteers (4.20±0.55) . With the hard work of the volunteers, Gandau community is recognized as a health promoting community by Bureau of health promotion in 2010, and in 2011, it is awarded as one of the best community by Bureau of health promotion and receive the SNQ( Symbol of national Quality) award.

### Conclusions

Therefore, developing health community volunteer not only can help promote health community project, making it a continually and thoroughly plan, it can also directly or indirectly affect the volunteer themselves, their family and friends, giving them correct health knowledge, attitude and behavior, thus a healthy life style.

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## Session P2.2: Health promotion for children and adolescents in the community and the population

### Family-involved Interventions to Effect Children Physical Activity: A Systematic Review of Controlled Trials

**LIN Wang-Bi, FANG Yueh-Yen**

### Introduction

The family environment is the most important key for children health behavior and for promoting physical activity (PA), but it is still vague which methods for involving families are effective.

### Purpose/Methods

In children of 3-13 years, are family-involved interventions that integrate nutrition, activity, and behavioral components more efficacious than any type of comparison group in improving body composition or activity level? Literature searches were conducted (in PubMed, ERIC, CINAL, Evidence-Based Nursing, ProQuest Nursing & Allied Health source, and PsychInfo) databases as well as hand searching from January 2009 to February 2010.

### Results

Four family-based studies were included in the review. The methodological quality of studies was Level IA by the John Hopkins Nursing Evidence-Based Practice Rating Scale (JHNEBP), were high methodological quality. Significant positive effects on PA were observed for all family-involved studies, but all concluded that the evidence was limited, although the potential of

family-involved interventions delivered in the home and including self-monitoring was highlighted.

### Conclusions

A lack of high quality evaluations hampers conclusions concerning effectiveness, especially among children, because of the heterogeneity of research design, research quality, and outcome measures used. Based on the ecological model, further detailed research is needed to identify key approaches for increasing children's PA levels in parent setting.

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## Combining Parent and Child Training for Preschoolers with ADHD

**YANG Meng-Ju, TSENG Chang-Chang**

### Introduction

The Early Intervention Center of NTUH is the most outstanding one in Taiwan, devoted to the health promotion for preschoolers. Preschoolers with ADHD symptoms are receiving services in this center, provided by a team consisting of attending physicians, physical therapists, occupational therapists, speech language pathologists, clinical psychologists, and social workers. Unlike other therapists, focusing only on the intervention for the children, clinical psychologists emphasize combining the intervention with parenting training.

### Purpose/Methods

We implemented a 6-session behavioral training for ADHD preschoolers and their parents. The training includes enhancing the motivation for delayed satisfaction and implementing the reward or response-cost contingencies. Their parents were encouraged to practice aforementioned principles and skills both in the therapeutic room and the daily life and to implement a token system at home.

### Results

We have completed 6 cases in this program. Based on our observation and parents' reports, these ADHD preschoolers showed positive behavior changes and their parents implemented more praise, concrete instructions, coaching, and immediate feedback to children's behavior. The conflict between parents and children was reduced. The occupational therapists training these children in a group therapy at the same time also observed that in addition to children's improvement, parenting and supervision of their parents were also notably improved.

### Conclusions

Combining parent and child training indeed meets the needs of most ADHD children. An ideal approach to treatment may involve the initial implementation of behavioral training methods at home. Parenting is always a key component of intervention and is definitely indispensable.

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## Does prevention of allergic sensitization decrease the risk of attention deficit hyperactivity disorder ?

**WANG I-Jen, LIAW Wei-Hwa, HSIAO Chi-Feng**

### Introduction

The increase in prevalence of allergic diseases has been matched by parallel trends in an increase in attention deficit hyperactivity disorder (ADHD). However, previous studies concerning a relationship between ADHD and allergic diseases are inconsistent. If hypersensitivity to allergens contributes to the development of ADHD, the prevention and treatment of ADHD will have to be reconsidered, thereby improving the care quality for these children.

### Purpose/Methods

We evaluated the relationship between allergic diseases and allergic sensitizations with ADHD in children. We conducted a cross section survey to investigate children selected from kindergartens in Taipei. Skin prick tests for mite, cockroach, dog, milk, egg, and crab allergens were performed. Information about allergic diseases, environmental exposures, and parental reported of physician-diagnosed ADHD by questionnaire were collected. Multiple logistic regressions were performed to estimate the association between allergic diseases with the development of ADHD after adjusting for potential confounders.

### Results

A total of 2772 children were eligible for analysis. There were 411(14.8%) children with eczema, 954(34.4%) with allergic rhinitis (AR), 451(16.3%) with asthma, and 25 (1.0%) with ADHD. Mite sensitization showed a borderline increased risk of ADHD ( $p=0.07$ ), while other allergens revealed no association. Children with allergic eczema, asthma, and hay fever were at increased risk for ADHD with adjusted OR(95%CI) of 4.50(1.28-15.86), 3.65(1.07-12.49), and 12.59(1.44-109.97). However, no significant association was observed regarding AR, allergic conjunctivitis, and food allergy.

### Conclusions

Our results suggest that children with allergic eczema, asthma, and hay fever are at increased risk for ADHD. Since allergic sensitization is important for the development of allergic diseases, early prevention of allergic sensitization may be beneficial for children at risk of ADHD and may reduce the burden of ADHD thereafter.

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## Influence of health education on school children's oral health knowledge, attitude, self-efficacy, significant other's attitude and oral hygiene practices

**LEE YA-LING**

### Introduction

The research aimed to evaluate oral health promotion programs by examining how an educational intervention improved school children's dental health knowledge, attitude and hygienic practices.

### Purpose/Methods

In this quantitative research, data was collected from pretest-posttest surveys.

### Results

Analysis and comparison of the pretest and post-test data showed significant improvements of oral health knowledge, self-efficacy and hygienic practices among school children after receiving oral health education ( $p < 0.001$ ).

### Conclusions

After educational intervention, oral health knowledge, self-efficacy and oral hygienic practices among school children have significantly improved. They scored much better in the post-test. Intervention of dental health education proved effective.

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## Green week in stable. The first summer camp for children of HPH & HS network in Friuli Venezia Giulia, Italy

**SANSON Sara, BRANA Marina, CROCI Eleonora, ZORATTI Raffaele, PUGLIESE Rita, DE PONTE Giovanna, MAGGIORE Adele**

### Introduction

The Health Service No.1 Triestina in 2009 became part of HPH & HS network. The strategic actions include: building healthy public policy, creating supportive environments, strengthening community action, developing personal skills and reorienting health and social services. WHO defines health as a state of physical, mental and social wellness, not consistent only in absence of disease. On the basis of these principles, our Company is realizing health promotion activities in collaboration with other agencies and institutions, including a sperimental summer camp in collaboration with Equilandia Aia trieste, an Amateur Sporting no profit Association.

### Purpose/Methods

Our summer camp for children aged 6-14 years lasted two weeks. In each session, lasting one week, was expected to attend 20 children, including 2 with disabilities. We realized recreational and educational activities characterized by strong health promotion, using new setting with the aim to act positively on life skills. In addition, this project aimed to satisfy the need of knowledge of non-disabled children about physical and mental disabilities, giving them the right tools for a correct social interaction.

### Results

On the last day of each session was given to parents a satisfaction questionnaire. Parents overall satisfied with activities realized were 95%. Parents have really appreciated respect for diversity of each. The activities most appreciated by children were those pertaining to the management and handling of animals, horses and dogs.

### Conclusions

The trial has allowed us to define the real feasibility of the project. For next summer we are organizing a summer camp in collaboration with other agencies and institutions that promote health in the area. Its duration will be extended to the whole summer period, to cover the closure of schools. On that occasion, in collaboration with University of Trieste, we will evaluate a set of performance indicators in terms of health gain for children and families.

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## Model of Mental Health Promotion for School Children

**CHUNG Ming-Shun, CHIU Hsien-Jane, SUN Wen-Jung, LIN Chieh-Nan, KUO Chien-Cheng, CHENG Hui-Ping**

### Introduction

Suicide is the fourth leading cause of death among 10- to 14-year-olds for 2009 and 2010 in Taiwan. The rate of completed

suicides by 10- to 14-year-olds was 0.004%; with rapid growth, it was 0.037% by 15-to-19-year-olds. Moreover, the standardized mortality rate for suicide in 15-to-19-year-old Taiwan adolescents increased rapidly from 2.0 per 100,000 in 2000 to 3.7 per 100,000 in 2009. The issue for adolescent suicide and mental health promotion is quite critical in Taiwan.

#### Purpose/Methods

The aim of this study is to set up a model of mental health promotion for the school students and find the risk factors for suicide risk. Mental health workers in mental hospital collaborate with local health center and local schools to set up a system including education, screening, consultation and referral for promoting the mental health and preventing suicide behavior. Multiple logistic regression with forward conditional was used to find the risk factors for multi-variables analysis.

#### Results

1104 students (grades 5-9) filled the screening test for suicide risk. 269 (24.4%) students in risk group were referred to the teachers and counselors for follow-up. Cases with psychiatric disorders were referred to the local health center for psychiatric service. Female, age, poor academic performance, poor sibling relationship, poor relationships with classmate, change of economic status, loss of friends, frequency of quarrelling between parents, frequency of quarrelling with parents, divorce of parents and no habit for exercise were risk factors.

#### Conclusions

This integrated mental health promotion is quite helpful to the promotion of students in the school. Mental health promoting hospital, local health center and schools are all important parts of this project. A standardized tool for screening, backup systems and systemic referral are crucial for the process. This kind of model can be beneficial to the health of students, the service of the hospital and the research for mental health.

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### Team Health Promotion Services for the Students with Special Needs.

**LEE Wei-Keung, HSU Jin-Chyr, HSU Yuan-Nian**

#### Introduction

School-based services for the students with special needs is supported by the Special Education Act in Taiwan. One of the main purpose of this act is to provide health promotion concept to teachers who interact with students in class by the arranged curriculum and the parents who carry out the plan in the home.

#### Purpose/Methods

This research aims at examining and exploring the service models and issues of the professional taskforce (physical therapist, occupational therapist, speech therapist, social worker and psychologist) providing volunteer services at school sites for the mentally and physically disabled students. Research data were collected via 3 focus group meetings which invited 5 types of professional teams to share their experience which was record in detail. This result was focused in the health promoted concept to teachers and parents.

#### Results

The team members provided varieties of professional services, which both school teachers and parents were profoundly benefited from their expertise. The teamwork and collaboration between the medical team members and the school teachers had yet to be reinforced. The increasing of service hours had emerged as a pressing issue to be resolved. In addition, some flexibility did need to be reserved when scheduling service roster. Online system was demanded to facilitate communication and information sharing.

#### Conclusions

Reporting and communication channels needed to be established for better serving the students in need in an efficiently structured environment.

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### Collaboration between School, Community and Hospital to Promote Healthy Vision in Teenagers in a Taipei Municipal Junior High School

**CHEN Li-Ju, YU Jy-Haw, LIAO Chia-Ching, HO Chung-Yuan, LIN May-Jen, CHEN Ran-Chou**

#### Introduction

Myopia is a serious public health concern in Taiwan. Over 70% of students in Taiwan became myopic during their school years. The average myopic progression rate was fastest in students in junior high school and it was greater in urban areas than that in rural areas. As a health promoting hospital, school-hospital partnership was built between our hospital and a Taipei municipal junior high school located in our community for implementation and evaluation of teenagers' vision care program.

#### Purpose/Methods

We explored a preliminary program between school, community and hospital aiming to slow down myopic progression. The program included: (1) annual vision screening with referral services; (2) instruction of ocular health to students, teachers



and parents by ophthalmologists; (3) participation of teachers, parents and classroom scouts as active facilitators in monitoring and encouraging students on vision care, physical exercise, and nutrition; (4) daily eye relaxation exercise; (5) elaboration of the importance of vision care through local media.

### Results

The program was conducted from April 2010 to April 2011. A total of 1001 students were enrolled with an average age of 14.1 years old in 2011. The average myopic progression rate in our metropolitan student cohort was 0.40 diopters/year, which was lower than that of the same age group from the nationwide data (0.75~1.0 diopters/year). After 1 year of collaboration, consensus formed a bond between school, community and hospital to promote healthy vision in teenagers.

### Conclusions

Our results showed that a pragmatic and innovative approach to combine efforts of school, community and hospital to promote healthy vision in teenagers in Taiwan was effective. Future studies are needed to validate long-term results of the program.

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## Community partnership related to healthy examination of elementary and junior high school at Chiayi County

**CHEN Yi-Cheng, WU Shao-Pai, CHANG Tsui-Ming**

### Introduction

The dramatic rise in childhood overweight in recent years has sparked numerous research studies that have examined the consequences of overweight at young ages on health and socioeconomic outcomes in adulthood. A number of studies have also examined health consequences in childhood and adolescence, in particular, psychological outcomes such as self-esteem and depression. Less is known, however, about how childhood overweight might affect children's school outcomes. Thereby preventing them from learning in school. This psychosocial aspect has been emphasized in the literature. In addition, health problems may increase sick days, leading to missed classes or tardiness, and subsequently affect school performance. The student healthy examination as a comprehensive health screening. Through health examination, we can understand the student's health status, physical defects and disease patterns.

### Purpose/Methods

The purpose of this study was to understand the implementation of national primary and secondary school student health examination situation and related factors of 2009-2011 in

Chiayi County elementary and junior high School health checks for the study, the final total of 492,630 available samples, research purposes was: 1. analysis of student health examination results Chiayi County. 2. Compared to Chiayi County school students' health status. 3. Analysis and comparison of 2009-2011, the students in the health situation of Chiayi County.

### Results

After compiling statistic analysis, the significant findings of the study include: 1. In terms of the preparation of student health examination in elementary schools, the best performance was "schools should truly prepare the related data such as body-height, body-weight, vision as references for doctor before the examination," 2. All students in the overweight position 12.23%, 10.71% for the position of obesity; vision-impaired persons, male 46.15%; female 47.20%; all the rate of caries was 41.7%, 40.6% of whom were male, female 43.1%.

### Conclusions

Based on the results of body weight too heavy, the rate of poor eyesight, the rate of caries, can be used as school health promotion issues for the direction of reference. The health checks of tender should be pre-recorded to facilitate the schools at all levels to complete before the start of the schedule and check related operations; to encourage students to accept the testicles and genital examination to increase screening rates.

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## Exploring the Attitude, Subjective Norm, Perceived Behavioral Control and Intent of Substance Use of Late Adolescents in Taiwan Rural Area

**HUANG Ying-Chia, HO Ching-Sung, HUANG Chien-Wei**

### Introduction

The abusers adopt the legal addictive substance in their adolescence and then the illicit substance later in their adulthood. These illicit addictive substances not only hurt them physically and psychologically, but also induce delinquency. Most of studies focused on the urban adolescents, but less on the rural ones. This study explored how the key factors, such as Substance Use Attitude(SUA), Subjective Norm(SN) and Perceived Behavioral Control(PBC) influence the substance use intent(UI) of late adolescents in Taiwan rural area.

### Purpose/Methods

We selected students from Yunlin, a rural county in central Taiwan. By stratified random cluster sampling and self-administration questionnaires, we collected 2407 copies of effective questionnaires, 1237 of tenth grade and 1170 of 11th

grade. Then treating the data by RIDIT analysis, we corrected the Likert scale items as cumulative probability scores and then run SEM (structural equation model) on AMOS for testing the original model based on the theory of planned behavior and theory of innovation diffusion.

### Results

The result modified the original TPB model, and revealed that Substance Use Attitude (SUA) and Perceived Behavioral Control (PBC) have direct effect on Use Intent, but Subjective Norm (SN) not. SN influence SUA and PBC directly, and SUA correlated with PBC significantly. All the criteria of model fit are within good range. SUA contributed 78% of variance of Relative Advantage, SN contributed 63% of variance of Primary Group, PBC contributed 63% of variance of Self-Efficacy, and UI explained 64% of Smoking Intent.

### Conclusions

If we want to prevent the rural adolescents to use the addictive substances, we should avoid they flaunt their smoking or other substance using in their peer group, and should encourage them to seek alternate ways to eliminate stress or boring. More tailored prevention education should be designed for the family and the school, especially those in the high drug/tobacco consumption area. Group consultation for those who are seduced by the substances maybe promote their self-efficacy to resist the lures.

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## Nutritional Status of Albanian Children

**QIRJAKO Gentiana, ZAZO Alketa,  
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### Introduction

During the past two decades, the Albanian society has undergone rapid demographic and socioeconomic changes. Despite the economic growth records in the country, the nutrition of a considerable part of the population remains below the optimal values. The aim of our study was to assess the current situation of maternal and child health nutrition in Albania, with a main focus on children under 5 years of age

### Purpose/Methods

A cross-sectional study was conducted in 2010 in four districts of Albania, including 483 mothers and 421 children. A structured questionnaire was administrated including information about socio-demographic characteristics, breastfeeding practices, prenatal care, access to health services, as well as anthropometric data of children

### Results

Only 3.9% of mothers from urban areas and 1.7% from rural areas had not breastfed the last child. The amount of fruits and meat in the diet of children from northern areas of Albania was smaller compared with that of children from central and southern parts of Albania ( $P=0.006$ ). In the well-baby clinics, 94% of mothers were provided with counseling services about immunization of their children, and 80% of mothers were provided with counseling services for breastfeeding practices.

### Conclusions

Our findings indicate that healthy nutrition remains an important problem for mother and child health care services in Albania, particularly in rural areas, where socioeconomic conditions are unfavorable. Along with other measures, actions should be undertaken in Albania in order to change mothers' behaviors with regard to nutritional practices of their children.

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## Health promotion healthcare and reduction of child malnutrition and mortality in Swaziland: A case of Good Shepherd Hospital

**MASUKU-MASEKO Sakhile K. S, OWAGA Eddy**

### Introduction

Malnutrition is a major confounding factor for child morbidity and mortality in developing countries. In Swaziland, about 31% of the under-five children are stunted in growth, whereas 1% and 6% are wasted and underweight, respectively. Lubombo region has the highest cases of under-five mortality rate (deaths per 1,000 live births) of 115 when compared to rates in other regions other regions, namely; Manzini (112), Shiselweni (100) and Hhohho (96). Health Promotion Healthcare (HPH) is becoming an integral part of health care process globally. Good Shepherd Hospital (GSH) is the sole referral hospital responsible for the health care of the Lubombo region. There is need for GSH to consider the HPH approach towards reduction of the child malnutrition and mortality in the region.

### Purpose/Methods

This paper presents an in-depth analysis of the available evidence on the causal factors of childhood malnutrition and mortality in Swaziland. It further reports on potential HPH strategies that could be adopted by GSH in order to address the specific determinants of malnutrition and mortality in Lubombo region.



## Results

The identified determinants of childhood malnutrition and mortality that can be addressed by GSH through the HPH can be categorized into three levels: (a) immediate causes (inadequate dietary intake; diseases such as pneumonia, diarrhoea and HIV/AIDS), (b) underlying causes (inadequate care of children and women, insufficient access to potable water sources and improved sanitation), and (c) basic causes (inadequate mothers' nutrition knowledge). The HPH actions include disease management, rehabilitation, home care, advocacy, research and training.

## Conclusions

HPH programme could make potential contributions in reduction of child malnutrition and mortality in Swaziland. However, GSH needs a multi-dimensional strategy and network with the partners in areas of interest.

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## The effects of workplace stress, parental stress, and marital adjustment on prenatal depression and anxiety.

**CHUANG Kai-Wen, HUANG Jian-Pei, CHEN Ping-Ling, LIAO Chu-Chun, CHEN Yi-Hua**

## Introduction

Prenatal depression and anxiety affect approximately 6.6-14% of women and impact negatively on both mothers and infants (Alder et al., 2007; Andersson et al., 2003). Previous studies identified risk factors for prenatal depression. However, fewer focused on prenatal anxiety and the effects of workplace stress and parental stress during gestation remained indefinite. This study was thus aimed to examine the effects of workplace stress, parental stress, and marital adjustment on prenatal depression and anxiety.

## Purpose/Methods

A total of 528 pregnant women who had their prenatal visits from August to October, 2011, in three selected hospitals in Taipei City were recruited for participation. Self-reported data were collected in the hospitals using questionnaires of the Edinburgh Postnatal Depression Scale (EPDS), State-Trait Anxiety Inventory (STAI), the Workplace Stress Scale, the Parental Stress Scale, and Locke-Wallace Marital Adjustment Test. Multivariate logistic regression model was used for analysis.

## Results

Compared with unemployed women, those with a job significantly had a reduced risk for prenatal depression ( $OR=0.31$ ;  $95\%CI=(0.19-0.51)$ ). Yet occupational status was not association with prenatal anxiety. Higher workplace stress ( $OR=4.38$ ,  $95\%CI=(1.99-9.64)$ ), higher parental stress ( $OR=2.96$ ,

$95\%CI=(1.51-5.81)$ ), and poorer marital adjustment ( $OR=2.15$ ,  $95\%CI=(1.19-3.88)$ ) were independently associated with antenatal depression. Additionally, women with higher workplace stress ( $OR=3.91$ ,  $95\%CI=(2.50-7.41)$ ), higher parental stress ( $OR=3.38$ ,  $95\%CI=(1.81-6.32)$ ), and poorer marital adjustment ( $OR=3.01$ ,  $95\%CI=(1.81-5.0)$ ) further experienced significantly increased risks for antenatal anxiety.

## Conclusions

Prenatal depression and anxiety are prevalent and deserve continued attention. Although having a job was protective, increased workplace stress was associated with higher risks for antenatal depression and anxiety. Furthermore, higher parental stress and poorer marital adjustment were risk factors for gestational emotional ailments. It is thus important to consider negative effects of stress, from both family and workplace, during pregnancy and to offer intervention services as early as possible to offset possible progression into prenatal depression and anxiety.

## Comments

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## Motivation of milk donation, family support and donor satisfaction on service quality: a case study of the first human milk bank in Taiwan

**YU, CHING-MEI Shu-Fen, Yeh**

## Introduction

The first human milk bank was established in Taipei City Hospital since 2004 in Taiwan. To help premature infants in need of continuous supply of human milk, breastfeeding mothers are encouraged to enter the program and donate surplus milk to milk bank. The research aimed to explore factors influencing donor's motivation, family support and donor's satisfaction on service quality.

## Purpose/Methods

This qualitative research collected data from in-depth interviews by using a semi-structured questionnaire.

## Results

The factors influencing donor's motivation were helping others is a good deed, self-benefiting and convincing information. Who was encouraged by families and friends, had faith supports for milk donation and had more lactation intended to be as the milk donation. The hospital service based on customer oriented

and arranged the flexible timing for donation was related with the satisfaction. The satisfaction can enforce the donation behaviors.

#### Conclusions

Ensuring quality service and building awareness among milk donors are the best strategies to motivate breastfeeding mothers to become regular donors. Keywords : motivation of milk donation, family support, donor satisfaction on service quality

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## College students and road accidents

**HSU Chao-Yu, HSIEH Chun-Hung, LIN Hui-Cheng**

#### Introduction

Due to increasing the number of motorcycle, the road accidents were happened commonly in Taiwan. Health promotion is associated with safety of traffic. The objective of this study is to investigate the severity of road accidents among college students.

#### Purpose/Methods

Between September 2010 to September 2011, 410 college students from 4 universities (2 public, 2 private) were provided the questionnaires. The severity of road accidents was asked. There were 10 questions to be answered.

#### Results

Eighty-two (20%) males and 328 (80%) females agreed to answer the questionnaire. Majority of students knew (83.9%) road accidents is one of 10 major causes of mortality in 2010. One hundred and seventy-nine (43.7%) students had road accidents in the past 3 years. Among these 179 students, 114 (63.7%) had road accidents in the last year. One hundred and seventy-two students (96.1%) used motorcycles when road accidents were happened. One hundred and fourteen students (63.7%) were hit by vehicles.

#### Conclusions

Road accidents rate was high among college students. Prevention of road accidents is one of the ways for health promotion. Traffic safety education is needed in the university.

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## Integrated approach for overweight and obesity in children of foreign parents. First results of Italian School based nutritional surveillance system OKkio alla salute. Trento Province Data

**PIFFER Silvano, PEDROLI Carlo, FANELLI Carmelo, CHIGHIZOLA Sandra**

#### Introduction

Since mid 90', Italy and Trento Province as well, have been affected by a major wave of migration from east Europe and developing countries. This have been accompanied, both at national and provincial level, to a growing concern about migrant population health, especially women and children. In Italy a national school base nutritional surveillance system, named "OKkio alla salute", coordinated by the National Institute of Health, was established in 2007. In 2010 survey, data about citizenship was also collected.

#### Purpose/Methods

In each region a sample of children attending 3rd year of primary school was measured by health staff using standardized equipment and IOTF cut-offs for classifying their nutritional status. Questionnaires were addressed to children, parents and teachers. The first results of a quali-quantitative assessment of nutrition, physical activity and perception of mothers in the sample of children born to foreign parents in the Trento province arm of OKkio alla salute 2010 survey are reported.

#### Results

Of 934 children in Trento sample, mothers of 92 (10%) were of foreign nationality. 41% of these children were overweight (12% obese), compared to 17% of children with Italian mother (3% obese); 9% of foreign children had no breakfast (3% Ital.); 47% consume sugar drinks daily (32% Ital.). Foreign children spend more time watching TV and have more often a TV in their room. Overweight/obese mothers tend to have overweight/obese children, with stronger correlation than Ital. mothers.

#### Conclusions

As previously reported, foreign children represent a subpopulation more fragile and at increased risk of acquisition of unhealthy behaviors with regard to nutrition and physical activity. The intervention on the parents is crucial. Besides and inter-generational approach, specific training for teacher and caregivers and among these especially for family pediatrician who have the opportunity to work more and for longer time on the coupling of perception about correct eating and physical exercise, is advisable.

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## Health promotion and energy management

**LIN Hui-Cheng, HSIEH Chun-Hung, HSU Chao-Yu**

### Introduction

"Energy management" was described by Mr. Tony Schwartz, four aspects of body, mind, emotions and spirit are included in the "energy management". Health promotion may need good energy management. The objective of this study is to investigate the energy management among college student.

### Purpose/Methods

Between Sept 2011 and Oct 2011, 192 college students who studied in 3 universities of central Taiwan were provided the questionnaire. There were 16 questions to be answered. Data were recorded by using the Likert (5-point) scale. Four aspects of energy management (body, mind, emotions and spirit) were surveyed. The difference between male and female was analyzed.

### Results

Thirty-six (18.8%) males and 156 (81.2%) females agreed to answer the questionnaire. The average score of body, mind, emotions and spirit were 2.93, 2.63, 2.48 and 2.72. The average score were 2.92, 2.70, 2.57 and 2.83 in male; were 2.93, 2.61, 2.46 and 2.70 in female. Females had better mind, emotions and spirit management. Fifty-three (27.6%) students had more than 5 times clinic visit in the past year. College students who with poor energy management had more clinic visit ( $p=0.028$ ).

### Conclusions

Female college students have better energy management. Male college students should pay attention in energy management. College students who with poor energy management had more clinic visit. Health promotion can start from doing well energy management.

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## Preventive medicine in elementary schools in Attica Greece

**PAPADOPOULOU NATASSA, KARANTANA ELENI, NIKOLAOU AIKATERINI, TZORMPATZAKIS IOANNIS, KITSOPOULOU AFRODITI, PAPAILIOU STAVROULA, TSARMAKLIS GEORGE**

### Introduction

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### Purpose/Methods

We aimed to present the outcome of preventive medicine programs in elementary schoolchildren in Attica Greece. All schools participated voluntarily in cooperation with municipality's social services. We reviewed all the results in 3842 children examined between 2008-2011 aged 6-12 years, in 25 elementary schools in Attica region. We examined body weight and height, in order to detect obese, overweight, normal or underweight children, as well as short statured children. We also checked visual acuity (optotype), scoliosis (Adam's test), cardiac murmurs by auscultation, blood pressure variations and vaccination status in children's health book.

### Results

During the study period 38% of children under study had Body Mass Index (BMI) above average (18,3% were obese and 19,7% were overweight) and 2,8% were underweight according to the international cut-off points for each year and sex (Cole et al, BMJ 2000). 2,5% of children under study were below the 10th percentile in height, while 9,9% had visual acuity defects, 2,9% had scoliosis and 5,3% had cardiac murmur. Vaccination Status \*34% (N=3812) were unvaccinated or incompletely vaccinated for chickenpox, 25,1% for Hepatitis A, 4,3% for Measles-Mumps-Rubella, 1,4% vaccinated for Hepatitis B.; \*15,9% (N=3110) were incompletely vaccinated for Diphtheria-Tetanus-Pertussis(a)-Polio (adult), 2,8% (N=702) for Diphtheria-Tetanus-Pertussis(a)-Polio.; \*4,6% (N=3812) were unvaccinated for Meningococcus.

### Conclusions

All parents were notified about the results and those children having a medical condition were examined in priority at the various outpatient clinics. To parents whose children have had increased BMI leaflets with dietary and exercise instructions were distributed. Taking in account the results listed above, it was realized that the preventive medicine programs are important for the convenient prevention of problems of health.

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## Modification Process of School Lunch Menu in a Medium-Size Health Promoting School, Nakhon Ratchasima Municipality, Thailand

**SUMONNOK Suchitra, PROMDEE Supra-nee**

### Introduction

School Lunch Program is one of strategies to improve nutritional status of school children. Today, the nutritive value of school lunch has not reached the standard regulations, even in the Health Promoting Schools where nutrition and food safety programs are implemented.

### Purpose/Methods

This quasi experiment aimed to analyze the process of school lunch modification in order to meet the Dietary Reference Intakes for Thai children. One medium-size School was selected. The modification process included 1) Providing policy makers and stakeholders relevant information about school lunch program 2) People brainstorming 3) Mediating all parties during the process 4) Capacity building through training programs and 5) Implementing modified menus and evaluation programs. Quantity and quality of school lunch were evaluated pre and post.

### Results

Those steps in modification process played an important role in promoting stakeholder participation and led to a potentially sustainable quality school lunch program. School lunch menus were raised to almost one-third of the energy and nutrients requirement, regarding the Dietary Reference Intakes for school children. Vitamin A and vitamin C were significantly increased ( $p < 0.05$ ). The energy distribution was well balanced in a post-modification menu.

### Conclusions

The results indicated that the cooperation of policy makers and stakeholders through the provided evidence-based data, mediation among involved sectors, and capacity building were the important factors to improve the nutritive value of school lunch.

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## Comparison of Classic vs. Role play Teaching Methods on the Menstrual Hygiene Behavior of Secondary School Girls in Iran

**MAHAMED fariba, FARAROOIE mohamad, OSTOVAR rahim**

### Introduction

Background and Objectives: Attention to different aspects of puberty health has important role in girl's health and reproductive health in the future. Evidence indicates that issues related to puberty sporadically are taught by traditional and ineffective methods. This study has examined the effect of education

about puberty health and has compared role playing method with classical method in Esmat guidance school in Yasuj.

### Purpose/Methods

: First, the teaching requirements related to puberty health were identified and listed by interviewing the girls from Esmat Secondary school in Yasouj, Iran. Next, a knowledge and attitude questionnaire and a behavior checklist related to the main puberty health problems were designed. Finally, the two different teaching methods were used in two different schools and the results were subsequently compared

### Results

The results of this study showed that the level of knowledge, attitude and behavior related to health matters during puberty showed significant improvement in the girls after implementation of educational intervention through role play.

### Conclusions

In comparison with the classical method of health education, teaching through role play significantly improved the level of knowledge, attitude and practice related to puberty health among adolescent girls.

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## Knowledge, Attitude, and Practice of Contraception among Junior High School Students, Northeast Region, Thailand

**SIRISUB Pucharat, SRIDUANGCHOTE Songkhon, KHAMHAENG Phanphildar, LOONLAWONG Sriprapha, UTHAISANGPHAISAN Saengnapha**

### Introduction

Teenage is a great transitional period of life when physical, mental, and social changes occur simultaneously. It is also a critical time to prepare for adulthood. Sexual drive and sexual interaction are often of teenagers' interest. The appropriation can help preventing the premature sexual relationship, sexual transmitted infections, illegal abortions, suicides, etc. Any program to assist their sexual optimization would be less possible without a surveillance. Northeast region has the highest rate of teenage pregnancy, as reported in 2010.

### Purpose/Methods

It aims to study the students' knowledge, attitude, behavior of contraception, and the associations of those determinants. Samples are 1275 students from schools in Northeast Public Health Region. Data were collected using a questionnaire set: a





knowledge test, an attitude test, and a behavior survey. Statistics applied were percentage, mean, standard deviation, and Pearson's Product Moment Correlation Coefficient.

### Results

Most students had good knowledge and fair attitude towards contraception. The average age of first sexual intercourse was 16 years old, among 12.6% of whom ever experienced an intimate relationship. Less than one third practice a regular contraception while a few never did. The most-to-least popular contraceptive methods used are male condoms, withdrawal method, natural family planning, emergency pills, and contraceptive pills. Good contraceptive practice was found. However, an association between knowledge/attitude and behavior was not significant.

### Conclusions

The premature sexual relationship and pregnancy are a great public health challenge. To deal with the issue successfully, authorities and stakeholders need to coordinate well with teens. Sex education may not lead to a proper practice of contraception, as shown in this study result. A mutual interactive problem solving skill is instead an important key. The result of this research and its application would be beneficial in appropriating a further strategy plan for adolescent reproductive health in the region.

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## The Relationship between Home and Family Problems and Sexual Behavior among Undergraduate Regular Program Students at Universitas Indonesia

**SOEHARDJITO Anggita Sari Dewi, TURNIP Sherly Saragih, FAUSIAH Fitri**

### Introduction

Adolescence is a period when individuals begin to perform sexual experimentation. This period is notoriously vulnerable to risky sexual behaviors. Undergraduate students at Universitas Indonesia as late adolescents are no exception to aforementioned conditions. Among factors that contribute to adolescents' decision making of risky sexual behavior is the relationship between adolescents and their parents. Therefore, problems related to home and family problems are important predictors for the students' sexual behavior which composes by three components (knowledge, attitudes, and practices).

### Purpose/Methods

This research examines the association between home and family problems and knowledge, attitudes, and practices of sexual behavior of the undergraduate students at UI. The number of participants recruited for the study was 500 students. They were recruited from all 12 faculties at UI using disproportionate quota sampling. Instruments of this study were The Mooney Problem Checklist for College Students and KAP questionnaire (Knowledge, Attitude, and Practice) toward sexual behavior. Pearson product moment was used to analyze the data.

### Results

The main result of this study was that there was no significant association between home and family problems with knowledge and attitudes toward sexual behavior; while a significant and positive association between home and family problems and practice of sexual behavior was found. Students who reported higher home and family problem tend to show a more active overt sexual behavior.

### Conclusions

There are indications that problems within one's family may contribute to high practice of sexual behavior. This research supports previous study which found that low quality of relationship with parents can influence the way adolescents seek emotional fulfillment and social needs from other people. Prevention should seek to improve the students' capacity to cope with family problems in positive ways to avoid the risk of sexual behavior, such as Sexually Transmitted Diseases (STDs) and unwanted pregnancy.

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## The Difference of Sexual Behavior Among Bachelor Students Of Universitas Indonesia By Living Arrangement.

**NOVALYNA Devy, TURNIP Sherly Saragih, FAUSIAH Fitri**

### Introduction

Adolescents experience changes in different aspects of life, including sexual behavior. During the university period, parents usually give more freedom and expect adolescents to be more independent. However, parents usually expect their adolescents not to be independent in terms of sexual behavior. This situation sometimes makes parents reluctant to send their children to live separately, whether to live in the dormitory or boarding house. This study aims to find the difference of sexual behaviors among bachelor students based on their living arrangement.

**Purpose/Methods**

This study investigates difference in practice of sexual behavior between residentially dependent students and students who live in semiautonomous residents. Five hundred participants are recruited using disproportionate quota sampling from 12 faculties at Universitas Indonesia.

**Results**

Statistical analysis using student's shows no significant difference between students who live in two types of residential arrangement. That result indicates that the practice of sexual behavior among students who live in boarding house (semiautonomous group) and students who live with parents / guardian (residentially dependent group) are similar.

**Conclusions**

Result of the study could be used to persuade parents to give more freedom to choose their living arrangement. We could also promote the importance of having sexual education and emphasizing on the responsible sexual behaviors to prevent unwanted pregnancy and sexually transmitted infection.

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## Using the knowledge on Sexual Behaviors to Promote Reproductive Health among Undergraduate Students in Indonesia

**KHAERINNISAA Inayati, TURNIP Sherly Saragih, FAUSIAH Fitri**

**Introduction**

Adolescence is a developmental transition between childhood and adulthood characterizes by physical, emotional, and social changes. The important issue in this period is puberty, which involves the increase of adolescents' sexual behavior. University students, who are mainly still in the late adolescence period, also face those changes. Previous studies showed that we should measure the knowledge, attitude, and practice of sexual behavior to get better understanding of the phenomena.

**Purpose/Methods**

The purpose of this research is to study the interrelation between knowledge, attitudes, and practice of sexual behavior among undergraduate students in Indonesia. This study was involving 500 participants. The disproportionate quota sampling was used to recruit the participants. They were asked to answer the KAP (Knowledge, Attitudes, and Practice) questionnaire, which consists of 16 items for each domain. We used Pearson product moment to analyze the data.

**Results**

We found significantly negative correlation between knowledge and attitude on sexual behavior ( $r=-0.270$ ,  $p<0.05$ ). The other significant found were the correlation between attitudes and practice of sexual behavior ( $0.632$ ,  $p<0.05$ ), and also between knowledge and practice of sexual behavior ( $r=-0.173$ ,  $p<0.05$ ).

**Conclusions**

The result of this study showed that attitude toward sexual behavior is the important factor in determining the sexual behavior among university students. Unfortunately, the likelihood to engage in sexual behavior was not based on relevant knowledge. Thus, it is important to create an intervention which not only targeting the knowledge, but also the attitudes toward sexual behavior. The aim of such intervention is to improve the reproductive health, especially in reducing the risk of unwanted pregnancy and Sexually Transmitted Diseases (STDs).

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## Effects of auricular pellet acupuncture on meridian and body composition in overweight adolescents

**HSIEH YUCHEN**

**Introduction**

In this study, sixty-seven adolescents were recruited in Taiwan. In this case, BMI will be used is a measure which takes into account a person's weight and height to gauge total body fat in adults. Body composition was used as a screening test for obesity.

**Purpose/Methods**

Each experimental group will be ( $n=40$ ) given the auricular pellet acupuncture treatment for 12 weeks, in which every participant was asked to do 20 times each acupoint compression on the endocrine point, the shenmen point and the stomach point, applying in the morning and afternoon, and changing to the other side of the ear every Monday. The control group ( $n=40$ ) did not receive any intervention. The meridian systems were recorded for both groups' pre-and post-study. Body composition and meridian values were measured at the 6th and 12th weeks. There are 67 subjects completed in this study.

**Results**

There are 67 subjects completed in this study. BMI and percent body fat of the experimental group ( $n=36$ ) was significantly less than that of the control group ( $n=31$ ) at the 6th and 12th weeks (all  $p < 0.05$ ). The same time points, lean body mass of the experimental group was significantly greater than in the control group ( $p < 0.05$ ). The meridian values of the experimental group (The Lung, pericardium, heart, small intestine, triple burner, colon, Gallbladder and stomach) decreased



significantly at the 6th and 12th weeks when compared with the control group. ( $p < 0.05$ ). At 12th weeks, meridian value in experimental group (The Lung, pericardium, heart, small intestine, triple burner, colon, liver, gall bladder and stomach) decreased significantly different from that of the pre-study experimental group ( $p < 0.05$ ).

### Conclusions

Auricular pellet acupressure treatment improves body composition and has a transient effect on the meridian in adolescents with obesity.

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## Teens Having Children: Grace or Disgrace?

**DASALLA Kristia Mae, CRUZ Shiela Marie, CUEVAS Makairog Jr., DAGAMI Jeromy Kent, DATOC Carmina Charimaine, DAVID Maria Angelica**

### Introduction

The issue on teenage pregnancy is a common public health problem worldwide, wherein pregnancy is experienced by a woman in the teenaged years which is generally considered a high-risk event, wherein they are physically and psychologically immature for reproduction. The study explored the lived experiences of girls who got pregnant during their adolescent period. Through the accounts of the key informants, the descriptions of the relationships with family and friends, the experiences of being pregnant during adolescent period, and the effects of teenage pregnancy to schooling and outlook in life, personal views of the experience were attained.

### Purpose/Methods

Descriptive and interpretative phenomenological approaches were utilized in the study. A total of eight (8) girls who experienced pregnancy during adolescent period had participated in the study and were chosen under purposive sampling technique. Personal semi-structured interviews were used to facilitate data gathering and data was analyzed using Colaizzi's method.

### Results

From the eight (8) themes that emerged from the data, the Toss Coin Phenomenon had evolved from the study which follows Freytag's Analysis of Dramatic Structure. Adapting the study from Freytag's analysis the following steps were formulated: (1) Stability, (2) Start of Conflict, (3) Turning Point, (4) Resolving Conflict, and the (5) Resolution which shows the two faces of the coin. The tossing of coin represents the steps, while the two faces of the coin represents the experience of happiness con-

sidered as the "grace", and the experience of difficulties considered as the "disgrace" that was felt by the teenage mothers during pregnancy.

### Conclusions

Acceptance was the ultimate end point, though achieving this was not easy. Teenage mothers initially faced difficulty in dealing with the pregnancy and felt negative emotions, hence, regretted previous decisions in life and perceived pregnancy in a negative way. On the other hand, the key informants progress despite of their condition and able to accept their pregnancy; therefore, viewing it in a positive way.

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## Fun for nutrition education: eating healthy and exercising happily

**SHIH Kuei-Mei, FAN Chun-Mei, HSU Yuan-Nian, HSU Jin-Chyr**

### Introduction

Childhood and youth obesity become a serious issue in Taiwan. The majority of school-aged children and adolescents do not have healthy diet such as ill-balanced diet, eating out, high intake of snacks, sweet food and high sugar-sweetened soft drink. At the stage of growth and development, primary school children should cultivate healthy concept and develop healthy behavior. Therefore, it is essential to develop a fun and interactive approach to dietary education so as to promote childhood health.

### Purpose/Methods

In 2011, we cooperated with a nearby primary school to hold body weight control program which lasted for 12 weeks. This program was characterized by a fun and interactive approach including fun games, examples, hand-made healthy drinks and video. We measured height, body weight and waist circumference and conducted questionnaire for nutrition knowledge and dietary behaviours before and after the intervention in order to evaluate its effectiveness.

### Results

30 year-3-5 primary school children participated in the program. This study found that there were a statistically significant increase in height from  $148.60 \pm 0.05$  cm to  $150.46 \pm 0.05$  cm, decreases in BMI from  $27.14 \pm 3.24$  kg/m<sup>2</sup> to  $26.59 \pm 3.22$  kg/m<sup>2</sup> and in waist circumference from  $84.89 \pm 6.68$  cm to  $80.34 \pm 6.97$  cm, and an increase in score of knowledge from  $78.00 \pm 9.24$  to  $93.33 \pm 8.02$ . In addition, this study found reductions in unhealthy behaviours including fewer intake of high sugar-sweetened soft drink, (night) snacks and high caloric food.

### Conclusions

This study demonstrated the effectiveness of a fun and interactive approach to dietary education against childhood obesity. This model could be a reference to the future actions for childhood and youth health.

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## Session P2.3: Supporting the health of older people in the community and the population

### Community Health Promotion to achieve Aging in Place ~ The Experience of Nanshi Community, Lukang Town, Changhua County ~

**TSAI Chia-Chun, YANG Yu-Wen, NIEN Yu-Ting**

### Introduction

Nanshi Community is an agricultural and industrial community, located in Lukang Town, Changhua County. People aged 65 years or older account for around 20% of the entire population. In order to promote the physical, psychological and social health of the elderly living in Nanshi Community, Changhua Christian Hospital (CCH) assisted the residents to establish a community-based care center (CCC). We provided a variety of health promotion services to the community and hope to achieve the goal of aging in place.

### Purpose/Methods

We conducted the elderly caring project in Nanshi Community since April 2009. Firstly, community resource integration/coordination and CCC reorganization were performed. In CCC, elderly could gather together for information exchange and emotion sharing. Free and healthy lunches were offered for elderly every Monday to Friday. We also provided free health screenings and medical lectures (e.g. healthy diet, drug safety, chronic disease prevention) for elderly in CCC.

### Results

During April to December 2009, we provided 4625 lunches for elderly. There were 270 person-times counted for 9 medical lectures; and 60 people for free health screenings. During February to December 2010, 5528 lunches were offered, and 212 person-times were counted for 10 medical lectures. The qualitative survey revealed that elderly felt highly satisfied with the caring project. The pre-test and post-test comparison of

medical lectures showed significant improvement in medical knowledge ( $p < 0.05$ ).

### Conclusions

Through community health promotion, such as community resource integration, CCC reorganization, free lunches and medical lectures offering, elderly in community could gather together for learning and sharing. We can not only improve the quality of diet for community-indwell elderly, but also increase their medical knowledge, and instill concepts of healthy life. In these ways, physical, psychological and social health of elderly could be promoted. It is a successful model of aging in place.

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### The approach of elderly who living alone policy implementation—An example community care of Chiayi County

**CHANG Chia-Hui, WU Yi-Hui, CHANG Tsui-Ming**

### Introduction

Taiwan has become an aging society. Hence, the life quality for elders such as living environment and social care is now a serious issue that needs to be focused and studied. The population was 2,506,580 over 65 years in 2011, accounting for 10.81%. Chiayi County was the county's highest elderly population. How to get elderly people living alone would stay in a familiar environment, access to care, to "aging in place" of the target, were not only personal issues, but also society must work together to face the issue. "Prevention is better than cure" is the most important aim of health management. In addition to enhancing the quality of medical care of the elderly in the community, health education were concepts of health. Therefore, it promote elderly health promotion activities to help the elderly in the quality of life.

### Purpose/Methods

Assessment the relationship between demographic information, health status and care needs for the Veterans single of Chiayi County. 1.To understand the characteristics of elderly living alone, health status and care needs in Chiayi County. 2.To explore the relationship between health status and care needs.

### Results

The study focuses on elderly living alone in Chiayi County. A qualitative analysis will be made. For the quantitative section, it is consists of a questionnaire. In summary of analysis, the main outcomes are as follows: 1.Elderly people feel the loneliness and worry about the crisis from occurring continuously. 2.It was about 30% among the elderly people in the community that had



once experienced the situations of unmet needs. 3. On-phone caring checks for elderly people are substantially helpful.

### Conclusions

The results of this study help to understand the health status of elderly people living alone and community long-term care needs of the current situation, to provide community care services, elderly people living alone reference for policy and planning to ensure that community care services for elderly people living alone received the accessibility, so as to improve the quality of life of the elderly living alone and social participation.

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## Risk Factors of Falls Among the Community Disabled Elderly in Miaoli County

**HUANG Yin-Chen, HUANG Hsiao-Lin, HSIEH Yen-Ping**

### Introduction

"fall" in the elderly health care is an important issue, fall not only bring physical harm to the elderly, are more likely to seriously affect the ability of elderly self-care in community.

### Purpose/Methods

This research purpose in understanding the risk factors for falls among 266 community elderly in Miaoli County, Taiwan. The findings could be as the references of policy making for care community elders. This was a cross-section study. Subjects consisted of 266 disabled elders and their primary caregivers from uses the 10-Year Long Term Care Plan in Taiwan's service. Structured questionnaire was used to collect data via face to face interview. We used descriptive statistics, chi-square test for analysis.

### Results

The prevalence of falls was 58.46%, average age of 79.39 years old and mostly of women (56.8%), conscious clear, three or more diseases, and taking drugs. Almost half (41.7%) had 5 items disability of Activities of daily living (ADLs). The most of falls occurred inside the bedroom. The chi-square test results illustrated eyesight, hearing, whether the holding The Handbook for the Handicapped manual and fall are showing correlation.

### Conclusions

Falls among the community disabled elderly with eyesight, hearing, and whether they hold The Handbook for the Handicapped manual correlation are presented. Home safety for the elderly should be regularly evaluated and carefully maintained.

### Comments

We should pay more attention to the possible risks of falls, early screening to intervention to prevent the occurrence of falls to achieve the objective of "aging in place" as the world trends.

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## Effects of hospital based community elderly rehabilitation program on the physical and balance functions. A prospective two-year study

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### Introduction

Physical and balance functions declined with aging process pose a strong impact on Taiwan aging society. The "community eldercare center" was an essential part of the Taiwan government's policy for promoting the quality of life and preventing physical decline for the community elderly. This research studied the effects on physical and balance functions after long-term health-promotion activity in the community eldercare center by hospital based rehabilitation team.

### Purpose/Methods

Single group with two-year pretest-posttest design study. A total of 45 elderly participated in this study. Activity consisted of a 3-hour twice weekly health-promotion program assisted by trained volunteers for two years and rehabilitation team involved once weekly for the initial six months. The Elderly Mobility Scale, Time Up and Go, 10-meter gait speed, Functional Reach, One Leg Stand, Short Physical Performance Battery and Flexibility were evaluated at baseline, six month later, and at end of the second year.

### Results

Forty-one subjects (mean age 76.9±6.3 years) completed the study protocol with over 80% adherent rate. Significant improvements were observed in Elderly Mobility Scale, Time Up and Go, Short Physical Performance Battery, Functional Reach and One Leg Stand ( $p<0.05$  by repeated-measures analysis of variance) at six-month evaluation. At the end of the second year, most of physical and balance functions still demonstrated improvements in compare with the baseline. The 10-meter gait speed and Short Physical Performance Battery were shown significant effects.

### Conclusions

Findings of this two-year study suggest that the long-term regular health-promotion activity in community eldercare

center, provided by community trained volunteers and rehabilitation specialists from hospital, may improve physical and balance functions from age-related changes in community elderly.

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## A Cross-section Analysis of the Elderly in Community focused on the Correlation between Exercise Behavior and Quality of Life.

**YANG Ju-Yu, HSU Tzu-Chuan**

### Introduction

Most people agree that exercise is very important for the elderly. The benefit of some types of exercise, such as "Tai Chi" and aerobic exercise, have been confirmed on many literatures. However, the correlation between the details of exercise behavior and the quality of live in the elderly has not been well demonstrated.

### Purpose/Methods

A cross-sectional study with structural questionnaires, including the Short-Form 36 (SF-36), was performed to analyze the relationship between exercise behaviors and quality of life. A total of 102 elderly participants (all with age more than 65 years) were included in this study. Details about their exercise behavior, including type of exercise, duration, and frequency were collected. Information about their quality of life was also gathered with the SF-36 questionnaires. These data were analyzed by descriptive statistics, Pearson's correlation, independent t-test, ANOVA and stepwise regression.

### Results

The elderly with frequency of exercise more than 4 times per week have better Physical Component Score (PCS) than those with frequency less than 3 times per week. Mental Component Score (MCS) is better in the elderly having regular "Tai Chi" or swimming than in those with other exercise. Sex, education, marital status, economic status and participation of volunteer service are significantly correlated to PCS and MCS (28.9% of the total variances according to stepwise regression analysis). However, age of the participants has little influence on the quality of life.

### Conclusions

This study showed that the quality of life of the elderly is significantly correlated with the type and frequency of exercise, as well as some demography factors, such as sex, education, marital status, economic status, and participation of volunteer service. These data are crucial for the official authorities in charge of life style modification and health promotion of the

elderly. In addition, they are also important for the medial staff when trying to make an individual planning of exercise or health promotion for their patients.

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## The effect of group exercise intervention on health fitness and exercise behavior in community elderly people

**CHEN Liang Yu, WU Min Chen**

### Introduction

many studies have found that exercise of moderate intensity can help to enhance health condition and prevent disease in older people. However, research is required to determine whether community group exercise is effective in improving health fitness and exercise behavior of older people. The purpose of this study is to investigate that whether participating in a community exercise group over 3 months can improve health fitness and gain better exercise behavior in older people.

### Purpose/Methods

the sample comprised 36 community volunteers, aged over 65 years old. Health fitness (systolic and diastolic blood pressure, body weight, waist-to-hip ratio and physical fitness test) and exercise behavior questionnaire were assessed at baseline and repeated 3-months into the trial.

### Results

the results indicated that: (1) systolic, diastolic blood pressure and body weight were significantly decreased. (2) physical fitness tests (include 30 seconds sit-to-stand, grasp power, one leg standing, walking test for 2.44 meters, and 2 minutes step-in-place test )have no significant change. (3) duration and frequency of exercise increased but the intensity of exercise remain the same

### Conclusions

these findings indicated that participating in a community exercise group is an effective approach not only to reduce blood pressure and body weight, but also to gain better exercise behavior of elder people in community.

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## The Effectiveness of Health Promoting Activities to Enhancing the Quality of Life for Elderly in Community

**WANG Hsueh-Yin, CHEN Yi-Ling, SHEN Shu-hua, CHANG Chu-Hui, LU Huei-Lan**

### Introduction

Health promotion activities for elderly in community can improve quality of life. This activities not only in strengthening the physical health, it can change the behavior pattern for enhancing the physical and psychological health. Health promotion development in community can reduce resource waste, and make a positive of life. In particular, improve the health of the elderly population can be a tremendous benefit to the community.

### Purpose/Methods

This study was to investigate the quality of life for elderly who joined the community health promoting activities continually. The aim is to understand the effectiveness of community health promoting strategy, and the influence with the quality of life. These activities includes health education and health promoting activities with festival celebration. 42 elderly over the age of 65 joined the health promotion activities since 2010 to 2011, and SF-36 scale was used to investigate the quality of life after the intervention.

### Results

The result reveal that subjects were over age of 80. The social function of mental domain ( $p=.018$ ) and mental health ( $p=.027$ ) are the most effective and also statistically significant differences. The effectiveness of the quality of life for the elderly, subject to various socio-demographic attributes are different, the quality of life with age over 80 was higher than age under 79. The Variables of "Physiological role is limited ( $p=.046$ )", "social function ( $p=.027$ )", "role limit due to emotion problem ( $p=.015$ )" and "mental health ( $p=.025$ )" were significant difference.

### Conclusions

Studies have shown that intervention programs are beneficial for the elderly quality of life. This study suggests that continue to assess the effectiveness by differences demography. Design and provide more diverse and individualized activities of community health. Our hospital is committed to cultivating community development, there are still have the opportunities to offer other community health activities in future. We recommended continuing to provide the health care service, the quality of life assessment and measurement for elderly people.

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## A pilot study of the short-term effects of an interdisciplinary intervention program on community-dwelling elderly

**HUNG Te-Jen, LIU Jorn-Hon**

### Introduction

Successful aging is multidimensional, encompassing the low probability of disease or disability, the maintenance of high physical and cognitive function, and sustained active engagement with life. An interdisciplinary intervention program developed based on local resources and conducted in the community college may be a sustainable approach to successful aging for community-dwelling elderly. The purpose of this study is to evaluate an interdisciplinary intervention program for community-dwelling elderly.

### Purpose/Methods

Design: Single group intervention design was used to evaluate the self-developed interdisciplinary intervention program for community-dwelling elderly. Setting: A community college, Beitou Community College, in Taipei City. Participants: Forty-six (24 males and 22 females) apparently healthy senior citizens (mean age  $71.7 \pm 6.7$ ) were recruited from local community as volunteered subjects. Interventions: An interdisciplinary program of geriatric consultation, health education, science education, exercise prescription and instruction, art classes, and culture activities was conducted 3hr per week for 12 weeks. Measurements: Demographic and outcome variables were measured pre and post the 12 weeks intervention program. Outcome variables included body weight, BMI, physical activity (steps per day), physical inactivity outcomes, quality of life (SF-12) outcomes, depression status (Center for Epidemiologic Studies Depression Scale, CES-D), and cognitive function (Mini-mental state examination, MMSE).

### Results

Subjects after the intervention program improved significantly in the following outcomes: physical inactivity score decreased ( $7.27 \pm 4.65$  vs.  $3.40 \pm 2.61$ ,  $p < 0.001$ ), regular physical activity rate increased (43% vs. 83%), and depression status improved ( $5.87$  vs.  $2.30$ ,  $p < 0.001$ ). Body weight and rate of overweight and obesity also decreased after the 12 intervention program but not statistically significant.

### Conclusions

The community based interdisciplinary intervention program did benefit community-dwelling apparently healthy elderly in Taiwan by improving their depression status and healthy life style.

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## Combining Chinese Medicine to explore the status of physical, mental and quality of life with elderly in community

**SHEN Shu-hua, YAN Miao-Fen, CHIU Hsien-Jane, OU-YANG Wen-Chen, LEE Wan-Ling**

### Introduction

The elderly population is rapid growth in Taiwan. The age-related disease caused poor physical condition obviously in this population. The elderly with dementia and disability would lead to physical and psychological state imbalance. This lower quality of life, less the meaning of life and higher cost of health care Hospital integrates with community for health promotion by hospital is necessary for this elderly population. To hold community care service and medical consultation service time to time in community and establishing a complete care delivery system for dementia, disability and depression can improve the elderly and their families' quality of life.

### Purpose/Methods

The subjects were the elderly people living alone in Render district, Guei-ren district and Guanmiao district. The physical and psychological screen and health education were held for these elderly people in these communities. Five measurement tools used for assessment and screen: 1. Mini Mental State Examination scale, 2. Geriatric Depression Scale-15, GDS-15, 3. Barthel Index, 4. IADL, 5. M.E.A.D.

### Results

This project connect with the community through health care resources, totally 25 times activities were held in communities, such as community care, health prevention speech, health education and counseling service. 372 people invited to participate physical and psychological screen, 208 people joined M.E.A.D, 1645 people invited to participate education, counseling and medical service. The result revealed that 24.7% elderly has the tendency to dementia, 33% elderly with mild disability, 24.1% elderly has the tendency to depression. The score of quality of life, social function; physical uncomfortable and emotional role limited revealed higher, the score of physical role limited and health condition were lower. The result of the M.E.A.D examination displays the bladder abnormal and followed by gall and spleen.

### Conclusions

The result of this project showed that most of elderly has the physical health and mental health problem. The elderly and their family should get more information of disease prevention and control through community activities and education. Government should integrate current health care resource, and to establish the extended service mode for improving the quality of care, the elderly and their family can receive a comprehensive and continue care in community.

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## Body weight and quality of life among community-dwelling older people in Taipei City, Taiwan.

**WU Tai-Yin, KUO Kuan-Liang, WONG Wai-Kuen, CHIE Wei-Chu, CHENG Yeung Hung, BLANE David**

### Introduction

Obesity is a growing epidemic and an important public health issue worldwide. Obesity might be related to increased risk of cardiovascular disease, metabolic syndrome, and even increased mortality. For years, obesity prevention is one of the main policy contexts in Taiwan and in many other countries. Recent reports, however, demonstrates that underweight, rather than overweight, might be even more harmful to health in the elderly population. This is called the "obesity paradox".

### Purpose/Methods

We aimed to evaluate the association between quality of life (QOL) and body weight among community dwelling elders in Taipei City, Taiwan. We conducted a prospective cohort study from 2009 to 2010. From the 2268 senior citizens who participated in the free annual health checkups in these two years, we randomly selected 442 participants for anthropometric measurements and QOL assessments, in addition to their ordinary health examination. QOL was assessed using CASP-19 (a Likert scale).

### Results

There were in total 228 males and 214 females. The mean age was 74 years old. The mean BMI was 23.83kg/m<sup>2</sup> and 23.69kgw/m<sup>2</sup> at baseline (2009) and follow up (2010). The mean change in body weight was -0.50kgw. The mean score of CASP-19 scores in 2010 was 37.96, with higher scores implying a better QOL. In univariate analysis, QOL was positively associated with changes in body weight ( $p=0.02$ ) but not body weight or BMI.

### Conclusions

Among community dwelling older people in Taipei City, Taiwan, quality of life (assessed by CASP-19) was positively associated with gains in body weight, rather than baseline body weight or BMI by themselves. Our study conforms to the emerging notion that underweight might not contribute to physical or psychosocial well-being in this older population but rather, overweight or mild obesity might be prudent. Selection bias might remain and we must interpret the data with caution.





### Comments

Further age-stratified guideline for body fitness is warranted in the future. At present, a different policy should be kept in physicians' mind while giving recommendations for the best body stature in elderly population.

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## The Significances of Caring Visits Promote Mental Health in Homed Elders

### KO Jen-Kuei

#### Introduction

Because of the status of socioeconomic declining, personal network diminishing, respectability decreasing, the elders were affected not only physical but also psychological illness such as melancholia even suicide. The amount of deteriorating in psychological illness of elders is dramatic year after year. Therefore, to provide with promoting mental health and useful preventive strategies for the homed elders that are to keep away from depression and suicide become essential. This study, obviously, is coming from the cognition of its importance.

#### Purpose/Methods

This study examines CARE visits with the elderly about the applicability and significance in Taiwan community. Four purposes are: First, to collect on in-depth interview groups, semi-structured and unstructured by the members of the caring visits. Second, to understand the effectiveness of caring visits. Third, to achieve data saturation for terminating the data collection. Fourth, how the elderly view on these visits. Data analysis includes constant comparative method, peer debriefing and case review to improve the accuracy of the results.

#### Results

The main cause of the melancholia can be divided into health, family interaction, and caregiver burden these three subjects. Melancholia can be divided into two kinds; of behaviors: denial visits, cold response and of emotion: sad surface, oral appeared to die. Caring visits apply CARE visit techniques have: creative communication, atmosphere, real appreciation for all, empathy and other skills. Finally, the status of improving melancholia of the elderly includes increasing interaction behavior, mood improvement, and trustiness of three subjects.

#### Conclusions

By means of Community Development Association to provide caring visits for the elderly, we can screen and detect those have earlier tendency of melancholia among them. Go through caring interaction and accompanying with them to increase social participation and to release loneliness and depression. This study found the answers to make a critical and successful program for preventing homed elderly melancholia and enhanc-

ing their mental health in the future. We have a faith in the dramatic effectiveness with the programs.

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## The effect of promoting aging health promotion by community hospital: Taiwan experience

### KAO Li- Chueh, JHONG Siou- ling, HSU Cyong- ru, HSIEH Ho- Su, HSIEH Han -Sen

#### Introduction

Gandau community has a population of 10,964, and 13.3% of them are above 65 years old, making Gandau an elderly community with an aging index of 101%. Elderly suffer from multiple chronic disease, and low self-esteem. Gandau hospital is a community hospital, and we hope that by intervene with the Ottawa Charter, we can promote elderly health promotion thus decrease the disability rate, decrease the medical expense and improve the elder living quality.

#### Purpose/Methods

Aim: 1. Combine and connect the community resources, increase the accessibility of health promotion. 2. Realize the idea of aging in place. 3. Achieve the goal of active aging. Methods : In year 2005, 48 healthy community volunteers were trained, and through empowerment the community awareness and activeness were enhanced. In 2006, the community elder care center was established, so that the resources from different field can be combined and connected. In addition to health management and care visit, we also provide multiple health promotion activities, such fall prevention workshop, jogging course, lower limbs training and intergenerational learning, in order to satisfy their physical, mental and social needs.

#### Results

We have expanded the number of the elder exercising groups into 4, with 145 participants. We applied the GDS-SF15 questionnaire in 2010, recovered 48 of them, and the result shows that 62.5% of the elder suffer from mild depression before participating in the group, while only 12.5 % of them have mild depression, 94% of them feel satisfied of their life quality after the health promotion activity intervention. In 2010, according to the comments from 52 elders who participate in the care center, 100% of them feel that they are more energetic, and 98.1% of them feel they've been taken care of. 96.2% of them enjoy better people relationship, 92.3 % of them will consider starting to help others. The elders also actively participate in public welfare activities to a number of 10 times per year, while they got awarded best prize in evaluation each year. In 2010, they even receive the SNQ (Symbol of national Quality award)

### Conclusions

Through the running of the care center, our hospital reached out to increase the interaction and formed a better partnership with the community. We hope that through the effect of the elder health promotion, we can achieve the goal of aging in place, successful aging, and active aging.

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## Study of community voluntary exercise team of the Taiwan elderly

**HUNG Te-Jen, CHEN Jin-Jong**

### Introduction

Exercise is a part of healthy lifestyle. The Taiwanese elderly like to participate in community voluntary exercise teams(CVET), in the early morning or evening. We would like to know the status of the exercise facilities of the elderly.

### Purpose/Methods

Questionnaires of the present situation survey research of 108 elderly in 5 CVET were performed.

### Results

The number of elderly people participating in CVET is between 5 to 32(average:14.2). The participants are mostly female with an average age of 69.4 (SD 3.3). The reasons to join CVET are: health awareness (85%), convenience (81%), free or low-cost(72%), friendship(69%) and killing time (62%) etc.. The reasons for irregularly attendance are: not willing to go out(36%), bad weather(31%), emotion(26%), discomfort(24%) and no one to accompany (21%) etc.. Place character: Metro Taipei linear park(2), public park(2), school(1). The reasons for using the place are: free(100%), nearness(91%), accessibility(82%), friendly teachers (78%), cleanliness(54%). Improvement projects proposed for exercise place are: sheltered place(82%), exercise facilities(64%) etc..

### Conclusions

The elderly like to exercise more than young people in Taiwan. Taiwanese elderly like to participate in voluntary exercise teams in communities. One way to increase the opportunity of exercise is to ensure the existing exercise facilities, such as park, school and playground, are open to the public. Otherwise, the government should consider improving place for exercising, such as sheltered place and exercise facilities. Strengthening the policy support and community networking system are benefit for maintenance of elderly health.

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## The self-satisfaction report of hydraulic resistance circuit training among community-dwelling elderly in New Taipei City

**CHANG Li-Ying, HONG Chao-Chi, HAN Tsung-Hua, LIN Tsung-Ching, CHOU Hsiu-Ling**

### Introduction

How to decrease the health care costs in elderly becomes a critical issue which need to be solved. Previous studies suggested that exercise might be beneficial for the elderly; especially the type of exercise program could combine the resistance and aerobic exercise. Hydraulic resistance circuit training is an economical protocol for training the elderly. There had studies to examine the effect of circuit training, but there were lacking of document to record the satisfaction of the training method.

### Purpose/Methods

The present study had designed a fourteen questions satisfaction questionnaire to investigate the satisfaction of group hydraulic resistance circuit training of community-dwelling elderly. After two months of the training, the subjects were under well-instruction to answer the questionnaire.

### Results

The valid response rate of questionnaires was 89%, which were all included to analyze in present study (men: 18.8%, women: 81.2%); had showed that after two months exercise training, all of the subjects had agreement to the item "make you feel more confidence" and "improve your health". The limits of present hydraulic training were "the improvement of exercise space", and "the arrangement of traffic". In spite of the limitation, all of the responders were satisfied with this circuit resistance training.

### Conclusions

The present study was setting up an exercise space in a classroom of college, although all of the subjects had highly agreement of hydraulic resistance circuit training could be beneficial to their health and self-confidence, but there still have some problems need to be solved, like 21.9% and 9.4% of subjects suggested "the improvement of exercise space" and "the arrangement of traffic". Hydraulic circuit training could be the economic way to improve the health condition of the elderly.

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## Lessons from a community-based participatory research--- concept of mobility and bone health among rural elders

**HU Hei-Ling, WANG Yin-Chih, KUO De-Jhen, TSAI Chuan Hsiu**

### Introduction

Mainstream health concepts often lead to confusion and hamper health promotion behavior among rural population. Osteoporosis, consider new concept as population aging, is not visible, yet sensible among elders. The development of community-based participatory research (CBPR) might help to reveal the myth, faith and belief of bone health among rural elders.

### Purpose/Methods

CBPR methods were utilized during the different stages of research to support the development of following intervention trial. Community members and researchers collaborated to develop guides for the focus group moderators. Community organizations conducted recruitment, and academic members acted as moderators and analysts.

### Results

Data from the focus group were used as an important component of dialogue with the community. Constructs related to low perceived susceptibility, severity, benefits and cue to action were revealed. Elder reported confusion between joint health and bone health. Limited understandings of osteoporosis risk, following by fracture prevention were noted. Perceived barrier such as limited mobility to decrease the risk of fall was also noted. Cue to action were weak and often link to nutrient supplements.

### Conclusions

CBPR proved to be a good learning process for all partners involved. The risk identified by the participants demonstrated the "epidemic" nature of fracture risk associated with rural elder living in the community. The focus group approach was instrumental as a process to help increase understanding elder perspectives of mobility and bone health. It is beneficial for designing effective interventional program as well as good community partnerships.

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## Health risk behaviors , health status and satisfaction with life of the elderly in Taiwan: Cohort study -

## differential analysis between 1997 and 2007.

**KUO De-Jhen, YANG Chen-Jung, PAN Meng-Hsuan, MENG Men-Hua, LEE Yu-Hsin, YU Hsiang-Yi**

### Introduction

According to the 1989 statistical report by the Adult and Elderly Health Division (AEHD) of the Bureau of Health Promotion (BHP), 24.1% of elderly people rated themselves as having poor health, with the percentage rising to 33.7% in 1996 and further to 38.9% in 2003 (BHP, 1989, 1993, 1996, 2003). Those with difficulty showering independently increased from 5.4% to 16.6%, those with difficulty in dressing increased from 3.8% to 13.4%, and those with difficulty walking increased from 4.4% to 12.3%. The percentage of those with difficulty in at least one ADL increased from 2.1% in 2002 to 14.4% in 2005 and 54.4% in 2007.

### Purpose/Methods

This study attempted to examine the effects of health risk behaviors of the elderly on general health status and satisfaction with life. The secondary data for this study was obtained from the results of surveys investigation the quality of life of the elderly conducted by the AEHD of BHP in 1997 and 2007. The sample population, those aged 60 and above who took part in both surveys, number 1268. Comparison and analysis of the results of both surveys was undertaken; variables including demographics (age, gender, marital status, education level), health risk behaviors (smoking, consumption of alcohol and betel nuts), health status (occurrence of disease, medication use, activities of daily living (ADLs), self-appraisal of health and depressive symptomatology), and satisfaction with life were extracted. Longitudinal analysis of the data was carried out using variance ratio and chi-square tests, one-way ANOVA, regression analysis, and polynomial logistic regression.

### Results

Results indicated statistically significant differences in health risk behaviors and health status between the two surveys, with statistically significant increases from 1989 to 2007. With respect to occurrence of disease, those with comorbidity showed the greatest increase in absolute number, with the majority having diabetes, cataracts, and hypertension. With respect to medication use, those using at least two medications showed the greatest increase in absolute number, with hypnotics and sedatives accounting for the highest growth rates. Regarding loss of ability to carry out ADLs, showering was the activity accounting for the greatest absolute increase in numbers. Most respondents rated their current health as well as their health a year ago as deteriorating, with increased depressive symptomatology. Controlling for demographic variables, correlation analysis between health risk behaviors and health status revealed that gender, education level, smoking and drinking affected occurrence of disease, ADLs, self evaluation of current health, and medication use, with betel nut consumption also affecting the latter. Gender, education level, and alcohol consumption affected evaluation of health one year ago.

### Conclusions

Increasing differences in ADLs and depressive symptomatology were reflected in decreasing differences in satisfaction with life scores. Greatest differences in satisfaction with life scores were seen in those whose self appraisal of current health changed from poor to good; least differences were seen in those whose appraisal of current health changed from good to poor. In terms of appraisal of health one year ago, those who continued to rate it as fair showed the greatest differences in satisfaction with life scores while those whose rating went from good to poor showed the least differences. Considering health risk behaviors and health status while controlling for demographic variables, only depressive symptomatology was found to significantly affect satisfaction towards life.

### Comments

Recommendations from this study include ongoing public health efforts to decrease health risk behaviors with the goal of reducing the social economic burden of chronic illnesses. With respect to increasing depressive symptomatology of the elderly, in addition to ongoing support and medical care, encouragement to participate in social activities as well as formation of support and community development groups can also be useful avenues for emotional regulation.

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## The relationship between leisure involvement and successful aging for elderly women

**YEH Shu-Hsing, SU Bin-Guang**

### Introduction

Issues concerning aging of population have become increasingly important in the contemporary aging society. There are few studies relating to women's aging in recent Taiwan.

### Purpose/Methods

The purpose of this study was aimed to explore the relationships between leisure involvement and successful aging for elderly women. Furthermore, the critical factors of successful aging were analyzed. During October to December in 2010, subjects were selected by a convenience method among elderly women over 65 years old in Kaohsiung city. Two hundred and forty two questionnaires were completed and analyzed. The analytical methods included descriptive statistic and logistic regression analysis. World Health Organization Quality of Life-Brief Edition Assessment in Taiwan version was adopted for data collection. Successful aging was recognized as whose scores in four QoL domains were all above the average value.

### Results

The results showed that: (1)Among the four domain of quality of scale, physical domain got the highest score, and psychologi-

cal domain got the lowest score. The proportion of successful aging elderly women matched the standard were 24.8%. (2)The two principal types of leisure involvement were the "social" and "amusement" types. (3)Factors associated with successful aging included hearing status, sleeping quality and the "social" type of leisure involvement.

### Conclusions

The major finding of the study include: the respondents who having better hearing status, better sleeping quality, having higher frequencies of leisure are expected to have the possibility of successful aging. Results of the study could serve as indices of education, community health project and health promotion policy.

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## Changes of Spine Bone Mineral Density among Postmenopausal Women

**LI Yin-Ming, LAI Hui-Ling**

### Introduction

As population is ageing in Taiwan, more efforts are needed to prevent osteoporosis and related-fracture among elderly.

### Purpose/Methods

We aimed to study the changes of lumbar mineral density among postmenopausal women. Women who had health check-ups at a teaching hospital in eastern Taiwan were invited to participate in this study. A self-administered questionnaire was used to collect their demographic characteristics, diet, lifestyle and reproductive and medical history. Bone mineral density of the lumbar spine was measured by dual energy x-ray absorptiometry. A total of 320 aged 50 to 65 postmenopausal women were included in follow-up study. Results of repeated lumbar BMD were collected in the following four years.

### Results

Totally, 120 women (43.8%) had repeated lumbar bone mineral density testing. The mean interval with first bone mineral density test was  $32.6 \pm 11.8$  months. The repeated testing rate was highest among women aged 59 to 62 (58.9%), while the lowest was among those aged 50-55 (27.5%) ; There was no difference of body size, first time diagnosis of bone density testing, factors associated with bone metabolism between subjects with and without repeated testing. Among subjects, aged 50 to 52, had repeated test at an interval 25 months (median), lumbar bone mineral density was reduced by 5.4%. The changes of bone density at other ages were not significant.

### Conclusions

Bone density was significantly lost at 50 to 55 years and rapidly lost among women with a low body mass.



**Comments**

Prevention of bone loss among early menopause women is crucial. They should be advised to keep physical active, sufficient calcium intake and healthy body weight.

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## Effectiveness of pharmacist care in enhancing appropriate natural health product use for elderly people

**CHIAO-LING Fang, YEA-JOYU Lou, MIN-TZU Li**

**Introduction**

With increasing emphasis on preventive medicine, the elderly people become the target consumer group of natural health product (NHP) markets. However, most of them have insufficient knowledge of natural health products use, which resulted in a negative health impact. To enhancing safety and efficacy of natural health products use, the aim of this study is to explore the effectiveness of pharmacists intervention in enhancing sound natural health product for elderly people.

**Purpose/Methods**

NHP are increasingly being used by people concomitantly receiving prescription drugs, which can result in potentially serious interactions. To prevent the negative outcome occurred, we provided the education program for elderly people. This study collected pre-and-post-test data regarding NHP knowledge before and after pharmacist intervention during October and November, 2011. We further conducted descriptive study and paired T test to examine the impact of this intervention on natural health products knowledge for elderly people.

**Results**

160 people participated in this study, and the average age of the participants is 67 years old. 24 participants (15%) reported their experiences in taking medication promoted by radio stations or given by friends. 120 participants(75%) had the experiences of taking NHP, 56 participants (35%) reported their experiences in taking medication and NHP at the same time. After the intervention, among 10 questions, the average number of the total correct answered items statistically significantly increased from 5.37±2.69 to 9.2±0.5.

**Conclusions**

This study proved the effectiveness of pharmacist intervention is significantly in improving the knowledge of natural health products for elderly people( $P < 0.0001$ ). In order to enhance people use natural health products appropriately and prevent the adverse drug reactions occurred, this study suggested that

pharmacists should continue to involve in advocacy of use natural health products properly.

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## The Effects of Elderly Health Examination in Tzu-Chi General Hospital of Taipei Branch

**LEE Yu-Chuan, CHOU Lih-Lih, HSIEH Hung-Yu, SHYU Rong-Yaun**

**Introduction**

Taiwan's total household registration population over the age of 65 have 2,493,644, and about 10.7% of the total population, and show the phenomenon increase over the years. Because the elderly with age cause the occurrence of chronic diseases. Therefore, we report the experience that how to care and found with health problems in real-time for the elderly by cooperation of multi-disciplinary team in Tzu-Chi General Hospital of Taipei Branch, and then towards the healthy ageing in mind.

**Purpose/Methods**

Our hospital undertake the services of elderly health examination of Public Health Department, New Taipei City Government from 2007. Every year from April to October. Uphold the spirit of age-friendly service. The hospital provides a independent report space and examination flow for population over the age of 65. examine items not only the National Health Insurance Bureau of adult preventive health projects, but also with the New Taipei City free health examination program, to make this service more complete.

**Results**

From 2007 to 2011, Tzu-Chi General Hospital of Taipei Branch service has more than 7,000 elderly people. Through the service process improvement and the team integration. Public Health Department to give the new places of subjects Increased year by year. In addition, more abnormal cases are founded through the examination and provide the management and follow up in real-time.

**Conclusions**

As the fast-growing of elderly population, The needs for elderly health promotion and chronic care are increase. In order to reduce the waste of medical resource and to achieve the goal of healthy aging. Government and medical institutions should strengthen the preventive health care for elderly people. To achieve of the purpose of early detection and early treatment.

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## A study of the relationships among financial strain, financial resource loss, social support, and depression for the elderly in Taiwan

**TSAO Kuo-hsi, HSIEH Molly**

### Introduction

Economic stress is major issues for ageing person. The discussions of economic stress focus on financial strain mainly, rather than on financial loss. In fact, the rich elderly have no issue in financial strain. However, they may have issue in financial loss. In addition, social supports play an important role in buffering effect to stress coping. Financial loss and social support are two key factors to depression tendency.

### Purpose/Methods

The purpose of this study was to explore the relationships among financial loss and depression tendency as well as the roles of social support in protecting the elderly in Taiwan from financial loss. The survey data were drawn from a representative panel survey of Taiwanese elderly. There were 1,275 elderly completed the survey, consisting of status of financial loss, social support, and depression tendency which was measured by the Center for Epidemiologic Studies Depression Scale (CES-D).

### Results

Financial loss was positively correlated with depression tendency. Emotional social supports were negatively correlated with depression after controlling demographic variables (age, marriage, and perceived health status). In addition, the role of emotional social supports moderated the relationship between financial loss and depression tendency among elderly. However, for instrumental support, there is no conclusion of the correlation with depression.

### Conclusions

This study found that financial loss had impact on depression tendency. Emotional support can moderate the impacts of financial loss upon depression tendency. Therefore, the availability of emotional social support is important for the elderly while experiencing financial loss. Implications based on the findings are provided for the elderly, senior education, and counselors. Limitations of this study and suggestions for future study were discussed. Limitations of this study and suggestions for future study were discussed.

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## Survival of Community Elders: An 11-Year Cohort Study

**HOU Po-Jen, YEN Yung-Chieh**

### Introduction

The purpose of this research is to probe the correlation between socioeconomic status (SES) in individual-level, depressive symptoms, and neighborhood quality index. It tries to investigate those various factors which are going to influence on senior's living condition in community or not. According conclusions to improve senior's healthcare quality and set up more useful policy in the community.

### Purpose/Methods

The data of this research is cover Budai, Lioujiao, Minsyong, and Jhuci township in Chiayi county southern Taiwan. Before 11 years ago, senior citizens who are during 65 to 74 years old. It uses those date to analyze individual characteristic, SES, depressive symptoms, and neighborhood quality index by secondary data analysis. The SES includes employment status, education level, and average monthly family income. The depressive symptoms and neighborhood quality index includes perceived security, physical environment, and perceived social support.

### Results

The data is 900 senior citizens (male 497, female 403) which the average age is 79 years old. 239 seniors died, 593 seniors still alive, and 68 seniors can't keep chase. According chi-square tests shows the sex, age, health status, employment status, and perceived security are going to influence on senior's living condition in community. After controlling for age, sex, marital status, and health status, unemployed(OR: 1.587, 95%CI: 1.082-2.327) and perceived security(OR: 0.593, 95%CI: 0.402-0.876) was significantly association with mortality.

### Conclusions

Age, sex, health status, employment status, and perceived security are going to influence on senior's living condition in community immediately. Local government should devise some special work for senior citizens (upper 65 years old) even create some volunteer work of community. Eventually, government can invest more budget in improve live environment quality of neighborhood.

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## Social support, health status and preventive examination of the elderly in Taiwan Cohort: Differential analysis between 2003 and 2007.

**KUO De-Jhen, YANG JIA-SHIANG, LIN CHI-YUN, WU JHEN-YI, GU FU-YU, WU HUNG-PING**

### Introduction

The proportion of Taiwan elderly population was 10.63%. Medical cost of who age above 65 was increase with age per-case. Among hypertensive patients, health testing than those who did not receive savings of nearly NT8,000 dollars per person, also increase the life of 45 days. 65 adults over the age of health care utilization of health examinations from 2002 to 2006 showed a downward trend. This study attempted to examine the effects of social support and health status of the elderly of preventive examination.

### Purpose/Methods

The secondary data for this study was obtained from the results of surveys investigation the quality of life of the elderly conducted by the Bureau of Health Promotion in 2003 and 2007. The sample population, those aged 50 and above who took part in both surveys, number 4544. Comparison and analysis of the results of both surveys was undertaken; variables including demographics, social support (normal and in-normal), health status, and preventive examination.

### Results

The average age of samples was 64.91 years in 2003 survey. The proportion of 54-60 years old was 31.9%, males was 50.2%, primary education was 42.8%, married was 76.3%. The rate of Blood pressure screening was from 89.3% to 90.8%, glucose was from 65.6% to 69.8%, the rate of uric acid rose to 53.1% from 43.4%; the rate of cholesterol examination rose to 54.1% from 45.4%, the rate of liver function tests from 44.3% to 53.7%; the rate of renal function increased from 42% to 51.9% between the two surveys. The health screening rate was from 44% to 52.3% between the last two years.

### Conclusions

The seven examinations of preventive screening were positively correlated between the two surveys. The social support was better in the elderly who, as it groups to participate, and as a group post office, accept money from relatives to assist, with its seven better use of preventive health screening from 2003 to 2007. Deterioration in the health status of elderly persons, such as perceived health, the condition of chronic disease, ADL, and use of assistive devices, the more likely to use preventive health screening.

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## In community health care systems to establish an active aging in place model of health promotion

**LU Wan-Ling, WU Cheng-Yu**

### Introduction

Health promotion for the elderly in the community to development unit in order to establish a active aging in place model of health promotion, get rid of the past, the traditional mode of operation in a number of downward discretion, establish a set of elderly community health system and the level of integration between modes of interaction, beyond the scope of the formal health care, and improving older function to maintain independent living and promote quality of life.

### Results

The first analysis to aging in the community and elderly health care system in the role; then analyzed to promote elderly health promotion community health centers and hospitals which the development context; followed by the Active Aging axis as a model to promote, strengthen community action, and describe the community's elderly health beliefs, self-care and stress management.

### Conclusions

Then discussed the implementation of the elderly in the community of foreign health-promoting practices, and control with the current situation in Taiwan. Finally, the analysis of integrated health care community resources in recent years, develop the health promotion model to dynamic aging, and thus the planning of future community health care system put forward suggestions, hopes for the future of the country can be sustainable to promote the health of the elderly.

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## The effects of different interventions on aging attitude and willingness to the elderly care

**KAO Chieh Chun**

### Introduction

Along with the life expectancy increasing, elderly care needs also immediately increases. Positive attitude toward aging and willing to care the elder will promote the quality care for the elderly.

### Purpose/Methods

The study aimed to compare the effects of different interventions on aging attitude and willingness toward the elderly care

of nurse students. A quasi-experimental design with purposive sampling was adopted for this study. 202 nurse students were chosen from the Institute of Technology in Taiwan and assigned to experimental I (elderly nursing program), experimental II (elderly simulation program) and a control group. The research tools include demographic data, aging attitude survey, perception and willingness to elderly care questionnaire.

### Results

Study revealed that Experimental II showed significant increased aging attitude and willingness to care the elders. Experimental I showed a significant increased willingness to care the elders. But no significant findings were found in aging attitude and willingness to care the elders on control group. Only age was positively correlated with the aging attitude change score at a significant level. No correlations of any significance were found on other demographic variables.

### Conclusions

In view of the study results, gerontological nursing educational program are recommended, and suggestions are made for further research in this field.

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## Non-cancer Palliative Care : the Lost Pieces in the Acute Care Setting

**HSU Nin-Chieh, SHU Chin-Chung, LIN Yu-Feng, YANG Ming-Chin, TSENG Yu-Tzu, TSAI Hung-Bin, HUANG Chun-Ta, KO Wen-Je**

### Introduction

Although the World Health Organization definition does not limit palliative medicine to any single disease, palliative care (PC) has long been provided primarily for cancer patients. Many non-cancer patients with palliative care needs fail to receive adequate end-of-life care. In fact, little is known about the differences between cancer and non-cancer patients with palliative needs. The study aims to describe the characteristics and outcomes of patients who received palliative care in an acute general care setting.

### Purpose/Methods

The study was conducted at a tertiary medical center in Taiwan. A hospitalist general medicine ward was established in 2009, and we then analyzed the first-year admission data. Patients with identified palliative care needs were selected. Cancer palliative care (CPC) was defined if the patient had an advanced cancer (stage 4 or inoperable) with documented DNR order during hospitalization. Non-cancer palliative care (NCPC) was defined if the patient had documented DNR order but did not fulfill the criteria of CPC.

### Results

258 of the 1379 consecutive patients (18.7%) were identified as having palliative care needs, with 193 (74.8%) requiring NCPC and 65 (25.2%) requiring CPC. NCPC patients were older (76.8 vs. 71.3 years,  $p=0.002$ ) than CPC patients. At the time of do-not-resuscitate consent, NCPC patients had poorer Glasgow coma scale (10.4 vs. 12.5,  $p<0.001$ ) and more organ failure (68.4% vs. 46.2%,  $p=0.002$ ) than CPC patients. NCPC patients tended to stay longer at hospital. The hospital mortality rate was similar between groups.

### Conclusions

In an acute general care setting, there were three times as many NCPC patients as CPC patients. The NCPC patients were older, had delayed palliative care intervention and stayed longer at hospital. In Taiwan, NCPC is overlooked in the acute general care setting, and further investigations into this situation are warranted.

### Comments

In an acute care setting, NCPC is a more of a critical issue than CPC. To deal with this challenging and indistinct field of palliative medicine, researchers should focus beyond hospice care services. Different strategies should be undertaken when palliative care is performed outside a palliative care unit. The "lost pieces" of NCPC call for more investigations to be carried out, and guidelines for physicians to be established.

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## Program of health care management for the elderly in the community

### CHEN Richard

### Introduction

The aging of the population is now a global trend. The percentage of senior citizens in Taiwan is the second in Asia and we are now within the ranks of elderly nations. Our hospital, the Taipei City Hospital Zhongxiao Branch, is located in Nangang District, which boasts one of the highest percentages of seniors in Taiwan. Improving the health care of senior citizens has become a very important issue.

### Purpose/Methods

The purpose of this program is to improve self management and self awareness of health issues in senior citizens by delving deep into the community, providing health care seminars, medical counseling and preventive medicine knowledge for senior citizens, thus increasing early detection, early referral and follow-up of diseases. The methods employed include increasing the number of first-time geriatric health exam patients, performing H1N1 antibody blood tests, cooperating with





community health care stations, and improving use of community resources.

### Results

1. Our hospital continuously and actively supplies the elderly in the community with convenient healthy screening services. Those with positive findings are actively given treatment and transferred to follow-up service in order to fulfill complete senior health care. 2. The satisfaction degree of the health service: 90%. 3. The influenza and H1N1 virus lead to serious diseases all over the world. The health of the elderly was safeguarded via active vaccination.

### Conclusions

Estimated benefits 1. To supply the elders with the knowledge of health care via health-related curriculum. 2. To enhance the rate of newly elderly health screening in order to improve chances of early detection and early treatment. 3. To help the elderly get used to regular health examinations and a good life style in order to achieve improved life quality. 4. To promote the opportunity for the hospital to cooperate with the community and fulfill improved service to the community.

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## How to improve health care quality among elderly patient? A multilevel approach elderly experience program in hospital staffs

**WEN-LI WANG, WEN-LIN HSU**

### Introduction

The amount of elders increasing drastically. According to WHO, the elder population (>65 year-old) in 2025 is estimated twenty hundred million people, which is two times more than 2006 that was twelve hundred million people. WHO has recognized the significance of Primary Health Care, which is known as PHC centre, in improving the health of old people. Based on the principle of age-friendly health care, it is necessary to improve the management, clinical services, care worker training and environment modification to conform the need of the elders, which might help to delay the process of aging disability.

### Purpose/Methods

This study was aimed on Hualien Tzu Chi Hospital staffs to investigate their cognition to age-friendly health care as well as to promote the concept of age-friendly health care hospital. Nineteen hundred and fifty three questionnaires were sent out in March, 2011 and twelve hundred eighteen were responsive. Total response rate was 62.4 percent.

### Results

Result of this study shows 719(59%) staffs suggest difficulty in communication with the elders were; 511(42%) considered the best way to prevent elder falling down were to increase caring manpower; 304(25%) suggest improvement of elder-convenient procedures to promote an age-friendly health care hospital. 294(24%) suggest improvement on communicating skills with the elders; 217(18%) suggest training on taking care of the elder. Thus, in order to help staffs to apply to daily life, in April, 2011 Hualien Tzu Chi Hospital held a staffs' age-friendly health care training program including lessons of communicating with the elder, real experiencing the old-age program, and the design of improving the elder caring procedure.

### Conclusions

Through experiencing-training program, hospital staffs could understand the inaccessibility of elders in hospital, lack of training project and negative attitude to the elder and self-reflection on the elders' feelings when they are in the hospital. Furthermore, to improve the behavior on age medical care and march forward to age-friendly care hospital.

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## The study on the needs of residents at long-term care facility in Taiwan

**HSIEH YU-CHUNG, LEE HUAN-FANG**

### Introduction

In Taiwan, the elderly population with disability who were above 85 years old will increase to 1.5 times on 2014. The elderly population was growing in the world and consequently the long-term care would be a critical issue. The purpose of this study was to explore the needs of residents at long-term care facility in Taiwan.

### Purpose/Methods

This study was designed by cross-sectional method for exploring the characteristics of institutional long-term care residents. There were totally 1067 long-term care facilities in Taiwan and four of them respectively in north and south regions were selected as the target of the study. 496 residents self-reported their background data and needs of care. The levels of professional skills were also classified.

### Results

The result of population characteristics in the age of residents above 75 and 85 years old were 60% and 20%, respectively. There were 75.2% residents who had brain dysfunction disease. Residents with stroke in nursing home or resident home were over than 50%, but the proportion of dementia was higher in resident home than nursing home. Five needs executed by registration nurses (professional care) and six by assist nurses (daily care) were assessed. Residents who did not need profes-

sional care but fewer than 2 kinds of daily care were 15.8% and 50.2% in nursing and resident home, respectively. There were 38% and 9.2% residents who needed more than two kinds of professional care in nursing and resident home.

### Conclusions

There were obviously differences on the needs of care in resident home and nursing home. The on-jobs training should be focused on needs of care in different long-term care facilities.

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## Session P2.4: Supporting prevention of and care for NCDs in the community and the population

### Labor Group Health Examination Service

**LEE Yu-Chuan, CHOU Lih-Lih, HSIEH Hung-Yu, SHYU Rong-Yaun**

### Introduction

Country's economic competitiveness and the labor force are closely related. According to DGBAS statistics indicate that the national employment population is 10,493 people in 2010 in Taiwan. Employment is 2,970 accounting for employment in northern area of 63.80%. The government laid down rules about labor health protection and to provide regular health checks. In here, we report our experience by team collaboration. Hope can early detection and treatment of disease about labor and to make them healthy. (Unit: thousand)

### Purpose/Methods

We in addition to providing personal medical services, to make a more convenient medical colleagues. We succeed to the northern employee's health examination from 2009. Cooperated with the employee's of the time from September to October every year, we provide a different examine periods. In addition to the general labor health examination, in view of labor overtime work may lead to physical disease and increased cancer incidence year by year, we provide more choice examination items to employee.

### Results

We service a total of 749 employee from 2009 until now. Through the family medicine team care, make them early detect anomalies and management real-time through the health examination.

### Conclusions

Because of abnormal lifestyle, the human's body are now issued with warning. In health care workers, we must also take into account the mental health. The news about the died cause of fatigue and overwork constantly. Only through the regular health examination of workers for early detection and early treatment of disease.

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## The result of a community health educational approach to promote cancer prevention

**YOO Seung-Chul, KANG Hyang Jwa, LEE Eun Hee, KIM Mi Jeong, SHIN Youn Doc, AHN Ju Hee, PAI Ki-Soo**

### Introduction

There were many advances in treating the cancer in last decades. Thanks to the introduction of Pap smear and development of recombinant vaccine of Human papilloma virus, uterine cancer of the cervix became one of effectively preventable cancer, but due to lack of interest and proper education about these facts, many women does not take her routine examination. In example, only 56.9% of women participate in national cancer prevention program in Korea.

### Purpose/Methods

The purpose of this study was to setup a community to attempt to improve cancer prevention program. From September 2011 to November 2011, we performed community educational program about Pap smear and vaccination for uterine cancer of the cervix. After education, the questionnaires are retrieved.

### Results

Total number of participants was 63, of which median age was 46. 80% of participants (n=50) answered she ever had any lecture or education about women health care and 96.8% (n=61) said current program was useful. 98.4% (n=62) said she will take annual routine check for cervical cancer.

### Conclusions

Total number of participants was 63, of which median age was 46. 80% of participants (n=50) answered she ever had any lecture or education about women health care and 96.8% (n=61) said current program was useful. 98.4% (n=62) said she will take annual routine check for cervical cancer.

### Comments

There is little opportunity for general people to have information about women health and cancer prevention. Communi-



ty based educational program may have a role to improve them.

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## Evaluating a Community-Based Health Promotion Program Intervention for Older People with Hypertensive and Hypercholesterolemia

**WU Meng-Ping, WANG Tsu-Chi, YANG WEI-LI, KAO Mu-Jung**

### Introduction

By the year 2020, it is predicted that more than 14% of the population will be 65 years of age or older in Taiwan. The incidence of hypertension and hypercholesterolemia increases with age. As this rapid increase in the number of aged people occurs, hypertension and hypercholesterolemia becomes a growing problem. Chronic disease management requires the individual to perform various forms of self-care behaviors. Self-efficacy is an important factor that influences decision-making in health behaviors.

### Purpose/Methods

The aim of this study was to explore the utility of a structured health promotion program on strengthening self-efficacy of older adults with hypertension and hypercholesterolemia. A pre-experimental study was conducted from January to December 2010. Sixty participants were assessed at baseline and at a 6-month follow-up. The instruments used for data collection consisted of an assessment of self-efficacy towards the management program, a summary of hypertension and high cholesterol self-care activities, health outcomes and an assessment of physical fitness.

### Results

Sixty community-dwelling people (mean age of  $65.8 \pm 5.9$  years, 36.7% males) participated in this study. Results showed positive impact of these activities on health conditions in waist circumferences ( $p=0.032$ ), HDL-C ( $p<0.001$ ) and sit-and-reach test ( $p=0.003$ ). Moreover, age was significantly correlated with waist circumferences ( $r=.35$ ,  $p<0.001$ ), years of hypertension ( $r=.33$ ,  $p<0.001$ ) and significantly negatively correlated with stresses in daily living ( $r=-.33$ ,  $p<0.001$ ). Thus, the health promotion program significantly reduced waist circumferences, increased HDL-C levels and enhanced physical activities.

### Conclusions

Self-efficacy through health promotion courses significantly improved health conditions of community-dwelling older people with hypertension and hypercholesterolemia and so could self-efficacy be improved.

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## Establishment of a Community Diabetes Dietetic Care Team Model in Changhua County and its Cost-Benefit Analysis

**CHEN Wen-Hui**

### Introduction

In an effort to build a community-wide diabetes care network involving primary care institutions, Changhua County was impeded by a shortage of dietitians and the need to provide better nutrition education. The county's Public Health Bureau has therefore chosen a qualified team, through open bidding, which will organize and establish a dietetic care model to assist the primary care institutions.

### Purpose/Methods

Through an open bidding process, a qualified institution was selected to manage community outpatient nutrition counseling for the entire county. Its responsibilities included: assignment and management of dietitians, nutrition education quality monitoring, conducting patient satisfaction surveys, production of educational materials and work manuals, participating in patient support groups, and dietitian on-job training, etc. Funding was provided by the Changhua County Public Health Bureau.

### Results

Beginning in 2010, the CCH Lukang Branch has assumed management of the County's community nutrition counseling. In 2011, it has served 12,204 patient visits during 1,263 counseling sessions at 35 institutions. It has taken part in 21 patient group activities, developed 2 sets of educational materials, and organized 4 on-job training sessions. It has also participated in 20 quality improvement conferences. The average dietitian costs per patient per counseling session were NT\$ 231 and NT\$ 206 in 2010 and 2011, respectively.

### Conclusions

By choosing a qualified institution through bidding to manage diabetes dietetic care for Changhua County's communities, a standardized care model may be established along with improvement in the quality of nutrition counseling. According to data from 2010 and 2011 at CCH Lukang Branch, the average dietitian personnel costs for each counseling session per patient were NT\$ 231 and NT\$ 206, respectively. This indicates an increase in nutrition education sessions and patient visits is linked to decreased dietitian personnel cost.

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## The evaluation on how effective jogging can prevent metabolic syndrome for middle age and elderly

**JHONG Siou ling, KAO Li Chueh, HSU Cyong ru, HSIEH Han Sen,**

### Introduction

From the 2010 health evaluation in Gandau community, we found out that 22% of the middle age and elderly people suffered from metabolic syndrome, and the main cause of that is the lacking of regular exercise. So, in order to change that, we held a 10 week long night jogging course (3 times a week) started from October 2010, so those who work at day time can also participate in it.

### Purpose/Methods

We hope that we can encourage them to establish a health responsibility behavior and exercising behavior, and through doing exercise regularly, we can help them reduce the syndrome of hypertension, high blood sugar and high blood cholesterol. Our invasive strategy includes a series of activities, including the teaching of correct jogging skill, lower limbs strength training course, and healthy diet seminar

### Results

33 students of them are age 40 to 65, there are 97% of satisfactory rate, and their exercising time increased from 22 to 44 minutes. All the average pretest –post test biochemical value after the invasive activities, the triglycerides dropped the most by 31mg/dl, followed by the total cholesterol by 10.8 mg/dl, and the blood sugar dropped by 8.19 mg/dl. 33% of the students have their cholesterol back to normal, follow by blood sugar (24.2%) ,and triglycerides (20.9%) and BMI (6.1%).

### Conclusions

As for the analysis on the pretest –post test of jogging, there are a significant raise in behavioral Attitude, Subjective Norms and Perceptual Behavior Control,  $p\text{-value} < 0.001$  reaching statistics significance showing that the jogging activities has a great influence.

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## A community-based HPH for the prevention of chronic non-communicable diseases

**WU Shu-chuan, CHANG Min-chieh**

### Introduction

The top-ten causes of death in Chiayi county were mostly related to chronic diseases. People with lack of exercise were at high risk for those. In 2009, a survey performed by BHP showed that Chiayi county showed only 54.94% of prevalence for regular exercise. Another survey of Chiayi county revealed 44.86% of adult were overweight; 29.72% of children were overweight, placed 1st in the country. Therefore, development of regular exercise habit and obesity were health issues that should be concerned.

### Purpose/Methods

This study was an intergrating plan under coordination of the community and hospital to reach the purpose of improving health-promoting behaviors. Potz hospital, a community-based health promoting hospital, had coordinated with Potz community to promote "Exercise for health in 2011" health plan aiming to improve health-promoting behaviors and prevention of chronic diseases. The plan included obesogenic environment evaluation, establishing exercise groups, encouraging public participation in weight-loss programs, providing public seminars of several health topics, and creating a exercise-friendly environment.

### Results

Exercise groups included badminton club, dancing club, table tennis club and Pilates. Weight-loss programs included hiking group, healthy-dieting camp, weight-control class, and "Narrow-minded, this summer". The seminar topics included health body positions, healthy dieting and regular exercise. Two inter-community exercise groups and four dining locations providing health-dieting create a health-promoting environment. 500 persons participated and the summed-up weight-loss was 2079.4kg. 45% of the community population have 5 portions of vegetable and fruit every day. 50% exercises three times a week.

### Conclusions

Health promotion is an important issue regarding maintenance of public health. This study has demonstrated that by coordination of the community and hospital, applying associated health promotion plans, and providing accurate health information to the public can help to improve health-promoting behavior of the public. By which may help to prevent chronic diseases and promote a healthier state of the general public.

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## The effects of promoting of Mammography screening

**CHANG Ming Chen**



### Introduction

Breast cancer is the major female cancer in global, it is also became the most common female cancer in Taiwan, and the fourth cause of female cancer death. Breast cancer has become a significant threat to women's health, but early detection and treatment show positive effect. Mammography screening is one of the method to reducing cancer mortality rate by 10% in 4 years. Our institute is a major organization to perform this project.

### Purpose/Methods

The purpose of this study was to investigate (a)the amount of mammography screening, screening rate, screening target achieve rate ; (b)the image performance quality of mammography; (c)the definite diagnosed outcomes; (d)the total incomes of health insurance for mammography.

### Results

There were 6,455 women was screening by mammography in our hospital, 2010. The screening rate was 31.6%, screening target achieve rate was 65.9%.The image performance quality of mammography were as follow : PPV1 5.96%, PPV2 34.48%、PPV3 39.47%、 mean breast cancer detection rate was 3.65%、 mean breast cancer early detection rate was 43.33%、 Axillary lymph node negative rate was 78.57%、 Recall rate was 9.53%.The definite diagnosed and treatment in our hospital was 31 patients. The definite diagnosed rate was 4.9%.The total incomes of health insurance for mammography was increased.

### Conclusions

Multiple promotion strategies in government and hospital, have made mammography screening for early detection of breast cancer more effectiveness.

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## The Effect of Outreach Community cervical cancer Screening Program in Rural Area- Reorient the Services of Health Promoting Hospital

**HUANG Huiya, LIN Mingnan, CHEN Chun-po**

### Introduction

Cervical cancer mortality is still the 5th leading cause of cancer death in women of Taiwan although the health care system adopted a lot of strategies to improve the awareness of screening in hospitals and outpatient clinics. Accessibility of the women of rural area is still the problem for delaying diagnosis of early cervical cancer. As a health promoting hospital in rural

area, we provide outreach screening program to improve the coverage of cervical cancer screening

### Purpose/Methods

Through different modalities, we increased the accessibility of women in rural area for cervical cancer screening. We provided screening activities on holiday and at night for the convenience of women. We coordinated with local public health workers to set up screening posts for women who can access in a short distance. Local public health workers distributed the news of screening to every household. We then compared the outcome and data of women screened in hospital and in outreach programs.

### Results

Compared with national screening results, the positive rate of Pap smear in our hospital and in outreach program were both higher (4.3% and 3.1%), which indicated the screening awareness is still to be promoted. positive rate of women never or longer than 3 years screening interval was about the same in hospital and in outreach program (3.8% and 3.4%). However, percentage of women never or longer than 3 years screening interval was 2 times in outreach program (22.9% vs. 9.3%)

### Conclusions

Reorient the health services to community with outreach programs is very useful especially in rural area. Through the outreach program and cooperation with local health workers, health promoting hospital aims at better health outcome of patients, we may provide better preventive services for the community.

### Comments

We can provide our experience and the cost effectiveness of the outreach program

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## Send love to you — Activation of community healthcare by setting up the first community breast screening service model in Taiwan

**LEE Yuan-Lin, HSU I-Min**

### Introduction

Breast cancer ranks as the 4th highest among all cancers in Taiwan. 88% of Taiwan townships have no mammography screening facility. We wish to increase the rate of early diagnosis and treatment of breast cancer for women live in rural areas, by setting up a mobile digital mammography breast screening system.

**Purpose/Methods**

We purchased the first digital mammography screening car in September of 2009. In cooperation with the Bureau of Health Promotion, we help to set up the accreditation principles of digital mobile breast screening in Taiwan, and set up the first community mobile breast screening model run by a hospital.

**Results**

Our breast screening covers 55 townships, serving 13567 women in 2010, which is 665% increase from 1773 women in 2006. We helped to improve the government regulations, inducing other hospitals to set up their mobile breast screening services. Because of our endeavor, our nationwide breast screening rate has risen from 11% in 2009 to 29% in 2010.

**Conclusions**

The government regulations and digital mobile breast screening model have been set up. We helped to promote women's health by providing convenient examination in communities, without wasting their time. This is our "patient-centered" integrated community health care.

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## Prostate cancer screening program in Taipei City

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**Introduction**

The purpose of this study is to establish the reference ranges of age specific PSA (Prostate Specific Antigen) level and realize the correlation with BMI (Body Mass Index) and serum PSA level by the community based survey in the healthy male of Taipei City.

**Purpose/Methods**

From September 2009 to June 2011, 4,947 male who are older than 40 years old in Taipei city are enrolled. The past history, family history about prostate cancer, serum PSA, BMI and DRE (Digital Rectal Examination) are taken. The participants with PSA greater than 2.5 ng/ml or abnormal DRE are referred to the hospital for further management. Those who had history of prostate cancer, missing data, and repeat examination are excluded. Data of 4,091 male are used for statistical analysis.

**Results**

The mean BMI is 24.6kg/m<sup>2</sup>, median PSA is 1.23 ng/mL. The age-specific PSA reference (95% percentile) are 2.64, 4.38, 6.91, 10.6, and 13.7 ng/mL for the age groups 40-49.9, 50-59.9, 60-

69.9, 70-79.9, and over 80 years old, respectively. There are significant difference in PSA for different age groups ( $p < 0.01$ ). The participants with family history of prostate cancer have higher PSA as compared with those without. The participants with BMI  $\geq 30$ kg/m<sup>2</sup> have lower PSA as compared with those with BMI 18.5- $< 22$ kg/m<sup>2</sup>.

**Conclusions**

The male with higher BMI tend to have lower PSA value. The reference ranges of PSA value in Taipei City have been established. The adoption of higher PSA values for the older age groups may be benefit to the health policy making to avoid unnecessary investigation in elder men with high PSA values.

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## Friendly Screening Mammogram in TaoYuan General Hospital

**YANG Chin-Hua, SUN Sheng-Yih, HSU Yu-an-Nian, HSU Jin-Chyr**

**Introduction**

Breast cancer is the most common cancer affecting women. Since 2002, Bureau of health promotion offers that woman age 50 ~ 69 a free mammography screening every two years than to younger group as age 45. We offer 5 female technicians for community health educations to promote screening mammogram. Most women feel comfortable and also willing to repeat for next mammogram screening.

**Purpose/Methods**

Since Sep 2008, a digital mammogram as tool form mammogram screening in our hospital. As controlled compression pressure to relief pain sensation, we encourage this cancer screening procedure to the community. Specific Health education for mammogram screening was done by five female technicians who are well trained form this procedure and daily practice and some pre-examiers, more than 3 lectures every months in different communities: including radiation protection, benefits of cancer screening and detail introduction of mammogram screening.

**Results**

200 exams/per month on 2008 before promoting health education then more than 600/per month after 2009. Most women were encouraged to receive to procedure after our specific health educations by experiences sharing from our female technicians and pre-examiers. Early cancers was detect (no symptom) receive treatment with good response. More than 80 percents of screeners willing to repeat study of next follow-up.



### Conclusions

Breast cancer is an important issue in Taiwan. Mammogram screening is an efficient way to detect early cancers and reduces the death rate from this disease. We do detect early breast cancers who receive treatment with good response. Community health education by experience and information sharing do improve the amount of mammography screening in our daily work.

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## Exploring the Factors Associated with Resident Continuous Participation in Community Health Examination

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### Introduction

Chronic diseases incidence and mortality increases in Taiwan due to unhealthy lifestyle and population ageing. Health authorities have initiated community multiple health screening to easily detect human health problems. As a health prompting hospital, we have been co-operating with the local health authority to hold a series of community multiple health screening. Increasing resident participation is one of primary objectives of health promotion programs. This study aims to explore the factors associated with resident continuous participation in community health examination.

### Purpose/Methods

Research subjects were those who ever participated in on-site community health screening in 2006 and who also were able to be reached by telephone. A total of qualified participants were 1,598 people. Excluding those who moved away, died or were disabled, 1,502 residents were recruited in this study. We collected data regarding demographic data, personal medical history, health screening results in 2006 and 2007, interview results in 2007 and practical practices in health screening in 2007.

### Results

689 male (45.9%) and 813 female (54.1%) participated. 19% were less than 40 years old; 27.8%, between 41 to 50; 24.8%, between 51 and 60; 28.4%, more than 61 years old. In 2007, 1,139 participants (75.8%) re-participated in the community health screening. Those who promised or considered are more likely to continue to participate in the screening. Those who did not receive telephone interview and had abnormal urine and hemoglobin in 2007 are less likely to continue to participate.

### Conclusions

The participant rate was higher through direct telephone invitation to the participants or indirect invitation through their family members. Also, the participant rate was higher for those who did not directly turn down the invitation, compared with those who did. This study concluded that telephone invitation is an effective strategy to enhance resident continuous participation in community health examination.

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## Can Hospital support the National measles and congenital Rubella elimination Plan?. Six years experience at delivery room of Trento Province - Italy

**PIFFER Silvano, BIANCHI Livia, LAURIOLA Anna Lina, CORAZZA Roberta**

### Introduction

A national measles and congenital rubella elimination plan was approved in Italy in 2003, for interrupting indigenous measles transmission and reducing incidence of congenital rubella. Specific programmes for pregnant women susceptible to rubella have been recommended. In Trento province, since 2005, MPR vaccine is offered besides to children also each at risk puerpera after delivery, before leaving hospital. Present paper analyzes rubeo test and MPR coverage in pregnant women who have been delivered in Trento province in 2005-2010.

### Purpose/Methods

In Trento province, we register about 5.000 birth/year. Since 2005, the data about rubeo test and MPR vaccination at birth are recorded in a computerized database (Attendance Birth Certificate File). This registration is compulsory in all Italian regions. However, only in Trento province data about rubeo test in pregnancy and MPR vaccination after birth are routinely collected and registered at birth. We calculated temporal trend of rubeo test and MPR vaccination by hospital, age, parity and citizenship of the mothers.

### Results

In 2005-2010, 26.513 pregnant women have been assisted at provincial hospital. Rubeo test has been done to 99.0% of women, with any differences in relation to hospital, age, parity and citizenship of mothers. Pregnant women susceptible to rubella were on average 1.682: 6.1%. As a whole, 306 susceptible women (18.7%) have been vaccinated: 0.0% in 2005, 37.9% in 2010. MPR coverage still varies according hospital: 2.0 to 39.0%. There are no differences according age, parity and citizenship.

### Conclusions

Rubeo test coverage remains very high during the whole period, without any differences in relation to hospital of birth, parity, citizenship and calendar year. MPR coverage improves during time with a statistically significant difference, without any differences in relation to age, parity and citizenship. Nevertheless the improvement, the global MPR coverage remains low and there are strong differences among the hospitals. It will be necessary to improve the performance at the delivery room and the relationship with Public Health Department.

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## Cancer screening in a medical center in northern Taiwan

**CHENG SHAO-YI**

### Introduction

Cancer has been the leading cause of mortality for the Taiwanese since 1982. Instead of spending tremendous medical expenditure on cancer treatment, the Taiwanese government has adopted a new strategy of promoting cancer screening for cost benefit in recent two years. Using the tobacco contributes as source of funding, the Bureau of Health (BH) has focused on breast, cervical, buccal and colon, the four most prevalent cancers that accounts for nearly 33% of all cancer mortalities in Taiwan.

### Purpose/Methods

The BH distributes quotas to more than 200 hospitals according to the number of the outpatient patients and sets rules for competition and rewards. The National Taiwan University Hospital (NTUH) has vigorously designed infrastructures and mechanisms for mass screening. It mainly targets the outpatient patients as the source of screening population, using the information technology as the reminder for a tailored screening, and sets rules for competition among various departments in the hope to promote cancer screening.

### Results

In the year 2011, NTUH screened a total of 22,253 adults. The completion rate was around 64.5%. A total of 140 people were pathologically proven to have cancer. They were receiving early referral to specialist for treatment as soon as the diagnosis of cancer was confirmed. We are facing many problems such as shortage of manpower and facilities to meet the high demand, lack of specific population for cancer screening (ex. oral and cervical cancer) and complicated flow process.

### Conclusions

There are many obstacles for promoting cancer screening in a huge tertiary medical center. More endeavors should be devoted into recruiting more assistance, reaching out to the community and simplifying the screening processes.

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## Association of prostate-specific antigen (PSA) with motorcycle riding and body mass index (BMI) in the elderly of Taipei city

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### Introduction

The benefit of PSA screening for prostate cancer is questioned in recent studies. The association between PSA and BMI is still controversial. Several studies show that bicycle riding may affect PSA value, but there are very few studies which mentioned the relationship between PSA and motorcycle riding. The population of motorcycle riding in Taiwan is high. The aim of this study is to clarify the relationship between serum PSA and BMI, motorcycle riding

### Purpose/Methods

This cross-sectional study enrolled 6709 subjects (age $\geq$ 65) who received health examinations at different hospitals of Taipei city in 2009. Daily transportation including motorcycle riding was asked in questionnaire and serum PSA, BMI were collected in the health examinations. Subjects with PSA $>$ 20 were excluded in this study. Student's t-test and correlation test were used to analyze the relationship between PSA, motorcycle riding and BMI. A P value less than .05 represented a statistically significant result.

### Results

The average PSA of the non-motorcycle riding was  $2.64 \pm 2.80$  compared to the motorcycle riding,  $2.41 \pm 2.70$  (table 1). We found statistically significant association between PSA and motorcycle riding ( $P < 0.008$ ). Significant negative correlation was also noted between serum PSA and BMI. There was a trend of inverse relationship between PSA and BMI.

### Conclusions

Motorcycle riding is associated with lower serum PSA level, and there is an inverse trend between PSA and BMI in the elderly of Taipei city. Further prospective study is needed to clarify the PSA level in obesity and motorcycle riding.

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## Diabetes screening activities to enhance the four indicators

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### Introduction

Studies confirmed that early good control of diabetes can continuously to prevent related complications. In addition to focusing on the control of high blood sugar, other risk factors must also be strictly attentive and screened. Annual monitoring of glycosylated hemoglobin, fasting blood lipids test, nephropathy examination, and retinal examination for diabetes outpatient, is patient's right and physician's responsibility.

### Purpose/Methods

By enhancing the rate of four diabetes indicators via the implementation of related planned activities, early detection of disease and immediately appropriate treatment can reduce the possibilities propagation among of complications caused by diabetes. Therefore, analysis to confirm the truth through reason, development of improving the problem-oriented strategies the medical department; the establishment that prompt screening box of health indicators, the report query system: to enhance the screening of four indicators to improve quality of patients' health care.

### Results

Through policy advocacy, information of out-patient medical orders popup from the window, and then orders are taken, four indicators achieve obvious results. Four indicators of diabetes through monitoring query system, each indicators rise significantly, compared in the same period of the year 99-100. Glycosylated hemoglobin test of the whole hospital increases from 81.38% to 89.31%; fasting lipid testing increases from 72.25% to 81.94%; fundus examination increases from 43.65% to 79.86%; urine microalbumin testing also from 39.94 up to 80.90%.

### Conclusions

Patients trust physicians with their health problems, so physicians have the responsibility to care for the patient's health to prevent the complication. The physicians are devoted to the development of their subspecial through field, perhaps neglect to pay attention to other special care needs, so the pop-up alert system diabetes patients benefit by advocacy of early screening, four indicators significantly increases diabetes screening rates, and achieve early diagnosis of diabetes complications.

### Comments

From implementing intervention strategies from the program, the health classroom often receive the reaction pressure from clinicians. Through constant communication, and sustained advocacy, the implementation rate of diabetes, four indicators improved significantly. In addition to the efforts of nurses the main hospital executive pay more attention to the care quality

of diabetes patients with full support, full mobilization of the hardware and software help of diabetes four indicators. enhance the screening rates.

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## Social Difference in Utilization of Cancer Patient Navigation Services in Taiwan: A Preliminary Study

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### Introduction

Cancer is the leading cause of death in Taiwan and patient navigation program is a national initiative to reduce barriers for cancer prevention and to promote quality of cancer care. This preliminary program was funded by Bureau of Health Promotion, Taiwan as one-stop cancer navigation programs at the outpatient settings in 6 hospitals. The sites were led by cancer nurses or social workers and equipped with educational materials and necessities for cancer support.

### Purpose/Methods

Understanding the social difference in the utilization of this program can assist in further development of patient-centered cancer services. The purpose of this study was to explore the age, country-vs-city difference in the utilization of navigation service. Data were based on the professional navigators' records of 4620 navigation encounters.

### Results

The mean age was 48.3 and greater than 1/3 had psychosocial and information needs. 47.0% were made by the patients' own initiatives and 54.4% were in cities. The navigations utilized in country areas were significantly made for older patients, less by patients' own initiatives, more for recurrent cancers, less having psychosocial needs and more having essential material needs. The encounters related to nutrition needs were older, and psychosocial or socio-economic needs were younger.

### Conclusions

Cancer patients and families may seek supports from difference resources and by different strategies. As this one-stop cancer navigation program provided cancer supports in convenient outpatient settings, social differences in navigation utilization may indicate the differences in self-help behaviors and cancer needs. This finding can assist in the future development of cancer navigation programs.

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## The impact of a betel nut quitting intervention on high risk oral cancer population

**TA-CHUAN Hung, CHING-YAO Wei**

### Introduction

Oral cancer incidence gradually increased recently. Research indicated the relation between betel nut chewing and oral cancer incidence. This study aimed to link with the high risk communities to hold a betel nut quitting class and follow up. In the end, we evaluate its effect.

### Purpose/Methods

We cooperated with the community aboriginal church and transportation companies with betel nut quitting regulation to held a 4 hour betel nut quitting class. After the class, we followed up for two months and in the end oral surgical physicians evaluate whether the subjects successfully quitting the betel nut chewing.

### Results

11 subjects participated in the betel nut quitting program. Among them, 1 dropped out. Before the program, the 10 participants were in the stage of preparation for behavior change and averagely ate 20.7 betel nuts per day. After the program, they learned the knowledge of betel nut quitting, and most of them were at the stage of action for behavior change. In the end, 8 participants successfully quit betel nut chewing. It achieved 80% quitting rate.

### Conclusions

Through the cooperation with clergymen and the managers of the institute, the short term effect was present. This study suggested that this betel nut quitting class should also be applied to other workplace and health promoters should prolong the follow up period so as to understand the middle and long-term impact of the betel nut quitting class on high risk oral cancer population.

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## The effectiveness of using an innovative tool of normal blood sugar values to educate the general public

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### Introduction

Among the top 10 leading causes of death in Taiwan, the death rate in diabetes of 5.7 % rated top 5. Moreover, in light of the current survey by Bureau of Health Promotion, only 20.5 % of respondents had correct knowledge regarding fasting plasma glucose(FPG). Therefore, the purpose of this study is to create an innovative tool for effective education on FPG and post-prandial glucose (PPG) levels, and then evaluate its effectiveness.

### Purpose/Methods

We created an innovative tool with a clock totem indicating FPG and PPG values. We used this tool to educate people without diabetes at 7 community health stations, clinics for diabetic education and our hospital celebration event during between 1 September and 5 October 2011. We collected pre-and-post-test data before and after the education with the tool, and further conducted post test again in one week by phone.

### Results

A total of 506 people participated in the program. A correct rate for FPG values increased from 3.2% to 95%, and a correct rate for PPG values increased from 2.5% to 93% before and soon after the intervention. In one week, we successfully followed up 442 participants (87.3%). The correct rate for FPG values is 75%, and that for PPG values is 66%.

### Conclusions

This innovative tool is characterized by the image which blends numerals into time. This study proved the effectiveness of the clock totem tool in diabetic blood glucose education. In the future, in order to promote the utilization of this tool, it is going to be massively produced as key rings or hanging ornaments for mobile phones and leather bag, and the electronic totem image can be uploaded to blogs for download by wisdom mobiles and computers.

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## Expanding the role from disease management to health promotion by diabetes teams in Taiwan

**YU Neng-Chun**

### Introduction

Diabetes is a chronic disease which involves multiple organs and complicated issues about personal life style. People with diabetes need multidisciplinary approach for physiological, psychological, educational, dietary, activity and social issues. Although diabetes teams have worked in the area of health promotion in order to improve the quality of care for diabetes and prevent high risk individuals from diabetes, health promotion activities



in diabetes teams need to become better embedded in whole health care organization and health system framework.

#### Purpose/Methods

The pilot diabetes team program enrolled 2 hospitals in 1991 and increased gradually to 186 health care organizations by 2011, the diabetes teams expanded their care target to community and high risk individuals since 2006 under the program of TADE and Bureau of Health Promotion. The disease/condition specific health promotion standards which included management policy, patient assessment, patient information/intervention, care continuity and cooperation were added to recognition criteria for diabetes health promotion institutes (DHPI).

#### Results

Every DHPI had the commitment on structure, space, resources from their own authority. Patient assessment and intervention through empowerment were applied with evidence-based guideline and continuity. Information was given to the participants and families with report/passport and data was collected for outcome analysis. Average 9,323 high risk individuals attained health promotion program every year from 2006 to 2011, the BW, waist circumference, exercise, blood sugar, BP, Cholesterol showed improvement around 32.8%, 36.9%, 0.50%, 44.5%, 48.9%, 45.2% respectively.

#### Conclusions

Diabetes is one of the main four NCDs highlighted by WHO. High risk individuals including obesity, IGT, high blood pressure, lipid abnormality, family history, insulin resistance and past history of GDM who probably will account more than one third of population age  $\geq 45$  y/o. Expanding the role from disease management to health promotion for both diabetes and high risk individuals is feasible and effective, however, the DHPIs need to adjust their structures to a whole organization level and increase resources.

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## Operation Efficacy Evaluation of Diabetes Support Groups in Taiwan

**YIP Pi-Kung, WANG Yi-Min, YANG Xue-hua**

#### Introduction

Diabetes is one of the most prevalent chronic diseases in Taiwan. To strengthen the support system for diabetic patients, the Bureau of Health Promotion, Department of Health has been encouraging the establishment of local diabetes support groups since 2003; hoping to raise the diabetic patient's acceptance of the illness and strengthen their self-care management, there has been 483 groups established as of November

2011. The aim for this research is to evaluate the operational efficacy of these support groups.

#### Purpose/Methods

The evaluation tool is the "2011 Efficacy Evaluation Questionnaire of Diabetes Support Groups" designed by the Bureau of Health Promotion. The evaluated items include the number of diabetic patients and the high-risk members who have implemented self-monitoring blood glucose twice-a-day, maintaining a healthy diet, physical exercise, weight control, and the Hemoglobin A1c test. We consider the first data to be the one collected three months prior to the interview while the second data refers to the collected questionnaires.

#### Results

The purpose of this research is to understand the operational efficacy of diabetes support groups among 435 groups. Diabetic patients: Above 90% of these groups show effectiveness in the blood glucose monitoring and physical exercise activity; nearly 85% show effectiveness in healthy diet activities; 95.8% show effectiveness in the Hemoglobin A1c test. High-Risk members: Groups with a growing number of those implementing the various evaluation activities are in between 22.3% and 30.1%, with the highest percentage in physical exercise, the lowest in weight loss.

#### Conclusions

Even though the efficiency evaluation of diabetes support groups shows regional differences, after many years of operation, the overall efficiency is substantial. Among the various activities, it seems that physical exercise and maintaining a healthy diet are the easiest items to implement; with over 85% of groups showing achievement, it is evident that this plan has influenced the daily lives of diabetic patients. This plan, combining implementation and research, has provided great evidence for the success of the policy's promotion.

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## Awareness of Lifestyle Risk Factor for Non-communicable Diseases among Adult Population in Taiwan

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#### Introduction

The risk of non-communicable diseases (NCD) is well documented to be associated with lifestyle and behavioral factors. Better knowledge of the risk factors resulted in an increased perception that the chronic diseases are preventable and led to avoidance of the lifestyle risk factors.

**Purpose/Methods**

The purpose of this study was to understand the awareness of lifestyle risk factor for NCD among adult population in Taiwan, and the associated factors. We used data from the 2009 National Health Interview Survey. Awareness of lifestyle risk factors were measured based on self-reported data. A total of 15,052 aged 18 to 64 were included for analysis. Contingency table and Chi square test were used to compare differences across categories. Logistic regression models were applied for multivariable analysis.

**Results**

90.3% of the respondents were aware of at least one lifestyle risk factor for NCD. The most frequently reported risk factor was dietary control (89.7%). Those who age 50 to 64 had a significantly lower awareness than the younger. Better awareness was observed among Men for lifestyle risk factors such as not smoking (26.9% vs. 22.5%) and drinking less (30.0% vs. 24.5%). Higher education, higher household income or professionals in occupation categories were associated with higher awareness of NCD prevention.

**Conclusions**

We clearly demonstrated that dietary control was the risk factor the most adults in Taiwan were aware of. The results highlight the differences between men and women, which implies concerns on gender-specific advocacy or education programs. Interventions designated for specific workplace are required to eliminate gaps of awareness for different occupations. The low awareness in elder population whose NCD morbidity are also high reveals that more efforts shall be made to improve their awareness.

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## Needs Assessments for Patients with Interstitial Cystitis/Painful Bladder Syndrome

**LEE Ming-Huei, TSAI Wen-Chen****Introduction**

Interstitial cystitis/Painful Bladder Syndrome (IC/PBS) is a chronic symptom complex characterized by pelvic pain, frequency and urgency. Depending on the definition, the prevalence of IC is variable. This study analyzes the epidemiologic status of IC and its associated factors of IC in Taiwan in order to explore health needs of IC patients so as to build a IC health promoting health care

**Purpose/Methods**

The sample was based on the population in Taiwan insurance data pool. We explore the prevalence, incidence, and medical expense, distribution of sex, age, different district and hospital

level. Pearson correlation was used to analyze the relation of prevalence among agriculture population average family income ratio and degree of urbanization. Chi-square test and Logistic Regression Analysis were used to explore the relation among epidemiologic factors, underlying symptoms and comorbidities of IC

**Results**

The prevalence and incidence of IC are 22.0/100,000 and 17.5/100,000, male-female ratio being 22% to 78%. Two high peaks are 31 to 40 and 41 to 50 years of age. The high prevalence appears in the least urbanized area, 78.9% of patients being in low economic status. Odds-ratios for recurrent urinary tract infection, migraine, depression, urolithiasis, urinary incontinence, irritable bowel syndrome, asthma, diabetes, rheumatoid arthritis, dysuria, unspecified symptoms associated with female genital organ and overactive bladder were between 1.29 and 4.84

**Conclusions**

High economic income has the less probability than low income in IC. IC patients are more likely to have chronic pain and psychiatric conditions. The patient presents with symptom of IC with pyuria could be seen in the IC group. It is suggested that the health promoting health services for IC patients focus on somatic-psychosocial care, take a holistic and inter-sectoral approach and account for the needs of the individual.

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## Remain marital status endure more risk toward uremia in CKD group

**TSAI Min-Sung, LIN Meng-Te, SHIN Te-En, CHIANG LIN Wen-Chi****Introduction**

Family support was the way to overcome disease. Remain marital status retains family support and also obtains economic support. However, the benefit of marital status in chronic kidney disease is still uncertain. We try to evaluate the role of marital status in CKD patients and the other possible interfering factors.

**Purpose/Methods**

Total 654 CKD patients were enrolled and 156 patients lost follow up thereafter. Patients who stay in marital status initially were grouped as married (N=399), and those in single, divorced or bereft spouse were grouped as single (N=99). Patients characteristics, clinical outcome, psychosocial factors used were ascertained from integrated CKD care program databases. Continue variances were compared by independent t test if appropriately. Categories differences were compared by chi-



square test. Statistical analyses were done with SPSS version 17.0. Survival analysis was performed by cox regression.

### Results

Total 498 patients enrolled with ninety-two patients entered dialysis and forty-three deaths thereafter. No significant difference in baseline characteristics between groups except sex, economic independent status, and education level (Table 1). However, the marital group had significant risk achieving end stage renal disease ( $p=0.035$ ), but not death ( $p=0.156$ ). In logistic regression model, married group had higher risk for uremia and death by  $OR=2.04\{1.04,3.99\}$ ,  $p=0.038$  (Fig 1);  $OR=1.979\{0.76,5.17\}$ ,  $p=0.16$  (Fig 2), respectively. In addition, married group still had significant difference for uremia by cox regression model after adjusting several traditional risk factors, including sex, HbA1c, Hemocrit, Albumin, Cholesterol, Smoking, and even eGFR stage (Table 2; Fig 3). No significant increasing risk of different education level or economic independent status for uremia or death at all.

### Conclusions

The present data demonstrates the deteriorated role of remain marital status for uremia in CKD patients, independent of sex, age, economic origin, or education status. The risk of marital status for uremia in CKD group needs further prospective study to elucidate the causation.

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## A Study of Relationships Between Quality of Sleep and Quality of life and Uremic Pruritus in Elderly Patients With Hemodialysis

**LIN Tzu-Chen**

### Introduction

Uremic pruritus, quality of sleep, and quality of life are three of the most common problems in hemodialysis elderly patients. A descriptive, cross-sectional design was employed, and all elderly patients on hemodialysis in Southern Taiwan.

### Purpose/Methods

A total of 46 regular hemodialysis elderly patients (Age>65) were recruited as participants. Instruments used included a itch severity scale, Pittsburgh sleep quality index and Visual Analogue Scale (range 0-100). JPM 7.0 was used for data coding and analysis.

### Results

Characteristics at baseline were: 54.34% of subjects were men. 80.43% was marries. Hemodialysis duration were  $58.60\pm40.38$  months. 73.91% was dry skin. The mean score for itch severity

scale was  $7.16\pm3.04$  and moderate intensity itching of observed elderly patients. Sleep disturbance affected 78.26% of hemodialysis elderly patients, and poor quality of life (<70) was found in 86.95% of elderly patients. Uremic pruritus and quality of sleep were positively corrected ( $r=0.51$ ,  $p<.001$ ). Uremic pruritus and quality of life were negatively corrected ( $r=-0.52$ ,  $p<.001$ ). Quality of sleep was found significantly corrected with quality of life ( $r=-0.41$ ,  $p<.001$ ).

### Conclusions

The results of this study might help nurses to understand uremic pruritus, quality of sleep and quality of life among hemodialysis elderly patients. They might also serve as a reference in the promotion of haemodialysis elderly patients' quality of life.

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## Informed Decision And Quality Of Life Of Patients With Rheumatoid Arthritis In Greece

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Filippos, PAPACHRISTOU Efstathios,  
TOUNTAS Yannis**

### Introduction

Rheumatoid arthritis (RA) is a chronic inflammatory disease with a major impact on physical and psychological health. It can cause severe disability and reduce health-related quality of life. Like most chronic illnesses, RA management calls for shared decision-making and strong cooperation between patients and their doctors, as well as a high level of knowledge regarding the characteristics of disease and treatment.

### Purpose/Methods

The objective of this study was to assess patients' quality of life, to identify their perceived level of knowledge on parameters of disease and therapy and their sources of information and, finally, to answer whether the provision of services allows patients to participate in decision making. Face-to-face and telephone interviews based on a custom-made questionnaire were conducted among 290 patients (mean age  $54.9\pm12.4$  years, 74.8% women) recruited from public hospitals (69.7%), office based rheumatologists (22.8%) and private clinics (7.6%).

### Results

29.7% of patients expressed complete agreement with the statement "overall, RA affects my quality of life" and 34.1% with the statement "RA has affected my enjoyment of life". 21.7%, 52.1%, 55.2% and 45.5% of patients felt poorly informed regarding type of treatment, side effects, duration of treatment

and possible course of disease respectively. The main source of information for the majority of patients was their attending rheumatologist and treatment decisions were reached without patients' involvement in 70.6% of cases.

### Conclusions

This study reveals unmet needs of RA patients regarding information about disease and treatment options and their participation in decision making. To improve the outcomes and the quality of patients' lives, rheumatologists should provide patients with this knowledge and systematically involve them in the treatment decisions.

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## Utility of frax algorithm- Prevalence of clinical risk factors and osteoporosis screening in Greek women

**BAKIDES Sofoclis, ZANNOU Anna, KOTIS Mihail, DIMARESI Theodora, PAPOULI Foteini, SOUMPASIS Constantinos, OIKONOMOU Athanasia-Nansy, SAKELLARIADIS George, CHARAMIS Angelos, PAPAGEORGIOU George**

### Introduction

Osteoporosis-related fractures cause substantial disability, health care costs, and increase mortality. Introduction of FRAX has become an useful tool in indentifying patients with high fracture risk and qualification for intervention. There is lack of studies in Greece to take into account the use of the FRAX algorithm, especially in remote rural areas.

### Purpose/Methods

The purpose of the study was to estimate the prevalence of FRAX clinical risk factors and to perform osteoporosis screening in a sample of 265 postmenopausal Greek women ,aged 40-84 years . Bone mineral density was measured using heel QUS, clinical risk factors (age, BMI, parent fractured hip, smoking/alcohol, use of glucocorticoids, secondary osteoporosis) were evaluated by the FRAX® algorithm and, also, we calculated the ten-year major osteoporotic fracture risk and hip fracture risk.

### Results

Mean age was 60,55 years and mean BMI : 28,51 kg/m<sup>2</sup>. In total 56 out of 265 were found eligible for treatment after DEXA measurement according to the N.O.F. guidelines.( For women over 65, we have found 51, and 5 for the age group 50-65). Secondary osteoporosis was found in 18,1% of the women, 17% had parental fracture history, 14,3% had a fracture , 12,4% were

smokers, 6,03% received glucocorticoids, 3% had rheumatoid arthritis, 3% consumed above 3 units of alcohol /day.

### Conclusions

The prevalence of different clinical risk factors varies from 3% to 18,1% in this subset of residents of this rural area. The most common factors are secondary osteoporosis and parental fracture history. Additional risk factors (eg falls, number of previous spine fractures etc), not represented in FRAX®, warrant individual clinical judgment. Further studies are required to clarify whether QUS combined with FRAX® have the potential to demystify fracture risk assessment and cost-effectiveness for primary care case-finding when DEXA is not available. This study was the result of the collaboration with permanent strategic partners ,such as :the local municipalities, the regional Hospital, voluntary working staff ,according to the spirit of how health services adapt to the pressing needs that arise from the challenges of the vast Greek Economy Crisis which created socially and economically disadvantaged population groups.

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## Session P2.5: Addressing mental health in the community and the population

### Predictors for Suicidal Ideation in Workers after Occupational Injury

**KUO Chun-Ya, LIAO Shi-Cheng, LIN Kuan-Han, WU Chen-Long, LEE Ming-Been, GUO Nai-Wen, GUO Yue Leon**

### Introduction

Risk of suicide has been associated with trauma and negative life events in several studies. The present study aimed to investigate the prevalence and risk factors of suicidal ideation, and the population attributable risk among workers after occupational injuries.

### Purpose/Methods

The workers who had been hospitalized for  $\geq 3$  days after their occupational injuries between February 1 and August 31, 2009 were included. A self-reported questionnaire including demographic data, injury condition, and the question of suicidal ideation was sent to 4403 workers at 3 months after their occupational injury.

### Results

A total of 2001 workers (45.5%) completed the questionnaires. The prevalence of reporting suicidal ideation in past one week



was 8.3%. After mutual adjustment, significant risk factors for suicidal ideation higher than "serious" in a self rated severity scale (adjusted odds ratio, aOR= 2.31; adjusted population attributable risk, aPAR=34.7%), total hospital stay for 8 days or longer (OR=1.98; aPAR=20.5%), intracranial injury (OR=2.30; aPAR=10.2%), and marriage status of being divorced/separated/widowed (OR=2.70; aPAR=10.0%).

### Conclusions

Three months after occupational injury, a significant proportion (8.3%) of workers suffered from suicidal ideation. Significant predictors of suicidal ideation after occupational injury included broken marriage, intracranial injury, injury severity, and total hospital stay. Identification of high risk subjects for early intervention is warranted.

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## Risk Factors and Survival Analysis of Hip Fracture After First-ever Cerebrovascular Diseases : a Nationwide Population-based Study

**SU Yi-Lin, LEE Yu-San, FU Mei-Chiung, LIN Hsiu-Li, HSU Chien-Yeh, CHIEN Chin-Chieh**

### Introduction

Patients with cerebrovascular diseases have up to a 4-fold increased risk of hip fracture. The fracture not only hinders the rehabilitation directly but also causes patients' flinch from activity. Therefore, it is a critical issue to find out patients with high risk and help them to prevent from hip fracture. The aim of this study is to investigate the occurrence and risk factors for hip fracture in cerebrovascular disease patients.

### Purpose/Methods

We extracted 18,514 patients who were admitted for first-ever cerebrovascular disease during the period 1997-2008 from the Taiwan National Health Insurance Research Database. The first hip fracture following discharge was recorded. The observation stopped on either fracture day or last ambulatory service visiting day if no fracture recorded. The risk factors, including type of cerebrovascular disease, comorbidities, and medication prior to the end of observation were determined. The Kaplan-Meier method was also conducted to estimate the fracture free survival rate.

### Results

A total of 788 (4.3%) patients had hip fracture in the observation period. Type of cerebrovascular disease, diabetes mellitus, anticonvulsants, antidepressants, antipsychotics, hypnotics, female gender, and age over 65 years were independent risk factors for hip fracture after first-ever cerebrovascular disease.

Furthermore, the risk of fracture of these patients rises from 0.95% in the first year to 9.67% in the twelfth year with a steady increment of 0.8% per year.

### Conclusions

The occurrence of hip fracture after cerebrovascular disease, though not frequent, is clinically significant. Health care provider should recognize the high risk group patients of hip fracture and avoid the tragic complication. The medications with potential risk of hip fracture have to be evaluated with caution to balance the risk and benefit before prescription.

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## The initial report of effects on home care service of community psychiatric patients

**TSAI PEI-LING, JIAN Shih-Jhao, HUANG Huei-Kuan**

### Introduction

The characteristics of modern community mental health, stress help patients return to community life, and precautionary disease in early stage, intervention to "Community Rehabilitation Rating Scale for Psychiatric Patients", the evaluation value of one times, The results that psychiatric home care, if appropriate health education and life guidance, focusing on patient self-care and social adaptability of recovery can reduce disease recurrence and functional degradation, disease and disability will impact on the lives of a small drop to the lowest.

### Purpose/Methods

The study subjects are 110 patients who received home care service for one year since Jan. 2009. "Community Rehabilitation Rating Scale for Psychiatric Patients" is applied for evaluation one time before intervention of home care service and one time at one year after the intervention. The results of rating are analyzed with descriptive statistic

### Results

Target demographic distribution: 57.3% male, 42.7% female, average age of 46 years; diagnosis of schizophrenia with the largest (81.8%), Living with families 93.6%; unmarried 50.9%; By the parents to take care 50.9%; Primary caregivers: parents (50.9%), spouse (19.1%), parents and spouse (10.9%). Mental illness community rehabilitation assessment has eight projects, the result care to maintain the same before and after the intervention has positive symptoms, degradation symptoms, self-injury/suicide. family life: progress has interpersonal, work or housework and homework, time allocation.

### Conclusions

Psychiatric home care to provide health education and life guidance can reduce disease recurrence and functional degradation, reduce disability and disease impact on lives. This experience provides home care through a plan of the reference direction.

## Medical Tests and Expense of Community Minor Psychiatric Morbidity with Non-specific Somatic Symptoms in Hospital Outpatients Clinic Visit

**HSIAO Tien-Mu, CHAU Tang-Tat, TSENG Sung-Chih, CHANG Huan-Cheng, HSU Shih-Tien**

### Introduction

Minor psychiatric morbidity (MPM) includes anxiety disorders and mild depressive disorders. We investigated the medical tests and expense of MPM cases when they visited hospital with non-specific symptoms and signs. We explored the risk factors of MPM cases presenting non-specific symptoms and signs and seeking medical service.

### Purpose/Methods

The study enrolled Pin-Zen citizens receiving community health screening service as study population. The subjects receiving Chinese Health Questionnaire (CHQ) and hospital visit questionnaire in 2010 were included as study sample. The risk factors of the hospital visit with non-specific symptoms and signs in MPM were investigated by logistic regression analysis. Medical tests and its expense of the hospital visit with non-specific symptoms and signs among MPM cases and non-MPM subjects were compared.

### Results

A total of 1058 subjects were enrolled as study sample. The prevalence of MPM was 14.6%, 11.3% in male and 17.3% in female. The hospital visit with non-specific symptoms and signs of MPM cases were arranged more X-ray, EKG, treadmill EKG, cardio-echogram and gastrointestinal endoscopy than that of non-MPM subjects. The expense of medical tests in the hospital visit with non-specific symptoms and signs among MPM cases was more expensive than that of non-MPM subjects.

### Conclusions

The hospital visit with non-specific symptoms and signs of MPM cases were arranged more medical tests. Early screening of MPM cases to decrease the medical and social expense need more attention in primary care. Early screening of MPM cases to decrease the medical and social expense is worthy of policy attention and change.

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## Post-discharge readmission or unexpected death in patients with underlying co-morbidity

**SHU Chin-Chung**

### Introduction

Post-discharge adverse events are still high and the incidence would be higher in current ageing society. In particular, the increase of patients with underlying co-morbidity (UC) plays an important role for the rate of readmission. However, this issue regarding post-discharge adverse events (readmission and unexpected death) in the population with UC is not really understood. Therefore, we conducted this study to investigate the rate of the adverse events in this population.

### Purpose/Methods

From April to September in 2011, we conducted this prospective study in a general medical ward in a tertiary referral center in northern Taiwan. We followed patients with UC using telephone regular calls within 30 days after they were discharged to home care. The adverse events including unpredicted readmission and unexpected death were recorded and analyzed.

### Results

During study interval, 125 patients with UC were enrolled from 358 patients discharged to home care. Among them, mean age was 73.4 years, male gender accounted 51% and mean length of hospital stay was 11 days. 65 patients were enrolled for chronic organ failure, 37 patients for diabetes mellitus with complication, 20 for brain disease with Barthel index <60 and 3 for terminal cancer status. Organ failure included congestive heart failure for 15 patients, renal failure for 15, chronic lung disease diseases for 26, and cirrhosis for 9. The readmission events within 30 days after discharge were found in 19 patients (15.2%) and unexpected death was noted in 7 (5.6%). The mean readmission or death interval after discharge was 15.7 days.

### Conclusions

In a Taiwan medical center, patients with UC were as high as 35% in the discharged population and had 20.8% of adverse events occurred in post-discharge period. The events occurred averagely around two weeks after discharge. Short-term post-discharge transitional care should be applied for the UC population in our ageing society.

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## The Evaluation of Home Care Services in Psychiatric Department at a Medical Center

**KU Yan-Chiou, JEANG Shioh-Rong, CHI Mei-Ting**

### Introduction

This study was to investigate the effectiveness of psychiatric home care services for disease control of mental disorder, the families' satisfaction of home care, and reducing readmission. Objects were selected from a medical center in southern Taiwan. We revised the standard of operating procedures, assessed by Brief Psychiatric Rating Scale's, 33 cases were recorded. The disease assessment scores by the 40 points down to 29 points, The number of patients readmitted from 112 dropped to 35 people.

### Purpose/Methods

This study was to investigate the effectiveness of psychiatric home care services for disease control of mental disorder outpatients, the families' satisfaction of home care, and reducing the hospitalization rate. The objects were selected from outpatients of a medical center in southern Taiwan. We improved the awareness of home care in Medical team, revised the standard of operating procedures, assessed patient's condition by Brief Psychiatric Rating Scale, monitor the families' satisfaction and patients readmitted.

### Results

Results: A total of 33 cases were recorded. The disease assessment scores by the 40 points down to 29 points (Lower scores on behalf of stable condition), and the family's satisfaction of home care services is full degree 100%. The number of patients readmitted from 112 dropped to 35 people; they show the effectiveness of intervention.

### Conclusions

The home care services provided continuous medical care to patients, especially the stability of the disease control patients, reduced the number of the patient re-hospitalization days, reduced the burden of long-term care patient's family.

### Comments

The patient can return to the community, and enhanced the community public certain in hospital services.

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## The impact of lower urinary tract symptoms on female sexual function - A hospital employee-based study

**KUO Yuh-Chen, SHENG Heng-Li, LAI Ming-Chih, CHENG I-Li, TSAO Chiung-Bin, WU Su-Lin**

### Introduction

Lower urinary tract symptoms (LUTS) is a common problem in women and frequently coexists with female sexual dysfunction (FSD). Previous studies have investigated prevalence and predictors of FSD among women who also have urinary incontinence, but few have raised the issue of sexual function in women with LUTS. We define the impact of LUTS on FSD using three validated instruments, Overactive Bladder Symptom Score (OABSS), American Urological Association Symptom Index (AUA-SI) and the female sexual function index (FSFI).

### Purpose/Methods

Female hospital employees were invited to complete a FSFI questionnaire and AUA-SI for LUTS. The correlations between the AUA-SI total score (AUA-SI-T), AUA-SI emptying subscore (AUA-SI-E) and AUA-SI storage subscore (AUA-SI-S) with six domains and total FSFI scores were analyzed. In addition, subjects were categorized as having mild LUTS or moderate to severe LUTS based upon the results of questionnaire for further comparison of their FSFI total scores and scores within the individual domains.

### Results

9 subjects completed this study. The mean scores in AUA-SI and FSFI were 3.34(range 0-20) and 21.53(range 2-34.2) respectively. There were 13 (14.62%) subjects having AUA-SI score  $\geq 8$ . The AUA-SI-T and AUA-SI-E scores were negatively correlated with FSFI total scores and domains in arousal, lubrication, orgasm and satisfaction, yet the AUA-SI-S scores were not. Additionally, women with moderate to severe LUTS had significantly lower scores in FSFI total scores and domains in arousal, lubrication, orgasm and satisfaction.

### Conclusions

The sexual function of women is negatively influenced by the presence of LUTS which is mainly contributed by emptying symptoms. The most affected sexual domains are arousal, lubrication, orgasm and sexual satisfaction.

### Comments

Identifying these complaints and treating the etiology adequately can result in significant improvement in a hospital employee's quality of life.

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## Exploring the association between socio-economic status and mental health of middle-aged spousal caregivers in end-of-life care

**LIN Wei-Chun, HSIEH Wen-Hsin, HUANG Wen-Tsung, WENG Chia-Ying**

### Introduction

Studies suggested that spousal caregivers were vulnerable to psychological distress in end-of-life care. They engaged in a dual role when coping with their loved ones' life-limiting illness: they were the primary support providers to the patients, and they needed support as a family member with anticipatory grief. However, they reported benefit findings in this difficult situation and showed posttraumatic growth. Providing appropriate support to meet their needs is one of the essential components of quality end-of-life care.

### Purpose/Methods

This study aimed to explore the protective factors of mental health among the spousal caregivers who were facing the impending death and ongoing suffering of their loved one. This study recruited family caregivers aged under 65 whose partner had been referred to palliative care due to terminal cancer. We collected the demographic data and their family socio-economic status. Posttraumatic Growth Inventory (PTGI), and Perceived Stress Scale (PSS) were used to assess participants' inner growth and perceived stress, respectively.

### Results

Ninety-two spousal caregivers were recruited from August 2008 to December 2009. Participants' mean age was 51.23. Most of them are female ( $n=59$ , 64.1%), high school level educated ( $n=55$ , 59.8%). Results revealed that education level ( $r=-.273$ ,  $p=0.031$ ) and economic status ( $t=2.392$ ,  $p=.020$ ) were negatively associated with self-perceived stress. Female spousal caregivers demonstrated better internal growth and meaning searching ( $t=-2.386$ ,  $p=.020$ ) than their male counterparts. In addition, participants who reported higher posttraumatic growth demonstrated lower perceived stress ( $r=-.29$ ,  $p=.021$ ).

### Conclusions

End-of-life care is a distressing experience for spousal caregivers. This study showed that spouses with lower education and economic status perceived higher levels of stress. The socio-economic disadvantaged may have less resource, including materials and information, to cope with the adversities related to end-of-life care. Thus, early identification of the disadvantaged and actively providing understandable information and various supports may help to moderate their stress. Further studies are needed to explore the mechanism how socio-economic factors affect spousal caregivers' adjustment.

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## Adding Depression screening to Adult Preventive Care Services :a Pilot Study in Taiwan

**LEE Meng-Chih, HSU Pi-Shan, LAI Chung-Liang, CHEN Jin-Jong, LIAO Miao-Yu, LIU Yin-Yin, TU Ken-Rung, LEE Hsuan-Yi**

### Introduction

National Health Insurance in Taiwan provided a free periodic health examination as Adult Preventive Care Services (APCS) for adults whose ages above 40 years. The whole service include general health behavior questionnaires, physical and laboratory examination. Nowadays mental health, especial depression, is more prevalent in adult population. In order to earlier detect depression tendency and further referral, we design to add depression screening to APCS. This program was supported by Bureau of Health Promotion, Department of Health, Taiwan.

### Purpose/Methods

The purpose of this program is to add two step depression screening when client receive APCS. First step, 2 simple questions about mood and anhedonia from U.S. Preventive Services Task Force (USPSTF) were used. If answering any "yes", client would perform second step screening when taking physical examination. The screening tool is 5-items Brief Symptom Rating Scale (BSRS-5), a valid short screening tool to identification of psychiatric morbidity, and client with scoring above 5 would refer mental health clinic.

### Results

176 people were recruited in this study. During first step depression screening, 14(8%) had at least one "yes" answer by 2 simple questions screening. Among the client who completed APCS, 3 clients were scored BSRS-5 above 5 and refer to mental health clinic.

### Conclusions

Depression is important issue in Taiwan. If general adult prevent service can combine simple depression screening will help to earlier detect depression tendency and further health promotion, but it need effective and efficient evaluation in the future.

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## Risk factors of Depression and Anxiety in Male Intravenous Drug Users in the Prison in Taiwan

**HSIEH Hsiu-Fen**



**Purpose/Methods**

Cross-sectional study with purposive sampling and using self-report questionnaires for data collection from December 2009 to August 2010. A total of 774 IDUs were recruited in this study. 671 participants completed the questionnaires; 111 of them were HIV carriers and the other 560 were not. The Zeng Depression Scale (ZDS) and the Zeng Anxiety Scale (ZAS) were used in this study. The risk factors of anxiety and depression among those people were examined by  $\chi^2$  test, t-test and Logistic regression.

**Results**

HIV and hepatitis C (HCV) infections were significant risk factors of depression and anxiety among those IDUs in this study. Those IDUs with coinfection of HIV and HCV had a higher risk for depression with an odds ratio of 2.486. We also found that HIV infected IDUs with economical problem was a predictor of anxiety with an odds ratio of -0.506 than those without economic problem.

**Conclusions**

HIV and HCV infections are risk factors for both of depression and anxiety, those HIV carriers with concurrent HCV infection had higher risk for depression and those HIV carriers with concurrent economical problem had higher risk for anxiety.

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## Openness to differences: toward better mental health of freshmen students in Indonesia

**FAUSIAH Fitri****Introduction**

Studying at the university is considered an important achievement for most Indonesians. However, surviving the university period and graduating with a degree is not easy to achieve. There are different challenges faced by the students, especially in their first year. Adjustment to the new environment and systems was among them. The purpose of this research is to study the psychological distress of freshmen students in Universitas Indonesia. We also study the problems mostly reported by those students.

**Purpose/Methods**

We invited freshmen students from one of the faculties at the Universitas Indonesia. Eighty six percents of them (181 students) were participated in this study. The age range is between 15 and 20 (mean age = 18.07). HSCL-25 was used to measure the psychological distress. The list of problems was measured using the Mooney Problem Check List.

**Results**

Forty eight percents of the students were found out to have high psychological distress. The average HSCL scores of participants were 1.9, which is considered high. However, we didn't find significant differences on those with high and low psychological distress across gender, parental status, living arrangement, and their origin. The domain of problems mostly reported were social and recreational activities, adjustment to college work, personal and psychological relations, social psychological relations, and moral and religion.

**Conclusions**

Different programs were offered by the university to help freshmen to adapt with various challenges in college life. The important problem that has not anticipated yet is in moral and religion domain. Living with different values and beliefs apparently was considered as a challenge to students' beliefs. It creates psychological distress among freshmen. Introducing the idea of accepting different values and beliefs without being threatened seems to be important to prevent the university students from having high psychological distress.

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## Session P2.6: Tackling tobacco and other addictions in the community and the population

### Evaluating the campaign of temperance for the juvenile Aborigine in school

#### CHEN Mei-Chih, CHAN Hong-Ting, TZENG Shin-Hui, YU Yu-Yuan, CHAO Wun-Tsong

**Introduction**

Evidences showed the juvenile Aborigines' alcoholic drinking behavior more than the counterparts of the Han. Those reasons may come from their parents' drinking behavior, less culture leisure activities or the agreement on drinking of reference group. There is also negative relation between drinking behavior and academic achievement.

**Purpose/Methods**

This study tries to create supportive environments for health to reduce drinking by education, strengthen their motivation and develop personal skills to avoid drinking. A ten-class education course was provided. Therefore, 13 students (aged 13 to 16) were invited to join the campaign of temperance. Finally, those participants was reviewed for evaluation their drinking behavior after 2 months later.

**Results**

The majority of participants are male (62%) and comes from the Aborigines' families (92%) with 69% overdrinking behaviors. There were reducing alcoholic drinking from 201gm to 89gm per week ( $p=0.03$ ). This intervening program showed effective in reducing drinking behavior in statistics.

**Conclusions**

Health promotion for reducing alcoholic drinking of the juvenile from the Aborigines was effective by peer group education.

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## Drinking motives, sensation seeking and alcohol use among a sample of Thai high school students

**SIVIROJ Penprapa, PELTZER Karl, PENGPID Supa, YUNGYEN Yongyuth, CHAICHANA Achara**

**Introduction**

Alcohol use during adolescence greatly increases the likelihood that an alcohol use disorder will develop later in life. In a national household survey in Thailand in 2007 current alcohol use among adolescents (12-19 years) was 17.9%. The reasons and motives for drinking alcohol are closely associated to the drinking patterns and consequences of alcohol use. The aim of this study was to assess drinking motives and sensation seeking in relation to alcohol use in Thai high school.

**Purpose/Methods**

Secondary students were recruited from two schools in Chiang Mai. 643 students from grade 7 to Grade 12 were randomly selected and conducted by using questionnaire. Drinking was assessed by lifetime alcohol use, frequency of alcohol use during the last 12 months and in the last 30 days. The Drinking Motives Questionnaire (DMQ-R) is a 20-item self-report measure. The Sensation Seeking Scale form V is a 40-item forced choice questionnaire. Student t-test, chi-square, Multivariable linear regression analyses were used.

**Results**

55.8% had used alcohol, and of the lifetime users, 33.5% were current (past month) alcohol users and 26.5% drink until get drunk. Coping and social motives were predictors for drinking frequency, and coping motives was a predictor for hazardous drinking. Sensation seeking was associated with drinking frequency and hazardous drinking. Within the different sensation seeking components, disinhibition was the strongest predictor for drinking frequency, followed by experience seeking and boredom susceptibility. Boredom susceptibility was the strongest predictor for hazardous drinking.

**Conclusions**

Social motives were scored highest, followed by enhancement and coping. Some drinking motives (coping and social motives) were predictors for drinking frequency. Sensation seeking was associated with drinking frequency and hazardous drinking. Within the different sensation seeking components, disinhibition was the strongest predictor for drinking frequency, followed by experience seeking and boredom susceptibility. Boredom susceptibility was the strongest predictor for hazardous drinking. Preventive alcohol use strategies should take into account coping and social motives and sensation seeking in Thai adolescence.

**Comments**

The study only enrolls adolescents who are in school. School-going adolescents may not be representative of all adolescents in the region as the occurrence of alcohol use may differ between the two groups. As the questionnaire was self-completed, it is possible that some study participants may have miss reported either intentionally or inadvertently on any of the questions asked. And this study was based on data collected in a cross-sectional survey. cannot ascribe causality to any of the associated factors.

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## Improving healthcare management and prevention of drug abuse with Ketamine in Taiwan

**TSAI Hsiu-Nan, HUANG Chi-Chen, CHEN Shu-Ling, LI Wan-Shang, CHENG Wei-Ting, LIN Yi-Hsuan, LIN Meng-Chiao, YEN Yu-Chin**

**Introduction**

Tobacco control is an important part of public health science. However, drug control has not concerned much, especially for ketamine. The incidence of recreational ketamine use increased through the end of the century. In 2003, the WHO Expert Committee on Drug Dependence raised concerns about it. In Taiwan, ketamine-associated ulcerative cystitis (KUS) has become more prevalent in recent years. Health, psychological, social, and legal issues, are associated with ketamine abuse. It is necessary to analyze how to improve healthcare management and prevention of drug abuse with Ketamine in Taiwan.

**Purpose/Methods**

Since 2003, there have been more ketamine abusers visiting our hospitals because of severe urinary tract symptoms. We have presented 7 academic reports concerning Ketamine-associated Bladder Ulcer syndrome (KUS) in Taiwan. In 2007, Shahani reported a new clinical entity concerning Ketamine-associated



ulcerative cystitis, which would develop a new challenge for clinical treatment. In October 2009, Professor David Nutt recommended that ketamine be re-classed in the UK, as several patients had experienced irreversible bladder damage. According to the principles of health promotion, we try to improve the health gain of ketamine abusers by clinical healthcare, legal study and legal reform in Taiwan.

### Results

From Sep. 2003 to Nov. 2011, there were 216 Ketamine-abusers diagnosed as KUS. In the initial report, there were 28 (82%) female patients and 6 (18%) male patients (average: 21.6 y/o). The drug abuse history was 2.7 years on average. Thirty-one patients (91.2%) experienced significant improvement initially in the three month period. However, most of the patients recurred in the long term. Surprisingly, 201 patients (80.5 %) could not quit the drug finally. If drug abusers could not quit ketamine and change lifestyle, they would hardly relieve the painful bladder in spite of multiple treatment modalities!

### Conclusions

Ketamine-associated ulcerative cystitis is a severe bio-psychosocial disease. Health promotion for ketamine abusers depends on the quality of diagnosis and treatment and on the psychosocial support for their personal disease management and lifestyle development. The former chairman of the British Advisory Council on the Misuse of Drugs, David Nutt, suggested that Ketamine should be upgraded from a class C drug for better drug control, which is also worthy to be considered to improve healthcare management and prevention of drug abuse with Ketamine in Taiwan.

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## A Research on Recognition toward Tobacco Hazard in different level schools in the east district of Chia-yi City, Taiwan

**CHEN Wen Chun, HUANG Yiu Jung, SU Pei Hung**

### Introduction

It's well-known smoking hurt our health; however, many students still get stuck in the hazard of smoking or second-hand smoke. Our nation has been putting efforts in promoting the endangerment of cigarette since 1997, and New Tobacco Hazard Control, which passed in 2010, promoting our National Health Institution and every level school aggressively create no-smoking campus, but we didn't know whether every student can acquire same information and resources. Therefore, this research is to explore their recognition toward tobacco hazard.

### Purpose/Methods

This research focus on the different level students in east district of Chia-yi city, totally there are 210 students, 120 for junior high school, 60 for high school, and 50 for high night school. In April, 2011, we took a survey on all of them with a questionnaire which contained 15 questions about basic information, smoke hazard recognition, and smoke hazard knowledge.

### Results

The survey showed the highest smoking rate in night school for high, family smoking-rate highest in high school; junior high students would persuade family to quit smoking. In three questions "Whether smoking would do harm to personal health, other people's, and our environment?" students in night school for high showed the worst accuracy. The questions above all showed significant difference, while there was low in the recognition of New Tobacco Hazard Control policies and quit-smoking hotlines, only 5% students acquired.

### Conclusions

It's been many years Taiwan promotes tobacco hazard control in campus, but we can see there's still significant difference among students in different level schools, especially students in the night school for high with the highest smoking-rate and lowest recognition. We suggested that most activities were held in daytime and therefore they couldn't get the information. Though most students know the damage that smoking cause to our body and environment, they know little about how to search for quit-smoking resources.

### Comments

This research could be referred to by our promoters of National Health Institution or schools to remind us that the executors of school tobacco hazard control should put different demands of students in different levels into consideration and provide variety of promotions, and in the future they should put more emphasis on promotion and increasing approaches of quit smoking service and resources, not just the tobacco hazard knowledge.

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## Association Between Incidence of Respiratory Symptoms and Tobacco Smoke in Adolescents

**CHEN Jer-Min, HUANG Bing-Fang, WANG Wen-Hua, LEE Yung-ling**

### Introduction

Asthma and respiratory symptoms are increasing among children and adolescents worldwide. The risk of asthma and respiratory symptoms associated with tobacco smoke has been examined in both cross-sectional and prospective studies of younger

children. However, few studies have investigated the role of the same exposures on respiratory symptoms onset during adolescence. We examined the association of tobacco smoke with the subsequent development of asthma and respiratory symptoms among cohorts of Taiwanese adolescents.

#### Purpose/Methods

Risk factors for the development of asthma and respiratory symptoms were examined in Taiwan Children Health Study of 3,909 7th grade adolescents from 14 different communities in Taiwan at entry into the study, who were followed for up to 2 years. Newly diagnosed cases of respiratory symptoms were identified by follow-up questionnaire in 2009. The risk associated with tobacco smoke assessed by questionnaire at entry was examined using Poisson regression model with Bonferroni adjustment for multiple comparison.

#### Results

Tobacco smoke was associated with increased risks of developing exercise induced wheeze and bronchitic symptoms. Adolescents who reported smoking had a risk of 1.45 for new-onset exercise induced wheeze compared with nonsmokers. The effects of secondhand smoke (SHS) were associated with increased risk on chronic cough. An increased risk on developing chronic cough and phlegm without having cold with active smoking were noted. The interaction of SHS with asthma or wheeze history of participants was significant on developing bronchitic symptoms.

#### Conclusions

We conclude that tobacco smoke is a risk factor for new onset exercise wheeze and bronchitic symptoms in Taiwanese adolescents. The restriction of tobacco smoke exposure in adolescents is strongly recommended.

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## Determinants of smoking cessation attempt among junior high school smokers in Taiwan

**HUANG YING-CHI, HELIAO HCAC-HAIR**

#### Introduction

The problem of adolescents smoking has been one of the spotlights among tobacco control issues. Surveys conducted by Bureau of Health Promotion indicated that the smoking prevalence rate of 13 to 15-year-old junior high school students was increasing from 6.5% (8.5% in males and females 4.2%) in 2004, to 7.5% in 2006 (9.7% in males and females 4.7%). In addition to keep preventing adolescents from beginning to smoke, we think it is meaningful to reduce the smoking juvenile population by finding out those influencing factors on the smoking cessation attempt of adolescents with smoking habits.

#### Purpose/Methods

Thus, this study is to analyze the profile of current smoking cessation behavior in junior high school students and correlated factors with smoking cessation attempt.

#### Results

This study carries out a secondary data analysis. The data resource was from "Taiwan Youth Tobacco Survey, TYTS" conducted by Bureau of Health Promotion in 2006. We sifted out totally 3,864 smoking junior high school students as our research objects. In this study, we borrowed the fourth stage of PRECEDE-PROCEED model as our conceptual structure to classify possible impact factors into three categories: predisposing, reinforcing, enabling factors. In addition, we employed SPSS (ver. 12.0) software as our tool to have statistical inferences.

#### Conclusions

The results showed that there was 84.23% of smoking cessation attempts among smoking junior high school students. There were no statistically significances between those attempts and gender, age, or school grade. In addition, the predisposing factors that influencing smoking cessation attempts of smoking junior high school students were "Belief of smoking on health", "Belief of smoking on social relationship", and "Attitude on the social image of female smoking"; the reinforcing factors were "Access to antismoking information", "The sources of tobacco control advice or help", and "Resistance of handy cigarette from good friends"; the enabling ones were "Whether or not buying cigarettes from out-of-pocket money."

#### Comments

Those smoking adolescents are inclined to have smoking cessation attempts if they believe smoking are not good for their health and social relationships, or having negative attitudes on female smoking, having access to antismoking information, or having had been received tobacco control advice from health professionals, friends, or family members or the help of smoking-quitting program, or having had resistance of handy cigarette from good friends, or not having had buying cigarettes from out-of-pocket money. Therefore, we suggest there should be more services provision of smoking quitting channels available for junior high school students with smoking habits, in addition to endeavoring to law enforcement and continuous anti-smoking campaign. For the promotion of tobacco control education toward adolescents, we suggest a focus on the social skill trainings of interpersonal relationships and smoking resistances. Specifically, the training program may include the topics that smoking can result in negative social relationships, negative social images, and poor health.

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## Effectiveness of smoking cessation services integration plan=A Case of Hospital in the Tainan Area

**PAN Yueh-Chiu, CHEN Chien-Chun, LIANG Chun**

### Introduction

The subjects of this study is the Hospital in Tainan area, Effectiveness of smoking cessation services integration plan by ENSH's Standard set, integration cross-department of organizational structure and management systems; and build smoking cessation services supporting system to create a smoke-free hospital environment.

### Purpose/Methods

Using a convenient sampling method, survey to hospital staff, patients, community residents have a history of smoking for the study, hospitals have formed a cross-department working group to promote tobacco control, and the following measures: 1..Implementation of the smoking cessation service system processes 2..To implement smoking cessation notification process 3..Established smoke-free policies quality monitoring mechanisms 4.Self-certification standards by ENSH Checklist

### Results

The willingness to support the hospital to become smoke-free hospital and promotion the smoke-free policy, Agreed by 55%, who was strongly agree 32%, 87% of the total agreed to support the expression.Which people want to quit and 67%, but will use the smoking cessation rate of only 21% of outpatient. We want to have smoke-free environment, but can be put into action to quit smoking is still a minority. Therefore, in addition to the establishment of smoke-free environment, and should actively educate the public to help more smokers quit successfully.

### Conclusions

Through this program to promote the experience, the smoke-free, quality, a sense of quality and innovative ideas in-depth hospital management, to provide more humane care for medical care, through the active participation of all sectors to provide smoking cessation services to help more smokers quit successfully, so that people can be more healthy.

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## A community tobacco related factors assessment: a case of an industrial community in Taipei.

**KUO Yi-Jiun, CHEN Ping-Ling, LIU Tsui-Tao, CHEN Shu-Ting, CHENG Chun-Kuei, YU Yo-Hui**

### Introduction

Since Taiwan enacted new Tobacco Hazards Prevention Act regarding Smoking Bans for indoor public spaces in 2009, smokers have changed to smoke in outdoor areas. The congregation of smokers in outside workplaces is apparent. Research has shown that community and work environments have influence on smoking behaviors, therefore, it is important to have a tobacco related assessment before building a smoking free community later on.

### Purpose/Methods

We conducted a tobacco related factors assessment in an industrial community through a questionnaire and windshield survey from May to July 2010. The survey contained tobacco hazard environments, cigarette warning posters in the retail stores, knowledge of tobacco, opinions and actions of smoke-free environments. We gave out 300 questionnaires with convenient samples and collected 277 valid questionnaires. Afterwards, we used SAS 8.0 to analyze the data.

### Results

The smoking rate was 16%, which was higher than the average in Taipei City. Logistic storage workplaces were found to have the most serious cigarette butts littering. Also, cigarette butts were not correctly put out. Smokers and no-smokers have significant diverse knowledge, opinions and actions regarding building smoking free environments. Fewer non-convenience stores put up cigarette warning posters.

### Conclusions

It is important to conduct tobacco related community assessments before building a smoking free community so as to initiate corresponding projects. Regarding smoking free industrial communities, hospitals should not only emphasize the negative impact of smoking on health but also link with a safety issue in order to draw attention of industries and the public.

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## Review the Effectiveness of Tobacco Free Homes

**TANG MENG-BIN**

### Introduction

An increased risk of respiratory infections, ear infections, asthma, allergies, heart disease and sudden infant death syndrome has been reported in children of parents who smoke. The link between parental smoking and an increased likelihood of

smoking in adolescence also suggest this as a key health promotion target.

#### Purpose/Methods

We tried to establish interventions in smoke free home. A literature search used ACP Journal club, Cochrane, Medline, PubMed, ScienceDirect, MD consult by key words "smoke free" and "tobacco free". Review these searched data (updated to November, 2011) thru meta-analysis and systemic review methods.

#### Results

We found that counseling, counseling plus additional aspects, individually adapted smoke-free home programs and motivational interviewing might reduce environmental tobacco smoke. Only a small number of studies had definite interventions on tobacco free home. Mixed evidences for this effectiveness had been noted.

#### Conclusions

This review was limited by only few specific groups and populations, it requires higher quality works and further interventions with follow-up. Currently the effectiveness of smoke free home was unclear due to inconsistent evidence.

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## Promotion of Tobacco-free Prevention: the Network Model between Hospital and Campus

**LEE Shih-Wei, TSAO Yu-Tzu, LEE Hui-Hui,  
HSU Jin-Chyr, HSU Yuan-Nian**

#### Introduction

Cigarette smoking has notorious impact on human health. In view of the social, economic, and health care burden, the major goal is to prevent the adverse outcome of cigarette smoking. Education, consultation and medical treatment enable effective integration of people with non-smoking and anti-smoking concept, attitude, and ability and also improve quality of life.

#### Purpose/Methods

To deliver the education programs more effectively and practically, we try to build up a network between health care providers and the school-age population within the campus. In addition, we encourage smokers to participate and play a pivotal role in the tobacco-free promotion. The aim of this study is to evaluate that the network formed beyond the traditional scope of smoking prevention and tobacco control may reinforce the action and create a new model of anti-smoking campaign.

#### Results

Interactive teaching, questionnaire evaluation, and outpatient follow-up plausibly shade the light on the complex interaction of cigarette influence. The results of this new model are promising and the short-term longitudinal effects preclude the frequent failure of tobacco control, even in the community-based population.

#### Conclusions

Using this new model, more people will acquaint the concept of tobacco control, and the study population seemed not only to bring the message to their family but also predispose a milieu of anti-smoking activity in the community, thereby changing the way of traditional approaching. However, further studies should be investigated to clarify the short-term results on the promotion of tobacco prevention.

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## Session P2.7: Addressing infectious diseases in the community and the population

### Health promotion project in Leprosy patients in Taiwan

**WU Li-ling, YEH Chien-yu, SU Chi-yuan, SU Tsung-wei**

#### Introduction

A major part of leprotic patients in Taiwan are old and dependent on health care facilities. Leprosy causes patient disability because of delay treatment. Social stigma, poorly financial support, insufficient care, and isolation policy are all issue of leprosy.

#### Purpose/Methods

We attend to construct a project to promote quality of life in leprosy population. Since 2005 to 2010, we declared the human right of leprosy patient and applied to the authority. We constructed multi-care Setting. We provide medical-care servicing, stratified patients by activity of daily living (ADL)、instrumental activity of daily living (IADL) and care demand, re-active groups activities. Outside the courtyard travels twice per year, nursing stations for 24 hours on duty were held.

#### Results

The after our application, the "Human Rights and Compensation of Hansen's Disease Patients Act" passes in Dec. 2008. 20% of leprosy patients had severe dysfunction and 10% of them had moderate dysfunction in ADL. Patients with severe dysfunction





need more ADL, IADL support than medical care. Patients with moderate and the rest of patient need more medical care and general affairs support then daily life care. Patients in medical building need more ADL, IADL support than medical care. Patients at infirmary areas and other dormitories need more medical care and general affairs support then daily life care. Life quality increased from 60% to 90%.

### Conclusions

The quality of life in leprosy patients improved through our project.

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## The Study of Latent Tuberculosis Infection Screening among Close Contacts of The Closed Local Community Hospital in Eastern Taiwan

**WANG Shuo-Wei, KONG Koon-War, LIN Jung-Chung, KU Chih-Hung, SU Ying-Shin, CHEN Hong-I**

### Introduction

The outbreak of tuberculosis disease is still a serious problem in Taiwan, especially in some special closed settings. Tuberculin skin test (TST) is the usual clinical tool for diagnosing latent tuberculosis infection (LTBI), however, the result of TST are prone to be confounded by Bacille Calmette Guérin (BCG) and Nontuberculous mycobacterium (NTM). The new diagnostic method QuantiFERON TB Gold In Tube test is whole blood test for Mycobacterium tuberculosis infection, including LTBI and tuberculosis disease, and it does not affect by BCG and NTM.

### Purpose/Methods

This study chose a total of 115 patients use questionnaires to investigate the risk factors about their demographics, previous history of TB, smoking status, and other factors for latent TB infection and use QuantiFERON TB Gold In Tube test to screen person for latent TB infection from June 2011 to September 2011. The purpose of this study is to understand the prevalent situation and risk factors for LTBI among close contacts in the closed Local Community Hospital in Eastern Taiwan.

### Results

The rate of the QFT-GIT positive were 40.9% (47/115). Among 47 positive cases, all of them had no any abnormal lesions on simple chest radiograph (CXR) but there were nine cases had the old TB history and all the cases were diagnosed with sputum smear-negative. In addition, 86 of them had Bacille Calmette Guérin scars. All participants were negative for HIV. We use the

SAS9.2 to analyse the questionnaires for finding the correlations and risk factors about LTBI.

### Conclusions

This study showed that about the 40.9% (47/115) close contacts had LTBI that is higher than other Latent Tuberculosis Infection study of Southern Taiwan Hospital 26.11% (47/180). Definitely we should concern about the issue of Mycobacterium tuberculosis infection at closed medical institution, especially in some inadequate ventilation systems units or lack of the infective control regulations.

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## The impact of government policy on the isolated treatment of the positive case for acid-fast bacilli

**LIN Ching-Hsiung, CHOU Chiu-Yen, LI Pei-Lin**

### Introduction

Globally, tuberculosis causes 9.27 million incidence and 1.77 million deaths every year (WHO, 2009). In Taiwan, the incidence of tuberculosis was 74.1 / 100,000 in 2004. There is still high incidence rate of TB in Taiwan. TB accounts for 70 % of infectious diseases and one new TB patient was identified per 36 minutes. Department of Health, Executive Yuan, has initiated a program '50 % reduction in TB in 10 years' to increase screening rate, enforce TB control and reduce TB incidence.

### Purpose/Methods

This study is to present the experience of improving isolated treatment rate of the positive case for acid-fast bacilli according to government policy. We selected the positive case for acid-fast bacilli as the prioritized target for isolated treatment. An information system was developed to notify the TB control team once the case is identified. The team will follow up the treatment and undertake seasonal reviews.

### Results

In 2008, total 240 cases only 42 positive cases for acid-fast bacilli received isolated treatment. However, in 2009, total 194 cases had 119 cases received isolated treatment; in 2010, total 205 cases had 117 cases received isolated treatment; in the first half year of 2011, 35 cases received isolated treatment. We also found that the positive cases reduced year by year and then the number of patients who need to receive isolated treatment decreased.

### Conclusions

This study concluded that the government policy had a positive impact on TB control in Taiwan. In our hospital, the sputum

AFB stain(+) received isolation treatment only 17.5% ; in 2008 , Multi-disciplinary we achieved 53% of acid-fast bacilli received isolated treatment ; in 2010. Early detection and early treatment was effective in wiping out communicable diseases. For those who are not willing to receive treatment, it is important for hospitals to cooperate with the public health system to conduct continuous follow-ups.

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## Stigma intervention of MDR-TB patient by emotional support through DOTS system

**LEE Shir-Yi, LIN Chou-Jui, HSU Jin-Chyr,  
HSU Yuan-Nian**

### Introduction

Stigma feeling in TB patient influences drug compliance and life quality, especially for MDR-TB patient. Emotional status as a component of stigma, emotional ventilation could be as a method of stigma intervention. We tried to manage the emotional status of TB patient through DOTS care-givers who have been well trained by some important psychological issues.

### Purpose/Methods

2. Purpose and Method: Training DOTS care-giver with material reading (about the fears of long-term illness) to form common focus of emotional status of TB patient. Stigma scaling was performed twice, before evaluation and 2 months later. Case conference was held every two weeks to discuss every patient in list for emotional management with the language and issues in the reading material, and to form the consensus of the patient's condition. We want to know the change of stigma feeling through this of emotional support for MRD-TB patient.

### Results

The stigma scale has no change after our emotional support. Only one patient has great change, from grade 3 to 0, he had completed his medicine treatment course. But from the response of care-givers, all patients have softened their attitude to take DOTS and to chat with their care-giver. And all care-givers highly recommend this kind of team work for DOTS system to empower their capacity to manage their patient's emotion.

### Conclusions

Maybe the stigma scale we apply is not suitable for our purpose. Because the stigma scale is focusing on the content of stigma feeling, not the degree of it. So, only the patient had completed medicine treatment course could take off the coat of stigma through our stigma scale. But the changes of TB patient

through the observation of care-givers should be emerged by some other emotional scales.

### Comments

1) According to the results, we know we should invent some stigma scales not only for the content of stigma but also for the degree of it. 2) DOTS care-giver training should include some courses of psychological issues of chronic disease to soothe the anxieties and fears of patient and care-giver.

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## Creativity Epidemic Prevention: A Case Study of Aboriginal Tuberculosis

**LIN Szu-Hai, KUO Hsu-Tah, CHANG Chih-Ming**

### Introduction

After the SARS epidemic, the CDC decided that on the [Taiwan Healthy Community Six Star Initiative Program], hoping to promote the [localization] community prevention plan, stimulate the community's prevention awareness and crisis understanding, and improving community prevention capability. In the long run, aboriginal life expectancy has been below the national average by 7-10 years, with tuberculosis affecting every 200 out of 100,000 people in the aboriginal community, 3 to 4 times more than the average occurrence in Taiwan. Aborigines face three large obstacles in receiving medical treatment, Financial Barrier, Geographical Barrier, and Cultural Barrier. This research pushes for a change of concept, providing health education, and nurturing a [sustainable growth, results sharing, responsibility sharing] sense of community.

### Purpose/Methods

This research takes into account cognitive difference and different lifestyles in the aboriginal communities, pushing for a change in concept and attitude during the Tuberculosis campaign, with the main theme that [Prevention is a Unified Step into Healthiness]. Gathering a group of experts to setup key target structure and implementation directions, investigating wiliness of community partners, setting up a contact window for each team. Implementing a framework with five groups to promote prevention, establish unified strategy, assess community and health education, design teaching material focusing on epidemic prevention, and promoting early childhood education. Teaching tools are based on three characteristics: malleability, mobility, and localization. The six main goals of the teaching tools are: multiple use, various age groups; easily carried, readily available; reducing the gap, public participation.



### Results

Survey results show that 72.5% have received tuberculosis related health education, but there is still 27.5% of the group uneducated in this matter. 70% of the group have heard of the DOTS plan, but 30% of the public remains in the dark. Knowing a close friend or family members that have had tuberculosis infections stand at 58.8%, with 40% of those cases not resulting from family history. 92.5% answered being willing to receive further relevant health education messages, showing a high degree of demand.

### Conclusions

Overall integration of activities and creation of multiple teaching material are key points in planning, and in the results find that an atmosphere of [Prevention is a Unified Step into Health-iness] has been achieved. Expert meetings and focus groups have been an important focus of the program, helping to achieve and overall success. Health promotion activities need to focus on the individual's needs, with a key point of needing public affirmation, and longer term planning and consideration are needed for sustainable growth.

### Comments

Five large actions for spreading community awareness: 1. Prevention teaching rooted in picture books and painting competition on campus child health 2. Use of dance class and relatives of patients as seed advocates for teaching epidemic prevention in the community 3 Design epidemic prevention T-shirts to help spread public awareness 4. Usage of the results of this questionnaire survey as a basis for further research 5. Promote diverse epidemic prevention education materials into school and community edition versions (aboriginal languages), and editing the material by those with the public and Aboriginal teaching certificates. Increase the volunteers knowledge of tuberculosis bit by bit through clarifying questions raised in the focus groups and using DOTS care members simulation exercises. Prevention picture books are a golden teaching material that can be divided page by page and recombined, overcoming the issue of lacking teaching materials.

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## Session P2.8: Safeguarding the environment and addressing climate change

### National Health Promotion Program Utilizing Meteorological Services: Proving Guidelines On Disease Affected By Climate Change

### CHOI Suhi, NO Young Soo, PARK Sang Young

#### Introduction

Meteorological elements have a profound influence on a variety of human health conditions. Temperature, humidity, air pressure and so forth, contribute to mortality rate of certain diseases. Global warming and dramatic changes of atmospheric elements are becoming more intense and frequent, which leaves many of the vulnerable population unprotected from its impact on human health. Boramae Medical Center (BMC) started the 'Bio-weather Information Service' to ensure that patients with weather sensitive diseases are properly prepared with accurate information and assistance.

#### Purpose/Methods

'Bio-weather Information Service' contributes to prevent potential public health risk that may arise due to climate change. By analyzing both meteorological and clinical data, it offers practical guidelines and action plans. 'Bio-weather Information Service' can be divided into three which are 'MD's Weather Advice', 'Daily Health Forecast' and 'Live Health Education'.

#### Results

'MDs Weather Advice' It provides daily health tips on diseases that respond sensitively to climate variation, such as stroke, hypothermia, asthma and etc. This service is offered through the weather section of newspapers, webpages and mobile applications. 'Daily Health Forecast' BMC's collaborative research on bio-meteorological index with Korea Meteorological Administration transforms a complicated index into an easy-to-understand format for the public. 'Live Health Education' An internet based television program brings lively health education on diseases that react sensitively to the change of meteorological elements.

#### Conclusions

BMC is the nation's first healthcare organizations which developed a public health program that collaborate meteorological and clinical data. Its major aspect is to increase accessibility of reliable health education about illnesses, conditions and diseases which are sensitive to certain weather conditions. This program will empower and educate the public to self-manage and practice a healthy lifestyle.

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### Increase in healthcare demand of Emergency department associated lower temperature, an emergency department view.

### SHEN Chao-Hsien

### Introduction

Extreme weather- weather phenomena that are at the extremes of the historical distribution- was noted globally in recent years. Arduous temperature change lead more emergency department(ED) visits was noted. As we know, ED occupancy has increased over time and both ED occupancy and mortality rates increase in winter. An understanding of the relationship between demand of ED healthcare and lower temperature is important to guide appropriate distribution of health care resources.

### Purpose/Methods

This is a retrospective analysis of an existing dataset of patients who presented to the Chia-Yi Hospital ED during calendar years 2003–2009. Chia-Yi Hospital is a mixed adult and pediatric regional hospital. The ED is the one of five serving a city with a population of 300000, and receives 10 000 presentations annually. The mean ED visits per day was recorded monthly for corresponding mean monthly temperature. Chinese New Year period and trauma patients were excluded.

### Results

The three hottest months during 2003–2009 were June, July and August with mean temperature of 27.1, 28.4 and 27.8 degree in Celsius respectively. In contrast, the three coldest months during the same period was December, January and February with mean temperature of 16.6, 14.8 and 15.8 degree in Celsius respectively. The mean ED visits per day during the hottest months was 15.2. In contrast, the mean ED visits per day during the coldest months was 17.9.

### Conclusions

The climate lead to seasonal change of ED visits. Some diseases like influenza and coronary heart disease are more common in the winter. The mean ED visits per day during the coldest months was 18% greater compared with the hottest months. Thus, when the temperature goes down, the demand of ED healthcare is even greater. ED and hospital bed occupancy were expected to be higher and overcrowding of ED was more serious in the winter.

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## Policy recommendations to reduce lead exposure from lead-based paint: Environmental Health Promotion Alternative for better IQ.

### UTHAISANGPHAISAN Saengnapha

### Introduction

Lead is one of the major environmental health hazards which harms many organ systems, particularly children's mentality. Thailand's Healthy People Strategy 2004 aims to increase chil-

dren's IQ by promoting familial and social supports. However, it inadequately integrate environmental health promotion into its actions, whilst lead-based paint is commercially available throughout the country and is the biggest source of lead exposure among children. Thailand successfully phased out leaded gasoline and this is a prime time to continue on to lead-based paint.

### Purpose/Methods

The research included a sound literature review from both national and international sources. Lead chemistry profile, risk of lead-based paint exposure and evidence of its health risks were collected. The current situations, health and financial benefits of exposure reduction were collected, compared, and analyzed to produce policy recommendations. The ultimate aim of the research is to advocate policy makers in banning lead-based paint in Thailand, to promote a better living environment for people.

### Results

Evidence shows negative health effects from lead exposure. Environmental health policies do not only help preventing diseases but also promoting a healthy living. Cost analysis also shows a great saving of health expenditure and relevant economic losses. Budget spent to control lead paint hazards will yield at least 17 times return in health benefits. Three major recommendations were introduced, in order to ban lead-based paint in Thailand. Those include public communication, roles of government in regulating/monitoring/creating partnership, and doing research/surveillance.

### Conclusions

Kids are the nation's future and most countries wish to improve their quality of life. The long history of lead poisoning provides many lessons about environment and public health. Lead was widely used before the toxicities were clinically exhibited. Kids are more vulnerable and their intelligence inversely relates to their blood lead levels. The research intends to raise the awareness of public and government bodies about lead exposure and benefits of banning lead paint in Thailand.

### Comments

This research focuses mainly on Thailand and its situation. However, from the literature review and such an analysis, the researcher found that many developing countries are also facing a similar health risk without sufficient public health concerns. The recommendations are, therefore, not only helpful for Thailand, but may apply to those countries as well.

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## Building Green Hospital in Supporting Environment-Friendly Health Services

**HUANG Paul, SU Bao-Yuan**

### Introduction

As the global warming becoming worse and worse, energy conservation and carbon reduction has been the new thinking of public policies among countries all over the world. Constructing sustainable low-carbon emission society, developing low-carbon emission economic, and greenhouse gas reduction has been a global trend.

### Purpose/Methods

Our hospital carried out sustainable projects on both energy resources management and waste disposals reduction. We plotted a five year plan, starting from 2007 to 2011, focused on environment protection with "Reducing waste disposals and Increasing recycle volume" and "Conserving hospital energy consumption and reducing carbon emission" as the project goals.

### Results

Through all kinds of activity on energy resources management, our hospital effectively decreases the greenhouse gas emission. The reduction on carbon emission volume was 2,910 tons in 2007 and 4,280 tons in 2010 and sustainably containing hospital energy resources process cost.

### Conclusions

By ways of rolling out various action plans for years, hospital staffs have changed their behaviors toward green life style and encourage colleagues to join in by turning off water and power when not-in-use and doing recycling as the daily routine and as the result of containing hospital costs and supporting the environment friendly health services as well.

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## A Health Promotion Hospital Supporting Environmental Friendliness

**CHIN Chung Chiu**

### Introduction

A hospital is like a small community. But these small-scale communities can perform the functions for sustainability promoted by the HPH, which include seven key elements; energy efficiency, green building design, renewable energy, transportation, food, waste, and water.

### Purpose/Methods

Since 2007, we have launched a series of environmentally friendly measures at our hospital such as the adoption of equipment with high energy efficiency, the adoption of green building materials, the launch of free shuttle bus services, waste recycling, the procurement of green products, sourcing local produce for restaurants at the hospital, and rain water recycling.

### Results

When a patient arrives at our hospital via shuttle bus from the MRT station, which runs throughout the day, what he or she sees first is the LED lighting. Then, the patient can take the smooth, variable frequency escalator, use the toilet which uses recycled rain water, enjoy a specially-designed 350-calorie meal and conveniently throw trash in the recycling bin. Wherever a patient goes in the hospital, he or she will notice a facility or device displaying one of the seven elements.

### Conclusions

In a city, a large hospital naturally serves as an indicator of environmental friendliness in the community in which it is located, no matter where the community is in the city. Since our hospital is a member of the Health Promotion Hospital Network of the World Health Organization (WHO), it is our responsibility to lead the way for Taipei to become a low carbon city and an environmental friendliness pioneer in the community.

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## Like the Earth, Changhua Christianity Hospital's Visions in Action

**LAI Yu-Cheng**

### Introduction

With Kyoto Protocol coming into effect on February 16 2005, countries all over the world have to take the issue of greenhouse effects seriously given that the pressure of decreasing greenhouse gas (GHG) increases gradually. Taiwan, with the largest proportion of discharging GHG, has thermal power plants and steelmakers, whose discharge ranking no.1 globally. The role of Taiwan in saving energy and reducing the carbon dioxide is important.

### Purpose/Methods

Changhua Christianity Hospital devotes itself into two aspects including to tap new resources and to reduce expenses. By definition, to tap new resources is to improve the use of energy efficiently, thereby reducing the waste which hospitals have to consume. To reduce expenses means that the plastic composition of waste can be retrieved and recycled after disinfecting; it can be done to reduce waste.

### Results

To tap new resources, the methods are upgrading the equipment of hospital, especially for those parts used frequently. Furthermore, the provision of hot water from boiler is replaced by the heat pump, to set up 32.9kW solar energy to generate electricity system, and to set up the Variable-frequency Drive of air compressor. In terms of reducing expenditure, it can be done to reuse the waste after sterilization. Like dialysis tubes, injection syringes and pipes, whose plastic parts can be recycled.

### Conclusions

In terms of tapping new resource, the estimate of saving like the provision of hot water is to save NT 1,020,000 by the heat pump per year. 32.9kW solar energy electricity generation system can send 48,034kWh in the peak of loading, saving NT 144,000 in total per year. In terms of reducing expenditure, the recycle of plastic waste can make a yearly reduction of 60,000 kilogram per year, saving NT 420,000 per year. In sum, the collaboration of administrations can make every effort to save NT 1695,000 per year.

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## Measuring Sustainable Development as HPH in nursing education

### VAARTIO-RAJALIN Heli, NORRGÅRD Monica

#### Introduction

Sustainable Development should be seen as one important aspect of HPH. The competence-based nursing curriculum of Novia University of Applied Sciences in Finland, Turku, identifies Sustainable Development as one competence in nursing and public health care education, and it's all aspects are integrated into learning modules. Furthermore, Novia University of Applied Sciences has a certified environmental policy, according to which all students in Novia take a course in SD. However, implementation of this policy is not systematically analyzed nor documented.

#### Purpose/Methods

The purpose of this project is to develop and pilot an instrument to be used to identify different aspects of SD education in higher vocational education. The aim is thereafter to use this instrument in national analysis of SD in higher vocational education: first in nursing education, as a part of health promotion competences; and then in other programs.

#### Results

According to our preliminary analysis (quality system, one conference paper, and one paper) SD can be identified in higher vocational education on all three categories (socio-cultural,

ecological, and economical) and on three levels (macro-, meso- and micro).

#### Conclusions

For a safety and continuous health promotion praxis the aspects of SD should be planned, applied and assessed in health promotion services. With a help of our instrument, this can be conducted.

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## Promote the Green and Carbon-Reduction Hospital – Taipei Tzu-Chi Hospital

### Y ANG Ming-Chong, CHAO You-Chen, CHOU Lih-Lih

#### Introduction

Not only medical services, also a comfortable and convenient environment in hospital, medical technology, advanced equipment, resulting in rising energy consumption, make the best use of resources control, has become an important issues for hospital. In view of this, the hospital is committed to make the best use of resources and effective management. On the other hand, drive the hospital colleagues and patients assistance and cooperation, together reach a "guardian of life, protect the earth, environmental provinces love the earth."

#### Purpose/Methods

Power: Everyday 5 stage adjustment of ice water temperature. Set the room temperature does not exceed 26 ℃. Emergency generator load test from weekly to monthly. Water: Spray irrigation and rainwater collection and water erosion in the water recovery. Diesel: Steam boiler pot to take initiative to ask the relevant supplier of equipment to use steam sterilization time to take control off the pot time. The pumped back to the boiler water supply tank to improve the supply water temperature to 60 ℃.

#### Results

From May, 2005 until now, each year to reduce energy consumption than the previous year, nearly five years, the amount of electricity are 181 kWh / m<sup>2</sup>.yr (MOEA Bureau of Energy, indicators Hospital Statistics 2010 (EUI) of 200kWh/m<sup>2</sup>.yr). The electricity reduction 203,205 degrees, to reduce carbon dioxide emissions 12659kg, diesel use decreased 8,604 liters, water use reduction 16,895 degrees, and total reduce carbon dioxide emissions 35,399kg.

#### Conclusions

Taipei Tzu-Chi Hospital is a green energy building, in addition to a large number of planting grass and tree, In addition, rainwater recovery system and water-saving facilities to the use of solar



assisted heat pump system installation equipment to replace the traditional boiler. Furthermore, building configuration, each floor balcony are set to reduce direct sunlight, dust and noise, emphasis on natural lighting, energy saving lights, air-conditioning to reduce or not, people get along with nature, but also live with the earth.

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## Implementing plastic medical waste recycling, reproducing and reusing – success in the hemodialysis room

**CHIANG Ying-Jen, CHEN Ning-Kuo, CHAO You-Chen, TENG Fang-Yu, WU Jie-Ying**

### Introduction

With advances in medical technology and equipments, awareness in the amount of medical waste produced is mandatory. Medical waste management regulations and policies are important environmental issues. These regulatory implements help reduce hospital infections, protect the health and safety of hospital healthworkers and patients and decrease the potential danger to the community. Our hospital's goal is to reduce and reuse these medical wastes in hopes to upgrade the quality of health care for our environment.

### Purpose/Methods

Our hospital continuously searches for different waste reduction modalities. Recyclable plastic wastes, such as artificial kidneys and infusion catheters used in the hemodialysis room, are collected, sent for sterilization, processed to secondary plastic material and reproduced into another plastic product. We evaluated the amount of medical plastic waste produced per patient per day and the cost reduced on medical waste management before and after the implementation in between January 2008 to December 2011.

### Results

Before the implementation of medical plastic waste recycling: average medical waste produced in the HD room per month was 4266.5kg, accounting for 22.3% of our hospital's total medical waste produced. After the implementation: average medical waste produced in the HD room per month was 2160.2kg, accounting for 11.7% our hospital's total medical waste produced. The average monthly cost reduction in medical waste management is about \$67,402 NTD (~\$2240 USD) and the average annual cost reduction is about \$808,824 NTD (~\$26,960 USD).

### Conclusions

Through recycling, reproducing and reusing medical plastic waste, decreasing the amount of medical wastes produced and the negative effects on the environment can be achieved. 1. For

the patients and the community: decreases the risk of infection and biohazards 2. For the healthcare workers: decreases the risk of occupation-related injuries 3. For the hospital: decreases the cost on medical waste management.

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## Pharmaceutical Waste Management Education to Children and Adolescents: in a Regional Teaching Hospital in Taiwan

**LAI Yen-An, CHEN Li-Chi**

### Introduction

Ren-Ai hospital of pharmacy committed to promoting pharmaceutical medicine education knowledge for years. Our vision is to fulfill the social responsibility of public health, especially ageing population, children, and adolescent. In recent years, the disposal of unused prescription medications from health care facilities and household has become an increasing concern, include National Health Insurance resources problem and environmental pollution. Thus, we draft a plan to hold series health education activities and try to prevent current drug wasting condition.

### Purpose/Methods

At 2009, we plan to deliver a course for children and young people about the knowledge of correct medication habits and drug waste recycling from 2010 Jan to 2011 Oct. Health education promotion covers the entire elementary and junior high schools in Da-an District. Every activity was approved by school recognition. Pre-test were done before the lecture begin and post-test with questionnaire survey were also completed after the course.

### Results

We held sixteen health education symposiums in Da-an District during 2010 Jan to 2011 Oct. Beside drug waste recycling education, we also prepared three basic medication safety briefings. About 520 elementary and junior high school students attended to the lectures. There were 85% of students passed the exam, 92% had grade improved more than 40 point after post-test, and 78% of students like the lectures. Total of 462 valid questionnaires were accepted.

### Conclusions

Implementation of the National Health Insurance allow people in Taiwan have comprehensive medical security, but the policy also derived a number of issues about the waste of medical resources and one of the problem is drug waste. Accumulation of these drugs is harmful to public health and environment. Therefore, with the government promoting policies, we com-

mitted to advocacy of drug discarded recycling and look forward to build a healthier environment for community health.

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## Session P2.9: Developing health services and systems for community and public health

### Active management can improve return visit rate of patients with chronic disease in community

#### CHIZAN-CHUNG Chen

##### Introduction

In Taiwan, "The National Health Insurance Project of Integrated Delivery System in the Remote and Mountainous Areas" has been implemented since 1999. The hospital has undertaken the project for Xiulin Township since 2004. To enhance medical effectiveness, we hired a resident as the administrator for patients with chronic disease in the Chongguang Tribe since 2010. This study compared their return visit rates (receiving the treatment on schedule) within one year before and after the intervention to verify the effectiveness of active management.

##### Purpose/Methods

This study compared the outpatient visit records of 18 patients with hypertension or diabetes. The status of the following visit was according to the drugs amount in the former visit. If patients failed to return on schedule, the administrator would pay a home visit to remind them. Besides, he visited patients' home to record their blood pressure and medication status once weekly. There were three statuses for the patients' visits: 1. spontaneously returned; 2. returned after being reminded; 3. failed to return, the reason would be recorded thereafter.

##### Results

The annual return visit rate of a total of 18 patients (number of return visits/ required return visits) was calculated. The return visit rate was 47% in 2009 and increases as 70% in 2010. In 2010, 43% of them returned to the clinic without reminding and 27% after being reminded. The leading reasons for failure to return were as follows: 1. Patients forgot; 2. Patients went out; 3. Patients still had unused drugs.

##### Conclusions

The intervention of the administrator's active management could increase the overall return visit rate of patients with chronic disease in the community. However, it could not increase the return visit rate of patients who spontaneously returned to the clinic on schedule.

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## Nutritional treatments in Italian chronic Home Care patients: the experience of a northeast's unit

### RUGGERI FEDERICO, MOZZONI LORELLA, SANCHEZ LILIANA, ROCCHI PATRIZIA, BARBERINI MARIANO

##### Introduction

F. Ruggeri MD<sup>1</sup>, L. Mozzoni<sup>1</sup>MD, L. Sanchez<sup>2</sup>, P. Rocchi MD<sup>3</sup>, M. Barberini MD \* Operative Unit of Anaesthesia and Intensive Care <sup>1</sup>Dept. of Emergency - "G. Ceccarini" Hospital - Riccione, AUSL RN, <sup>2</sup>L. Pierantoni Hospital, Forlì, <sup>3</sup>"Cervesi Hospital" - Cattolica (RN), AUSL Rimini - Emilia Romagna, \* S. Salvatore Hospital, Pesaro, Rationale: long term follow-up of nutrition treatments within a nutrition HOME CARE population, with weight change and BMI as main outcome

##### Purpose/Methods

Methods: We have done a systematic follow up regarding medical and nutrition diagnosis, Artificial Nutrition prescription, energy and protein enriched diets, energy and protein dense sip feeds; body weight (BW) and BMI was undertaken, inclusion criteria were >75 years, not obese, ≥3 follow up/years, morbidity and mortality. The nutritional assessment was evaluated by MNA<sup>®</sup>. All informations was collected from medical records.

##### Results

Results: n=139 subjects were included (29 % males), mean age for females 84 ± 6,3, males 81 ± 5,7 years (p>0,05). Mean number of follow ups 15 ± 11 and follow up time 20 ± 14 months. For 14 % of them no clear medical diagnosis was identified, 23 % were suffered of dementia, 15 % of circulatory diseases and 5 % of Parkinson's disease. On 45% were diagnosed at risk of malnutrition, 25 % with mild protein-energy malnutrition and 13% with moderate. 28% needed a wheel chair and 40 % were fed. 58% (n=82) were given an oral nutrition prescription, in mean 1014 ± 268 Kcal/day. The rest 24 % (n=34) were prescribed energy and protein rich meals rich meals and/or other energy rich drinks, while 18 % (n= 23) were treated with artificial nutrition (enteral / parenteral). In the total group 40% gained weight over time (mean weight gain 3,9 ± 3,6 Kg). Baseline weight was negatively correlated with age (r= -0,27, p < 0,01). There no difference between weight gainers and losers in age or baseline BMI within nutrition diagnosis, the mild malnourished participants were more likely to lose gain weight. Medical diagnosis had no effect on weight development. There was an observed complication index of 0,57 episodes/patient-year and our index of rehospitalization was 0,26 hospitalization/ patient-year.





### Conclusions

Conclusions: This database make it possible to obtain long term follow-up of Home care at risk of or diagnosed with malnutrition regarding outcomes of nutrition prescriptions. It is shown that even in this old and sick population weight maintenance and weight gain are achievable over a long period to avoid risk of refeeding syndrome. These values are like those found in many other studies. Anyway, it is necessary to underline that better education and greater awareness are necessary to improve the quality of care and the clinical outcome in this group of home-treated patients.

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## Supporting Rural Areas with No Traditional Chinese Medicine Center with Mobile Medical Services

**FANG Chien-liang, CHANG Yu-chen,  
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### Introduction

There is no Traditional Chinese Medical Center in certain rural areas, islands or aboriginal tribes in Taiwan. In order to improve the inequality in health care resources, the National Department of Health and the National Union of Chinese Medicine Doctor's Association initiated the mobile clinic project. The Chinese Medicine Department of Chia-yi Christian Hospital continued the project from 2004.

### Purpose/Methods

1. Every Sunday, doctors go to the clinical center of San-mei village, Alishan Township for Chinese Medical Services. 2. Promote the Traditional Chinese Medicine care, improve local residents' health. 3. Cooperate with evacuation hospital, screen the patients who need further treatment, and establish the referral network.

### Results

From 2005 to 2011, total number of people treated by Traditional Chinese Medicine is 4830. Top six illnesses treated are: 1.Disorders of soft tissue, 2.Back disorder, 3.Osteoarthritis, 4.Disorder of joint, 5.Bronchitis, 6.Acute nasopharyngitis (common cold). Top six illnesses treated by Western Medicine are: 1.Acute upper respiratory infections, 2.Essential hypertension, 3.Acute bronchitis, 4.Diabetes mellitus, 5.Hypertensive heart disorder, 6.Osteoarthritis.

### Conclusions

The Traditional Chinese Medical treatments include Chinese Medicine, acupuncture, and Manipulation treatment. In the mobile medical centers, the main illnesses treated by the traditional Chinese Medicine are disorders of soft issue, Osteoarthritis and pain treatment. On the other hand, illnesses treated by Western medicine are upper respiratory infections, Diabetes

mellitus, and Hypertensive heart disorder. The Traditional Chinese Medicine and Western Medicine can complement each other, strengthen the quality and expend the service categories of medical care in rural areas.

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## Community pharmacists' potential role in health promoting activities in Greece

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### Introduction

Community pharmacists have an important role to play in public health and health promotion, as a major source of information and in the frontline of primary health care. In Greece there is a significant number of community pharmacies, which, usually, have a specific clientele from the community in which the pharmacies operate. In the light of this, Greek pharmacies offer personalized communication and easy access; therefore, they often are the public's first choice when seeking primary health care services.

### Purpose/Methods

The purpose of this survey was to assess public's perception of community pharmacists' role and provided services. The national household survey Hellas Health IV was conducted during October 2011 and covered both urban and rural areas of the 13 geographical regions. The sample consisted of 1,008 individuals, aged  $\geq 18$  years old, and was representative of the Greek population in terms of age and residency. Interviews were conducted according to the ESOMAR code of practice. Effective response rate reached 45.8%.

### Results

92% of the respondents are satisfied with the level of information provided by their pharmacist. 25% turn to the pharmacist to receive health advice and for 10% he/she is their first choice for advice when a health issue occurs. 48% visit their pharmacist 1-3 times per month. Among those who usually visit a certain pharmacy (72%), 98% have a good relationship with their pharmacist. 44% stated that pharmacists should primarily be health counselors; 64% rate pharmacists' social contribution as high.

### Conclusions

Pharmacists can be an important resource for health promoting services in Greece. They can be the gateway to the wider community, multiplying the effect of any health promoting activity by reaching a larger amount of people. The positive views

towards pharmacists, held by the public, show the potential of further enhancement of their role as health advisors, which is already widely accepted by the public. Health promoting hospitals should provide training and include them in their community health promoting activities.

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## Public Satisfaction Survey on a Community Health Services Provided by a Public Hospital

**SZU-HAI Lin, JUI-SHENG Sun, PO-HAO Chiu, JING-JHIH Jhang**

### Introduction

For strengthening community action, resources and promoting community health, the hospital must go into the community, getting involved in the health service of the community, improving the awareness of community people to the health issue. For several years, it is the main purpose of the Institute to understand the degree of the satisfaction about those services serve by health education, adult's health examination.

### Purpose/Methods

The study objects are the people, receiving health examination, of the community of one public hospital. The sampling method is a comprehensive investigation of questionnaire by systemic sampling. The scope of the investigation includes: (1) location and facility (2) time and period of the activity (3) personnel's service and activity content (4) whole satisfaction. From September 11 to September 17, 2010, total 200 questionnaires are delivered by the Community Health-building Center. The effective returning rate is 100%. SPSS17.0 is used for data processing and statistical analysis data description and chi-square analysis.

### Results

From description statistics, the order of the positive appreciation of community people appraise is (1) As to the attitudes and feeling good about whole satisfaction of nursing staff, other attendants it is 99.0%. (2) It is 97.0%, for the appropriate arrangement of time and time period (3) As to location and procedure, it is 96.5%. (4) As to the time control and doctors' attitude, it is 96.0%. (5) As to the health instruction of the medical personnel in the activity, it is 95.5% (6) as to the expectancy of community people, it is 95%. (7) As to the thing that activity can improve health knowledge skill feel good, it is 94.5%. (8) as to the facility of activity, it is 94%. (9) as to the content of the activity arrangement, it is 93.5%. (10) as to the tidiness of the activity environment, it is 92.5%. (11) As to the privacy of the examine place, it is 85.5%.

### Conclusions

People's requirement of the standard of the medical care is getting higher and higher especially the privacy requirement. Therefore, this study proposes a careful planning in the arrangement of the examination place, where people feel secured and comfortable. Offering complete community medical service can understand the local medical demand in depth even more, carry on disease prevail rate investigate, offer community health education to result, lower disease prevail rate take place, and build community health. In order to understand community people's real medical demands and opinion, the opinions, in addition to the survey of the opinion of the people building the activity and participating in except the community, we can enter into the community to implement the house family and visit and look at investigating, and strengthen the activity and declare and lead and enable people to know the importance of health, can also hold more similar activities, make community people understand their own health status even more.

### Comments

(1) Since Community people complain about the confusion of the procedure and route of examination, it is proposed that setting a service spot for the consultation of people about problems and medical health by the associated personnel. (2) When holding Community health examination, it is proposed that setting up a map about examination items for the convenience of people to looking for.

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## Improving healthcare system support for Infection Control in Taiwan Under the International Health Regulations

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### Introduction

Infection control plays an important role in a health promotion hospital. A novel influenza virus (H1N1) emerged in North America and appeared rapidly around the world. The revised International Health Regulations (IHR 2005) are designed to protect against the international spread of public health emergencies. In terms of infection control, H1N1 could be considered as a lucky failure! However, Health and legal issues have persistently been associated with infection control. It is necessary to analyze how to improve healthcare system support for infection control in Taiwan under the IHR.



**Purpose/Methods**

How to review the strategy to tackle the emerging infectious diseases? A series of "diagnosis and treatment" contains the following procedures: 1. identifying public health risk; 2. notification, 3. continuous communication, 4. determination of PHEIC, 5. response, core capacity, technical guidance, 6. recommendations, 7. health measures for infection control: medical interventions, drugs, vaccine, quarantine, isolation, social distancing. According to the principles of health promotion and a series of medical-legal-ethical matrix analysis, we try to improve healthcare system support for infection control in hospital in Taiwan under the international health regulations.

**Results**

Reviewing the events of international communication demonstrates the defects of infection control and decision making process of a public health emergency of international concern (PHEIC) under the IHR 2005. Although 2009 H1N1 is milder, it still reveals weaknesses in surveillance and response capabilities of many countries, failing to implement sufficient health measures, under the challenges to implement the IHR 2005's obligations, especially focusing on the Article 18 about adapting appropriate health measures and recommendations, timely and effectively. General reviewing, our health promotion hospital achieved effective control for H1N1 infection just because of adopting appropriate health measures and scientific recommendations.

**Conclusions**

Under the threat of H1N1 influenza pandemic, the implementation of the IHR 2005 faces several challenges, especially (1) lack of capacity of detection and infection control in developing countries, (2) lack of effective health measures and poor coordination between federal and regional governments in decentralized countries. We have experienced the first pandemic caused by a novel H1N1 in the 21st century. With our knowledge and experience about influenza viruses, we have learned how to cope with pandemic. Our health promotion hospital will continue to adopt appropriate health measures for any pandemic and infection control under the International Health Regulations.

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**Medical services in Taoyuan prison**

**CHERN JIMMY, HSU YUAN-NIAN, CHANG HSIU-NIEN**

**Introduction**

The incarcerated population in Taiwan has increased dramatically over the past 10 years. However, after incarcerated in jail for 2 months, the inmates are excluded from the National Health Insurance (NHI) program in Taiwan. The overcrowded inmates have made hygiene and medical services a big problem

in jail management. A prospective health promotion and medical services plan in Taoyuan Prison has been launched by the cooperation of Department of Health and Ministry of Justice in Taiwan since September 2010.

**Purpose/Methods**

The purpose of this plan is to provide efficient health care and evaluate the medical demand in jail system. All inmates incarcerated in Taoyuan Prison could receive outpatient services in jail, which were supported by Taoyuan General Hospital. If the inmates were seriously ill, they would be sent out to have emergent medical care in Taoyuan General Hospital. The health care utilization of inmates, including number of outpatient care and number of hospitalization, were evaluated between January and June 2011.

**Results**

There were 1,981 inmates incarcerated in Taoyuan Prison at the end of May 2011. The number of outpatient care services provided in Taoyuan Prison was 11,716 during the study period. The estimated frequency of outpatient care utilization was 11.8 per inmate-year. Besides, there were additional 274 emergent or routine medical services in Taoyuan General Hospital, which resulted in 104 hospitalizations. Hence, the estimated hospitalization frequency in jail is 0.10 per inmate-year.

**Conclusions**

Though the inmates were relatively young (mean age  $37 \pm 1.7$ ), the healthcare utilization in Taoyuan Prison was similar to general population in Taiwan (12 per person-year for outpatient care, and 0.14 per person-year for hospitalization, respectively). Further health status evaluation for the inmates should be launched to evaluate the future impact on health insurance resources and medical expenditure.

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## Effects of Incentives on Participation in the Health Promotion Referral Following the Adult Preventive Care

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**Introduction**

In Taiwan, National Health Insurance provided a free periodic health examination for adult whose ages above 40 years, which is a kind of "Adult Preventive Care Services (APCS)." The mainly aim were detect the chronic disease and unhealthy risk factors early, through the following treatment and referral, but the referral rate is not high. We put incentive factors to increase

participation rate in this study. This program was supported by Bureau of Health Promotion, Department of Health, Taiwan.

#### Purpose/Methods

The purpose is to assess the effectiveness of incentives intervention on increasing people's participation in the referral service (RS) and the health promotion referral of exercise (HPRoE) following the APCS. 200 people who attended the APCS were referred to researcher, where they accepted different incentive approach. Group 1 got an opportunity of free HPRoE (included fitness test and exercise consultation) and gift cards; Group 2 got only a free HPRoE if they participate in the RS.

#### Results

Group 1 had a significant higher participate rate of RS (100% vs. 72%,  $\chi^2=6.489$ ,  $p$  value<0.05) and achieve rate of HPRoE (79.6% vs. 61.4%,  $\chi^2=6.489$ ,  $p$  value<0.05) than group 2. At 1 month follow up, subjects of HPRoE had a significant improvement in the exercise habit and exercise intensity, but it wasn't different in the exercise frequency and time after the intervention of HPRoE.

#### Conclusions

Established the connection between APCS and incentive-based RS could encourage more people to participate in referral service. Health promotion referral of exercise get some effect on improving people's exercise behavior.

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## An Overview of Personal Health Records (PHRs): The Taiwan Case

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#### Introduction

Taiwan's National Health Insurance program (NHI) has achieved a highly efficient medical care and health coverage system that all socioeconomic levels in Taiwan can use for good medical care, with a satisfaction rate up to 82.9% (2009). In addition to NHI's core resources, Taiwan has a broad and strong healthcare ecosystem, along with an excellent information and communications infrastructure. This paper focuses on a basic overview of the existing status and progress of the Personal Health Records (PHRs) of Taiwan.

#### Purpose/Methods

In looking to improve PHRs, there are some specific factors we would like to focus on. To emphasize these, we will explore academic research, including business case studies, and analyze health regulations, along with highlighting existing healthcare services, information infrastructure, and pose various privacy/security issues. This research includes interviews of medical

personnel and health care system personnel with the intention that, through the proper integration of all this information, we have accurately described the current status of Taiwan PHRs.

#### Results

Effective 2010/05, the Personal Information Protection Act was added to the NHI Act and the Medical Care Act, in order to provide more powerful protection of personal privacy. We now know that Taiwan has 14.6 million Internet users and 88% of families have equipment to access the Internet (TWNIC 2010/01). Some healthcare providers provide free PHR data sharing with their patients in order to enhance their competitiveness in this industry. In terms of record development, maintenance and upkeep, there is still a lack of integration of medical information, making the information difficult to exchange and access across hospitals.

#### Conclusions

PHRs have great potential for extensive use, but need to address issues of privacy and consistency in data criteria, entry methods, institutional sharing and public access. The first step is to improve providers', patients', policymakers' and taxpayers' attitudes toward PHRs. Through the effective integration of medical resources, we can make more accurate medical decisions, and also improve efficiency and reduce healthcare costs. It is hoped that this paper can more clearly describe the present status, and future, of PHRs in Taiwan.

#### Comments

\*PHRs system should provide an immediate health information exchange system and a friendly user interface for patients and providers to increase utility rate. \*We suggest the government should provide better policy of health and welfare to improve the finance of NHI by increasing the integration of PHRs. \*To promote PHRs have many specific factors such like policy planning, communication, integration and legislative provided by the government. We expected a comprehensive framework to make more effectively tracking and the health treatment.

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## Public's negative perception towards physicians in Greece and implications for Health Promotion

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#### Introduction

Medical doctors have traditionally been highly esteemed and trusted by the general public in Greece. During the past few years, amid deep economic and social crisis, public healthcare



has deteriorated, corruption has skyrocketed and medical doctors have been targeted by the media's criticism, as the main instigators of increased health care costs. As a result, doctors often have to deal with hostile patients and the doctor-patient bond seems to be weaker than ever.

#### Purpose/Methods

The purpose of this survey was to assess the public's perception of doctors' role and practices in Greece. The national household survey Hellas Health IV was conducted during October 2011. The survey sample consisted of 1,008 individuals, aged 18 years old or more. Respondents were selected by means of a three stage, proportional to size sampling design. Effective response rate reached 45.8%. The sample was representative of the Greek adult population in terms of age and residency.

#### Results

65% of the respondents believe that doctors are responsible for the high pharmaceutical expenditure in Greece. 92% think that pharmaceutical companies influence doctors' prescription practices and 95% that the state should supervise these practices. The majority of the respondents believe that Greek physicians prescribe a greater number (64%) and more expensive (56%) drugs than necessary. Regarding their overall social contribution, doctors are ranked significantly below pharmacists ( $p < 0.01$ ) and dentists; only 53% rate doctors' contribution to society as high or very high.

#### Conclusions

Physicians are criticized by the majority of the respondents, who seem to believe that their practice is heavily influenced by financial incentives, originating primarily from the pharmaceutical industry. Therefore, the patients' trust towards their doctor's advice is not guaranteed. This can severely hinder health promotion initiatives, since doctor's short advice is an important health promoting strategy in health care services, considering its proven cost-effectiveness and the shortage of health promotion specialists in Greece.

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## Potential effect of Chinese chive (*Allium tuberosum* Roxb.) extract on osteoblastic cell differentiation

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**Nattika, TENCOMNAO Tewin**

#### Introduction

Chinese chive (*Allium tuberosum* Roxb.) and Bastard cardamom (*Amomum xanthioides* Wall. ex Baker) have been recognized

for their activity in stimulating lactation. Both herbs may potentially contain phytoestrogens, which should affect osteoblastic cell differentiation.

#### Purpose/Methods

Ethanol crude extracts of Chinese chive (whole plants) and Bastard cardamom (leaves) were prepared by maceration. Each extract suspended in Dimethyl sulfoxide (DMSO) was subjected to assay for alkaline phosphatase activity, BMP-2 gene expression and cell cytotoxicity using human osteosarcoma cell line, MG-63, as an in vitro model.

#### Results

Crude extract derived from Chinese chive was found to increase alkaline phosphatase activity and BBMP-2 expression, with low cell cytotoxicity. Our finding reflects the ability of this herbal extract in promoting osteoblast differentiation.

#### Conclusions

The herbal extract of *Allium tuberosum* Roxb. may be beneficial to our health as a functional food, which helps preventing such aging-associated disease as osteoporosis.

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## Enhance Pharmaceutical Care Services for Patients with Long-term Conditions- A Comparison of Service Delivery Model between Taiwan and United Kingdom

**LIN Yu-Shiuan, CHEN Li-Chia, YANG Ying-Pi**

#### Introduction

Taipei City Hospital (TPECH) is a government-funded hospital with ten branches situated in the capital city of Taiwan to provide quality medical service and enhance public health. Yang-Ming Branch is one of the branches, which has been providing long-term care services to geriatrics for five years by a multidisciplinary team including physicians, pharmacists, dietitians, therapeutics and nurses. The clinical pharmaceutical services offered by pharmacists including medication review (up to 300 residents, 6 visit per patients annually), patients, family or service providers education program, medication storage check,... etc. However, the value of these services have not been appropriately evaluated, and the contents and efficiency of this service are needed to be reviewed by applying appropriate guidance on service delivery.

**Purpose/Methods**

To understand the pharmaceutical service delivery model in patients with long-term conditions, especially in primary care settings, a chief pharmacist in Yang-Ming Branch of TPECH undertook a two-month visiting program to acquire international experiences in this field. This field work was conducted in Nottingham of U.K. supported by the School of Pharmacy, University of Nottingham. Observation of services and interviews of service providers were implemented and focus on what and how services were delivered to patients with long-term conditions requiring long-term medications, high-alert medications or polypharmacy, and especially those patients staying in care homes.

**Results**

Pharmaceutical services provided by community pharmacies, hospital pharmacy and pharmacist-led clinics were observed. Comparing with Taiwan, the pharmaceutical service in U.K. is consolidated through a structured education network integrating undergraduate curriculum and postgraduate professional development, as well as the legitimated community pharmacy contracts with the healthcare system, i.e. the National Health Services (NHS). NHS encourages community pharmacists to provide advance services to increase the public self-care abilities, such as the medication use review, appliance use review, new medicine service...etc. In addition, hospital pharmacists also conduct various clinics, such as, pain-control, diabetes or anticoagulant clinics for those who have special needs for pharmaceutical services. Community pharmacies also have developed a well-organized, systematic delivery system to provide convenient supply and ensure patient medication safety.

**Conclusions**

To improve the pharmaceutical services in Taiwan, the services value and public needs for pharmaceutical care need to be emphasized and embedded in education and regulatory of health care system. From TPECH's perspective, pharmacists play an important role of clinical service as well as medication supply to primary care, which contribute to fundamental medical services to citizens and public health improvement. Currently, pharmacists in TPECH have also heavily involved in managing complex medication problems in care homes. Reflecting on UK's service models, Taiwanese pharmacists should take more proactive approaches to tackle specific drug-related issues for patients with long-term conditions in primary care, and conduct pharmacist-led intervention services such as pain-control, diabetes, and anti-coagulant clinics.

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## An assessment of rational drug use in public tertiary hospitals in Edo State, Nigeria

**OKOH Alex, ISAH Essy, ISAH Ambrose****Introduction**

INTRODUCTION: Rational use of medicine requires that patients receive quality efficacious medicines appropriate to their needs, in doses that meet their individual requirements, for the adequate period of time and at the lowest cost to them and to the community. Only 12% value of budgetary allocation for drugs in developing countries are received by consumers. Irrational drug use may cause considerable waste and poor quality of care. In Nigeria's reality and indeed the world today, waste is unacceptable.

**Purpose/Methods**

PURPOSE/METHODS: This study focused on drug prescribing and dispensing practices in public tertiary health facilities in Edo State, Nigeria. It also looked at consumers' attitude towards drug use. It will show where we truly are as at date with respect to drug use practices in public tertiary hospitals and reveal grey areas for future drug use intervention programmes. All three public tertiary health facilities in the state were used. A descriptive cross sectional study design was carried out.

**Results**

RESULTS: Average number of drugs prescribed per encounter was 3.77, 54.2% was prescribed by generic names. Encounters with antibiotic(s) and injection(s) prescribed was 15.5% and 7.3% respectively. Also 62.6% of drugs was prescribed from essential drug list. Poor dispensing environment not conducive for patient counseling was 86.1%, lack of dispensing materials was 52.8%. Adequate labeling of drugs was 80.3%, availability of drugs in stock was 86.6%. Patients' knowledge of correct dosage was 84.2%, but 77.4% self medicated wrongly.

**Conclusions**

CONCLUSION: Though generic prescribing was relatively poor and tendency to prescribe too many drugs than are clinically required was observed, the overall prescription pattern was encouraging especially with respect to the use of antibiotics and injections. Drug supply and labeling were adequate. Poor drug dispensing environment and lack of some dispensing materials require urgent attention. Patient's counseling by pharmacists still leaves a lot to be desired. Hence the general patients' attitude towards drug use can best be described as poor.

**Comments**

The subject of this abstract is HPH standards and quality management. Assessment of drug management and quality of care in hospitals can also be a means of assessing Organizational capacities for HPH.

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## Effectiveness of Implementing “Plan for the National Public Health Insurance Family Doctor Integrated Delivery System”

PAN Yi-Chun, LIN I-Ching, LIN Ying-Li

### Introduction

This study is to evaluate the effectiveness of health promotion of Changlian Community Medical Group which was a plan initiated by the Bureau of Central Health Insurance in 2011 in Taiwan. The purposes of the plan are (1) to implement the hierarchical medical care system and the referring system, providing people comprehensive, coordinate and continuing medical service; (2) to establish the patient-centered healthcare climate; (3) to reduce the medical expenditure and improve the medical service quality.

### Purpose/Methods

All patients enrolled for this plan had higher medical utilization based on national public health insurance database. Quality index included 1. Health management; 2. 24 hours professional medical consultation phone. 3. Percentage of emergency treatment, disease hospitalized, fixed seeing a doctor, and investigate of satisfaction from members. 4. Healthy precautionary measures: (1) precautionary measures for adults (2) cervical smear examination (3) percentage of influenza of above 65 years old (4) examination percentage of excrement occult blood.

### Results

The patient's satisfaction was evaluated and revealed high satisfaction. There were higher Emergency medical treatment rate (17.94%) and In hospital rate (8.09%) than the average rate of all community medical group data. There were better fixity medical treatment rate, adults health examination rate, receiving rate of Flu vaccination of the elders, and colon cancer screening rate. However, the cervical cancer screening rate was lower than the average of all community medical group data.

### Conclusions

Community Medical Group can integrate resources in the area. Except medical treatment, doctors can also be coordinate, encourage and supervisor roles. Besides, this group can provide good preventive health care, acute medical treatment, and long-term nursing medical service for personal and family. Community Medical Group also can provide treatment system at the first line. People in the community can not only have best and convenient medical treatment, but also build best relationship between doctor and patient.

### Comments

According to the implementing experience, some suggestions were given to Department of Health: (1) to continue implement “Family Doctor Integrated Delivery System Plan” and to allow the local family doctor to organize the efficient care system with community hospital; (2) to establish the exterior assess system to make sure the basic medical quality and the effect.

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## Establishment of Outpatient Clinic Integrated Care Service

HUANG JEN-CHIEH, TNAG CHI-HUI, LIN JAMES CHE-YU, CHANG KING-JEN

### Introduction

Patients with chronic disease frequently visit outpatient clinics for follow-up and medication refills. According to the National Health Insurance Bureau, a patient with chronic disease sees on average 1.65 to 3.31 physicians per visit, and is prescribed 3.82 medications per physician. According to that data, if a patient sees three different physicians during the visit, he can be prescribed more than 10 medications. This can result in problems with medication duplication or interaction, which decrease the quality of medical care.

### Purpose/Methods

The outpatient clinic integrated care service project was implemented through several steps: 1. establishing a health information system to organize and manage information on patients enrolled in the project, and provide reminders on duplicated medications and examinations; 2. allowing patients to pay once for registration fee and co-payment when seeing several physicians on the same visit; 3) utilizing case managers to assist with clinic appointments, aid patients in arranging for consultation services, and provide health education and follow-ups.

### Results

This project was on-going for 13 months from 12/2009-12/2010, and enrolled 1,005 patients, the effective sample size was 786 patients. There were reductions of 12.47% in the average monthly cost per patient from NT 4045.68 to NT 3541.17, 26.84% in the average number of outpatient visits from 2.19 to 1.6 visits, 4% in the average number of prescribed medications from 8.97 to 8.64 medications, and 19.61% in the rate of emergency room visits from 10.2% to 8.2%.

### Conclusions

Through the implementation of the outpatient clinic integrated care service, the quality and safety of patient care and medication use was improved. This project not only reduced the use of duplicated medications and its associated complications, but also decreased unnecessary medical costs, and improved the overall quality of health care and medication safety.

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## Acupuncture as a health promoting management for aging population

**HOU Mark, HUANG Mu-Sheng, CHEN Ying-Ling, CHIU Yu Wen**

### Introduction

Acupuncture has not only been used as a treating modality, but also a health promoting management in Traditional Chinese medicine for decades. Especially most old people got many chronic diseases and received lots of medications regularly. Acupuncture can enhance their quality of life and boost their energy without extra medication intake.

### Purpose/Methods

We launched a government funded acupuncture program for post-stroke patients at nursing home of Changhua Christian Hospital Lukang Branch in 2010. There were 10 to 13 aging people who received three acupuncture sessions every week for stroke complication. After their conditions improved some of them kept receiving acupuncture once every week for health promoting. The major points used were GV20, LI4 and ST36 bilaterally. The acupuncture session lasts for 15-20 minutes.

### Results

The general physical activity and social ability of people who kept receiving acupuncture were better than the others.

### Conclusions

From clinical observation, we concluded that acupuncture could be an new auxiliary management for health promoting in aging population.

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## Post-discharge telephone counseling service

**SHU Chin-Chung, KO Wen-Jo**

### Introduction

Post-discharge readmission rate is still high and the actual problem is not really clear. The interruption of care continuity is presumably a major cause. However, the real medical need in post-discharge period is still uncertain. We are therefore interested in the patient or family orientated problem after discharge.

### Purpose/Methods

From April to September in 2011, we conducted this prospective study in a hospitalist ward in a tertiary referral center in northern Taiwan under approval of institutional review board.

One day before patients were discharged to home care, they received a designated telephone number, used to call in for free post-discharge counseling service at daytime. We recorded and analyzed all call-in problems within 30-day after discharge.

### Results

During study interval, 182 patients were enrolled. In their post-discharge course, there were 121 calls from 65 patients for the counseling. Thirteen (20%) called in for more than two times and 52 (43%) calls were needed within the first post-discharge week. Among the calls, 20%, 26% and 54% of the problems belonged to previous medical illness, new-onset illness and others (not medical problem), such as drug education or catheter care skills. 17% of the calls showed red flag signs and the patients were arranged to clinic or emergency units.

### Conclusions

For hospitalist-care inpatients, we can serve telephone call-in easily and conveniently found most of post-discharge needs are not related to medical illness with red-flag signs (83%). Those calls with red-flag sign can be defined and we referred the patients properly. Telephone counseling service is helpful in their post-discharge course, especially in the first post-discharge week.

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## Targeted Email Marketing for International Patient Center

**CHAN Mark K., KIYOKAWA Yukiko, HSU Kay, CHU Jennifer, CHEN May, CHANG Joanna, YU Amy**

### Introduction

Jen-Ai Hospital International Patient Center (JAH IPC) in Taichung, Taiwan has been implementing its "targeted email marketing" strategy by collecting patients' basic information and sending relevant health e-newsletters (in English / Japanese) on a monthly / quarterly basis by using a simple filtering method called the "email list segmentation". This paper's objective is to determine if this specific marketing strategy employed by JAH IPC is able to promote health awareness for these international communities living in Taichung City.

### Purpose/Methods

JAH IPC kept detailed records of its patients from the beginning. Working with various departments, basic information (i.e. gender, nationality, etc.) and patient visit information (i.e. doctor, department, etc.) were obtained from the Hospital Information System. Excel's "Filter" and "Pivot Table" functions divided the patient list, based on few criterias (i.e. new patients who haven't been to Health Examination Center, etc.). After





the desired patient list is generated, relevant health-promoting e-newsletters were sent to these targeted patients.

### Results

Upon analyzing the statistics, it was evident that sending out targeted e-newsletters had resulted in an increase in patient volume, ranging from 20.8% ~ 83.3% for that particular department in one month. Yearly patient volume increased by 17.1%. Thus far, international patient volume at JAH IPC amounts to over 16,500 patient visits, coming from 3,300+ patients with 91 different nationalities. Reviewing the feedback received from these patients, the vast majority found the health-promoting e-newsletters to be extremely useful.

### Conclusions

"Targeted email marketing" strategy has proven to be successful in increasing the number of patients for JAH IPC, as many international patients have email access and already accustomed to researching health-related news on-line. So if targeted e-newsletter was able to achieve this kind of success for a small community in Taiwan, then this health-promoting strategy is bound to be successful in other parts of the world, where email access is also prevalent and health-promotion research is the norm.

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## Providing a Universal Health System in Nigeria: Lessons from Brazil

**OLAIYA Muideen, CHANG Peter**

### Introduction

Traditional economic thinking in the past was that countries should first achieve economic growth before providing health and other social benefits to the populace. However, Brazil demonstrated the opposite. The declaration of health as a universal right of citizenship remains a major landmark in Brazil's history. Considering the socio-demographic similarities with Nigeria, we would like to discuss the major innovation cycles that produced the gains of the Universal Health System in Brazil and the various lessons they offer Nigeria.

### Purpose/Methods

Traditional economic thinking in the past was that countries should first achieve economic growth before providing health and other social benefits to the populace. However, Brazil demonstrated the opposite. The declaration of health as a universal right of citizenship remains a major landmark in Brazil's history. Considering the socio-demographic similarities with Nigeria, we would like to discuss the major innovation cycles that produced the gains of the Universal Health System in Brazil and the various lessons they offer Nigeria.

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## A Comparative Investigation in Welfare and Medical Policies for the Elderly Between Japan and Taiwan

**WEI Hsiu-Chun, HSU Tzu-Ling**

### Introduction

Taiwan's elderly population has reached 7.2% in 1993 and exceeded 10.63% in 2009, with 2,450,000 people above 65 years of age. However, an aging society has become the trend of developed countries. Japan, in particular, has an amazingly fast aging speed. By the end of 2009, the total population of Japan is 127,500,000, but the aged population has reached 28,980,000, 22.7% of the total population, 10 times higher than the ratio of the elderly people in Taiwan.

### Purpose/Methods

Through comparing the welfare and medical systems for the aged between Japan and Taiwan, this study seeks to provide considerations when drafting policies for the aged. Literature is reviewed and analyzed for the study. Governmental publications, domestic and abroad, official writing, books, reports, theses and dissertations were collected and investigated, which lays the foundation of the literature analysis. Statistics is also adopted to demonstrate the various social indexes and demographics, dissect the past, present and future of the Taiwanese and Japanese elderly population.

### Results

Taiwan should also make plans for applying the elderly manpower and ensure the employment safety of the aged. For the outnumbering elderly female, welfare and insurance should be offered to their rights. Governments should also encourage the investments in elderly industries, like products for the old, serving the old, medical care, nursing, etc., and a national institute should be set up to conduct research in aging population. It is far more convenient for the Taiwanese elderly to take medical treatments than the Japanese.

### Conclusions

There are approximately 160 institutes in Japan that are focused on elderly related research and hospitals specifically for the old. Elderly related professionals, like registered nurse, social officials, psychological therapists, physical therapists, occupational therapists, nursing aides, etc., should still be trained to provide better service to the aged patients. Besides, among the 26 categories for the professional doctors in Taiwanese hospital system, gerontological doctor is excluded. For the disabled elderly, Japan has long established a nursing and caring insurance system, while long-term caring is not insured in Taiwan yet.

### Comments

Following suggestions were made: (1) The aging concept should be taught from the primary education and respect for the old. (2) Self-service / mutual aid should be employed to care for the old because in modern societies one single family cannot support the old. (3) Free access for the old should be built. Falling down or stumbling is often the cause for the aged to be hospitalized. (4) Hygiene (Medical) and welfare organizations should be integrated. (5) Governments should encourage the high-tech industries to research and develop elderly related products.

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## Session P2.10: Community and population health: mixed topics

### Networks and alliances: essential strategy for the empowerment for health in the prevention of domestic accidents

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### Introduction

Domestic accidents are an important cause of hospitalization and death. In Italy they occur more than 3140000 per year. These affect about 5% of population (ISTAT 2010) and currently represent the leading cause of death by accident (5000-7000 per year). In population there is a low perception of risk: everybody thinks their house is safe (PASSI FVG 2010). This is confirmed by a multicenter study made in our Region, coordinated by Health Service no.1 and published by the Ministry of Health.

### Purpose/Methods

To reduce the incidence of domestic accidents and their consequences, Health Service no.1 "Triestina" with the collaboration of provincial section of INAIL (national institute for Insurance against accidents at work) has realized some preventive measures: • Specific training courses for caregivers in the four Health Districts of Health Service no.1 • Communication campaign: the residents in Trieste and Province will receive a brochure ("Domestic accidents. A tool to prevent them") about the possible risks at home and the correct behavior to adopt.

### Results

The training courses were completed in November 2011. One hundred caregivers were trained in one hundred places available. Data of the final evaluation of the courses are currently under processing. The brochure "Domestic accidents. A tool to prevent them", of which 150000 copies are planned, is currently being printed. This tool will be distributed with the help of Acegas Aps SPA in December 2011.

### Conclusions

We don't have yet conclusive data for the activities described, but similar experiences have already proved successful. In fact, during 2010, Health Service no.1 has worked in collaboration with Health Service no.2 "Isontina" and Province of Gorizia in the creation of an information campaign on home security entitled "Boiler safe, home safe, clean air" in order to transfer skills to residents of Gorizia's Province.

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## Ethic issues of hospitals providing services of high technological screening tests

**LI Yin-Ming**

### Introduction

Medical check up, especially high-technical modalities have been promoted widely globally in developed country. Most are self paid. However, the ethical issues underlying those services have rarely been discussed.

### Purpose/Methods

Questions arise from high-tech check-up are described and discussed.

### Results

Referring to guidelines of preventive health care, high-tech screening tests only recommended for high risk populations. However, commercial interests promote the development of private screening services marketed directly to the public. The sensitivity of high technologic tests has often been overstated. Medical institutes are blatantly misleading the public through over emphasis the benefit of the tests, causing them with false high expectation or overlook the importance of healthy behaviors. People always are not well known about the downside of testings.

### Conclusions

Over statement of high-tech check up is violating the principle of ethic.

### Comments

The department of medical justice or consumer committee should look into this issue and discuss its regulation.

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## The study for Quality of Life of disaster survivors

**WEN-CHEN Yang, HSIN-FEI Chang, HSIN-SHU Huang, CHING-WEN Loe, HSIU-FUN Wei, YI-NING Hung**

### Introduction

In recent years, WHO and clinical care for the health-related quality of life issues has been quite seriously, and many times since the outbreak of this century, large-scale disaster events.

### Purpose/Methods

This study aims to understand the systematic literature review changes in the quality of life survived the disaster, to as mental health management guidelines after a similar incident in future. Research between 2000-2011, published in CINAHL, MEDLINE, Pubmed, Taiwan Theses and Dissertations System, CEPS and other databases, type the keyword: "Disaster survivors, quality of life, 36-simple quality of life scale", select the line with and to exclude which repeated a total of 7 articles for analysis and sorting.

### Results

Results: (1) gender, age, relationships, property, economic loss and mental condition, quality of life for disaster survivors impact is most significant. (2) disaster survivors to suffer from depression or PTSD as the most, while major depression and PTSD will result in 36-Simple Life Quality Scale score was significantly lower than average person. (3) after the disaster with the longer, the subscale of "limited role because of physical problems leading to" and "limited role due to emotional problems lead to" is significant.

### Conclusions

Conclusion: The use of 36 - Simple quality of life scale disaster survivors in a small number of studies of quality of life. Understanding through literature only mental state, psychological stress, quality of life of survivors of the disaster can be used as the main predictor, expect more care and improve the future quality of life of survivors of the disaster.

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## What happens in production of health education materials and educational intervention during eight years? Did we have any innovation?

**RAKSHSHANI Fatemeh, SEPEHRI ZAHRA, MOBARAKI hossein, NASIRI AMIR, ARDESTANI MONA, TEHRANI HADI, ASADI AMIR HOSSEIN, EBRAHIMI MOHAMMAD REZA, RAKHSHANI TAYEBEH**

### Introduction

To systematically analyze health education media and educational interventions produced in different areas of specialty in Iran to compare the process of making educational health materials and educational interventions during an eight year period.

**Purpose/Methods**

Systematic review of all health education materials and educational interventions was done in three time periods during eight years. Previous reviews were done in 2002 and 2004. In last evaluation, 2926 media were evaluated by special software between 2008 and 2009. The review focused on four main criteria and 70-90 alternative criteria (based on the type of media). For each material, the score of products was calculated based on designed checklists. Then, the data were compared.

**Results**

There was a downward direction in the calculated mean scores (total score of 100) from 2002 to 2009. The overall scores were: 51.75 (2002), 38.31 (2004), 30.9 (2009) and this decrease was seen in all the process steps. Percents of the centers which had mean score more than 50% (of the best virtual center) were: 58.1 (2002), 20.5 (2004), 6.9 (2009).

**Conclusions**

We not only did not have any innovation, but also we had a downward direction in production of health education materials and educational interventions. Evaluation is not the only way to move toward better health education and health promotion. We must have appropriate intervention after each evaluation to move toward health promotion.

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## Design and implementation of information systems and evaluation of health education

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**Introduction**

This is as a descriptive study that had been done in two phases including design and evaluation of a software system for registering media informations. All media produced in health centers and departments of the Ministry of Health and Medical Education were selected from the first half of 2008 -2009 .

**Purpose/Methods**

The study samples were whole produced media and interventions in all Iran medical universities, departments, offices, and centers affiliated to ministry of health in 2008 and in the first half of 2009. Sampling took a census. The evaluating tool was a checklist based on IEC cycle (Information, Education, and Communication) which made in four sections including pre-media, media and intervention specifications, production and implementation, evaluation

**Results**

The results of this study showed that more than 50 percent of producer centers achieved 7.1 percent score in pre-media process. The scores in media characteristics was 63.7, in media production was 15.7 and also in media assessment and intervention was 2.9 percent

**Conclusions**

The results of the evaluation of health education media indicate that the cycle of IEC (Information, Education, Communication) in health system is a cycle incomplete system because of absence of pre-media process .

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## External evaluation of health education materials and educational intervention about mother's health in Iran

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**Introduction**

Structural and rational development of health education is the main way for empowerment of people in their self-care. The study was designed to systematically analyze health education media and educational interventions produced in mother's health office at health ministry during an 18month time period in Iran.

**Purpose/Methods**

In this cross-sectional study, we systematically reviewed all health education materials and educational interventions which were done in mother's health office at ministry of health. We included all materials which met these criteria: described health contents, provided information to educate something, and published between 2008 and 2009. The review focused on four main criteria and 70-90 alternative criteria (based on the type of media). Sixteen specialists calculated the score of products based on designed checklists. Data analyzed by special software.

**Results**

The mother's health office at health ministry has no documented product and intervention in the format of poster, pamphlet, journal, bulletin, film and mass media programs in a 18months period. The office produced two books in this period whose



overall score was 53.01 from 100. For these products, the calculated score in pre-intervention was (20/100), and scores were 77.39/100, 82.24/100, 20/100 for properties, implementation and evaluation, respectively.

### Conclusions

Lack of documentation is prominent in mother's health office. Documentation of the educational interventions, besides promotion of health care quality is one of the main priorities in mother's health care promotion in our country.

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## Group health care education to improve effectiveness of clinic in Eastern Taiwan

**KUO Mei-Fen, WANG Chang-Tao**

### Introduction

A higher level of health care education increases the recovery rate and obedience of patients which leads to lower costs. If clinics can provide systematic education training to its patients, this will lead to lower anxiety levels and in turn, allow patients to better take care of themselves and improve the relationship between patients and health care professionals.

### Purpose/Methods

We offer educational programs to the general public from Monday to Saturday at the outpatient department in the East of Taiwan. The purpose of this study was to examine and assess the implementation and effectiveness the group health care education in an outpatient department of medical center. An action research was conducted from 2010 to 2011. To identify the participants for the education program and to change in curriculum conducted. A questionnaire was developed by the researchers. We posted the schedule of event and the courses end 10 minutes earlier in order for patient to arrive for their clinic appointments on time. Before the course, the staff to lead exercises to attract more participants, conduct short role plays to increase participants' interest, provide gifts to participants.

### Results

Since modifications made in 2008, participants have increased from 25 to 40 people (60%) within a year. In 2010, 38 people participated a Friday session which is a 52% increase compared to the past. In between January to September 2011, 51 people participated a Friday session which is a 104% increase compared to the past. The statics shown above indicates the effectiveness of the new implements and changes done to the program and facilities.

### Conclusions

The goal of health care education is to educate and provide the general public with necessary knowledge and training for them to better take care of themselves. If everyone has the desire to learn and be motivated, the goal of higher health standard will be achieved and incorporated into our daily lives.

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## Association between Health-Related Quality of Life and Health Behavior Risk Factors in Taoyuan county, Taiwan

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### Introduction

In the light of the STEPS (Stepwise approach to chronic disease risk factor surveillance) guideline from WHO, eight health behavior risk factors (including 1.Tobacco use 2.Alcohol consumption 3.Diet 4.Physical activity 5.Raised blood pressure 6.Obesity 7.Blood glucose 8.Cholesterol) are responsible for chronic disease burden. Health behaviors play an important role in occurrence of chronic disease, but it is unclear how health behaviors affect health-related quality of life (HRQoL). We aimed to investigate the relationship of health behaviors risk factors to HRQoL.

### Purpose/Methods

Using data from 4133 adults aged 30 years or older who participated in Li-Shin Outreaching Neighborhood Screening Cohort Study from 2006 to 2009, we chose eight items from STEPS as the independent variables of interest. HRQoL was measured by the SF-36. The impact of health behavior risk factors on HRQoL was examined through a multiple linear mixed regression model with adjustment for age, race/ethnicity, sex, education, marriage and family income.

### Results

Taking Exercise and having frequent intake of fruit and vegetable statistically improved both mental and physical HRQoL after controlling for the demographic factors. On average, exercise led to 11.69% (SE=2.86%) improvement on physical HRQoL and 18.48% (SE=2.94%) on mental HRQoL (P < 0.0001). The corresponding figures on fruit intake were 13.35% (SE=3.86%) and 19.98% (SE=3.97%) and those on vegetable intake were 18.16% (SE=4.55%) and 18.67% (SE=4.68%) for physical HRQoL and mental HRQoL, respectively.

### Conclusions

By examining HRQoL through a multivariable approach, we identified the three significant factors responsible for better

mental and physical HRQoLs, including exercise habit, fruit intake and vegetable intake. Good dietary and exercise habits not only prevent the chronic disease also improve the HRQoL.

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## Achieving health equality: health promotion for economically and locationally disadvantaged groups

**WENG yi-hsin, WANG Yu-Syong, YANG Jen-Hui, CHANG Cheng-Ying, CHEN Yu-Jhih, SHIH Li-Jyun**

### Introduction

In Taiwan, economic and locational inequality has been widened. Patients cannot receive prompt treatment due to location, inconvenient traffic, unaffordability, lack of company and uninsured status in National Health Insurance. Therefore, we provided health promotion programs for economically and locationally disadvantaged groups to reduce gap in health.

### Purpose/Methods

We provided particular health promotion programs for economically disadvantaged groups including medical subsidy, screening free of charge, nutrition and charity bazaar. In addition, we provided particular health promotion programs for locationally disadvantaged groups including transportation, bus for mammogram, community health seminars and community care services.

### Results

During 2008 to 2010, subsidy was provided for 865 persons and amounted to NT\$1,625,326. Screening served 92 persons who also received health education. 38 households received nutrition services, follow-up and instruction. We held 57 charity bazaars and earned NT\$525,470 for disadvantaged groups. In 2010, we provided 5 traffic flows, serving 29,177 persons. We held 21 sessions for mammogram screening, serving 1,152 women. 6 community stations were established, serving 170 persons. 84 community seminars were held, and attended by 4,143 persons.

### Conclusions

Through the implementation of the program, the whole hospital was mobilized to understand the impact of health inequality in community on human health. We further addressed causes of health inequality and developed strategies through a team approach. In turn, we achieved health equality.

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## Gender and age differences in utilization of National Health Insurance preventive services in Taiwan

**UNDEFINED Chih-Yin HSIAO**

### Introduction

National Health Insurance (NHI) in Taiwan provided adult preventive service for the aged population older than forty since 1996. Effectiveness for early treatment of hypertension, diabetes, hyperlipidemia, and reduction of all-cause mortality had been established. Previous research found that female adult aged 40-64 had higher utility rate, however little research concerned about the gender differences in the health status of participants, and the difference between adult and elder population.

### Purpose/Methods

This study was aimed to investigate the gender and age difference in the utilization of preventive service delivered from a medical center in north Taiwan, and also compared their health status. Data collected from the preventive service participants in 2007, and Chi-Square test was used to test the correlation between gender and health status in both age groups.

### Results

There were 7208 participants, 59.11% female involved in adult group and 45.8% in elder (age above 65) group. In adult group, 26.1% female and 16.1% male participants without any chronic condition; the most common disease was hyperlipidemia (17.6%) for female, and hypertension (18.0%) for male. In elder group, 8.0% female and 10.6% male were healthy; 63.1% female and 54% male with more than two chronic illnesses. Significant differences were found between gender and health status in both age group.

### Conclusions

Adult female and elder male were more likely participant the preventive service, however they also had better health status. The gender and age inequalities in utilization of preventive service might need to be concern when try to increase the utility rate.

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## Are health-promoting hospitals aware of the impact of socio-economic determinants of health to patient?

**LEE Yu-Chuan**

### Introduction

As medicine advances, many diseases are known to be multifactorial etiology. In order to provide comprehensive health care, non-biological aspects of diseases, should be taken into concern. Through many studies, SDH have emerged and the impacts to diseases are recognized, so WHO has included SDH as a major worldwide health issue to improve. Since the SDH involves a wide range of levels, HPHs should be aware of the importance. socio-economic determinants of health (SDH) health promoting hospitals (HPHs)

### Purpose/Methods

When a patient visits hospital for the first time, hospital would require the patient to complete a form of "personal information". The content of the form is to reflect the awareness of the HPHs in the issue of SDH. We selected 9 HPHs and used 13 SDH indicators to assess how much information of SDH recorded in "personal information" to find out whether the knowledge of the SDH is recognized by HPHs in Taipei.

### Results

There are 8 indicators recorded in "personal information" among the 9 HPHs, and the other 5 are not. Most HPHs wish patients' to provide their gender(8/9), race(5/9), health behavior(5/9) and employment/occupation(8/9), but all selected HPHs are not concerned about social gradient, income/poverty, housing, transport and social capital & support.

### Conclusions

Non-communicable diseases have become major healthy burden worldwide. Traditional risk factors could not explain and solve all the problems. The concept of SDH might be vital and using this concept may be beneficial for non-communicable diseases control, but HPHs in Taipei are not familiar with it. Therefore, HPHs and their staffs have to not only recognize the knowledge of SDH but also pay more effort to understand how to make people and patient healthier through concept of SDH.

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## Education and sperm quality evaluated in Taipei Citizen

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### Introduction

Background: The currently used approach is to assess the physical characteristics of spermatozoa according to World Health Organization guideline, in which the motility and morphology of spermatozoa are used to classify their quality. Clinical researches indicate that male infertility accounts for 10% to 30% of the overall infertility problems. A clinical study targeting infertile males found that the majority of them suffer from sperm motility. From 2006, Taipei city administration provides male citizen can receive sperm quality examination after marry but before child bear.

### Purpose/Methods

Material and method: A total of more than thousand men were recruited for this study. Participating subjects were required to collect semen by masturbation into a sterile specimen container, subsequent to a 3–5-day period of sexual abstinence. Subsequent to ejaculation of semen, all semen samples were allowed to liquefy for a period of 15–30 minutes at room temperature. After liquefaction, on the basis of the World Health Organization criteria, semen-sample analysis was performed by using computer aided sperm analysis to determine sperm concentration and motility and by using manual analysis to determine sperm morphology.

### Results

Results: The poor sperm quality rate about 16% was found. The men had received high education had more abnormal sperm quality (65%) than the men received low education.

### Conclusions

Conclusion: men had received high education included graduate school and university may work in office for a long time but less time to exercise. Good habit and sleep are most important for sperm quality.

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## Session P2.11: Developing tobacco-free hospitals

## Promoting smokefree in Oulu University Hospital

**JÄRVI Leea, PUURA Liisa**

### Introduction

Northern Ostrobothnia Hospital District joined the ENSH (Global Network for Tobacco Free Health Services) in 2004. A network

of tobacco free nurses started to function as specialists in nicotine replacement therapy in 2007, promoting tobacco free hospitals ideology. In 2011 a development project was launched to activate this network and to stimulate guiding and using nicotine replacement products for patients who smoke. The intention was also to focus on patients' smoking habits and construct a model of patients' smokefree pathway.

#### Purpose/Methods

The activation of the network of tobacco free nurses was launched in co-operation with Oulu University Hospital nurses. A vision of a working network was created using the future memorial method. Stimulated guiding for smoking patients was implemented as a pilot intervention in the birth ward. The guiding method aimed to encourage non-smoking and to offer nicotine replacement products free of charge to patients staying in the hospital.

#### Results

After some years the appointed network of tobacco free nurses was no longer functional, e.g. due to personnel changes. To create an active network regular meetings were arranged, aimed at finding nurses committed to tobacco free ideology. Operation of the development network requires resources, staff and management commitment. Work will continue in 2012. The model of patient's tobacco free pathway was completed in December 2011. Oulu University Hospital now has a strategy for organizing tobacco free and health promotion networking.

#### Conclusions

The results of the development project will be used in Oulu University Hospital by spreading good practices to other hospitals in Northern Ostrobothnia Hospital District. Co-operation ideas that emerged during this development project will be taken forward in future. Documenting patients' smoking habits begins in all hospitals in 2012. Development work to build up a network of tobacco free nurses and to prepare training material for them will continue in 2012.

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## An Investigation on The Differences of Smoking Behavior and Psychological State Before and After the Implementing Smoke-Free Policy Taking Psychiatric Teaching Hospital as an Example

SHEN Shu-Hua, YAN Miao-Fen, CHIU Hsien-Jane, LEE Wan-Ling

#### Introduction

Smoking is recognized worldwide as one of the most principal risk factors affecting human health. Statistics show that the ratio of smokers with mental illness is significantly higher than the general population and they also tend to lack motivation to quit smoking. Currently, there is no explicit assessment toward the physiological state of the psychopaths who quit smoking. Therefore, from the perspective of disease prevention and health promotion, it is worthy of attention and concern that how smoking affects the mentally ill patient's psychological state and there is an urgent need for assistance.

#### Purpose/Methods

In January, 2009 as well as July and August in 2010, the chronic psychiatric patients who were hospitalized for more than two months in a psychiatric teaching hospital in south Taiwan were investigated. The intervention strategy is to enforce hospital-wide smoke-free policies which include detecting carbon monoxide through a CO detector and using BMI, waist circumference, blood pressure, heart rate and bone density testing as measurement indicators. The purpose is to compare the patients' smoking behavior, degree of nicotine addiction and health condition change before and after enacting the newly issued Tobacco Hazards Prevention Act.

#### Results

In 2009, before the implementation of smoke-free policy, smoking rate was 41.1%. After the implementation of smoke-free environment policy, the rate was 28.6% in 2010 and 21.8% in 2011. There was a drastic drop of 19.3%. The smoking patient's BMI ( $\chi^2 = 9.206$ ,  $p = 0.027$ ), hypertension ( $\chi^2 = 9.527$ ,  $p = 0.009$ ) and osteoporosis ( $\chi^2 = 13.498$ ,  $p = 0.001$ ) were higher than non-smokers. There was no significant difference of smoker's and non-smoker's psychological state in 2010 and 2011. And smoker's carbon monoxide detection result was significantly lower from 2009 to 2011. ( $\chi^2 = 81.340$ ,  $p = 0.000$ ).

#### Conclusions

Mental patient's will, execution and cognitive functions are weaker than the ordinary people. Smoking cessation is difficult for the psychiatric patients. However, efforts to promote smoke-free environment led to obvious decline on smoking rate and carbon monoxide density. Furthermore, as mental patients reduced smoking, they improved their physical condition and there was no significant difference between non-smokers and them. This implied that smoking cessation implementation was helpful to the psychiatric patient's psychological state. Therefore, there should be more concern about psychiatric patient's psychological health state care and services.

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## Exploring the Perception and Attitude of Patients, Families and Staffs With the Tobacco-Free Public Health Policy in Mental Hospital

**SHEN Shu-hua, CHIOUS Shu-Ti, CHIU Hsien-Jane, LU Hui-Lan**

### Introduction

Due to total smoke-free in mental hospital in the new Tobacco Hazard Control Act, staffs who work in mental hospital have much more opposition before and after the regulations. Psychiatric patients also have the right to join the healthy life. The purpose of this study was to use evidence data to understand the changing of perception and attitude with patients and families for the policy of tobacco control, and Carbon Monoxide for smoking patients in basis of mental hospital.

### Purpose/Methods

The cross-sectional method was applied in this study. Data collection by questionnaires to investigate the perception and attitude of tobacco-free for patients and families 841 subjects were completed the questionnaires before and after the new tobacco-free policy implementation. The Cronbach's  $\alpha$  is more than 0.65.

### Results

There are significantly change in ever trying stopping smoke or smoking less smoking amount, and considering quitting smoke ( $\chi^2=23.441$ ,  $p<0.01$ ;  $\chi^2=10.098$ ,  $p=0.02$ ). For smoking inpatients, there are only 3.55% patients stopping smoke more than six months before enforcing the law. However, after nine months, it is up to 11.32%. This result showed that psychiatric inpatients can quit smoke and adopt the new smoking ban. 85.1% and 90.1% families still support the tobacco free policy. The hospital staffs felt distress while expose in second-hand environment. It reveals significant difference after the new policy ( $\chi^2=33.38$ ,  $p<0.001$ ;  $\chi^2=10.87$ ,  $p=0.028$ )

### Conclusions

Most inpatients and families can understand and support the new law. There are significantly difference for smoking patients that are trying to stop smoking or smoking less, and considering quitting in hospitalization. Only if we provide suitable environment, psychiatric patients can increase quitting motivation and behavior.

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## Achieve tobacco free in mental hospital

**HSU Wen-Yu**

### Introduction

Tobacco smoking is highly prevalent in the mentally ill patients. They generally have low motivation to quit and may find withdrawal intolerable. New Tobacco Hazards Prevention Act went into effect on January 11, 2009 in Taiwan. Tobacco use are restricted in medical institutions too. There exist some myths about smoking in psychiatry, like the patients don't wish to quit smoking and smoking ban is impossible to implement in psychiatry. Our hospital executed smoking ban in October 7, 2008.

### Purpose/Methods

Health promotion should be part of the treatment of mentally ill patients. A policy working group is designated to coordinate the development, implementation and monitoring the policy. All personnel, patients are informed of the hospital's tobacco free policy. Clinical personnel are trained in smoking cessation techniques. A smoking cessation service is available for patients. The property owned by the hospital are completely tobacco free. We designed the questionnaire to know the attitude of staffs, patients toward tobacco free policy.

### Results

After the policy was carried out, we provide related education for the patients and families. We offered the hospitalized patients pharmacotherapy and psychosocial intervention for smoking cessation. Most of the smokers received nicotine replacement treatment. Only 16 and 20 incidents related with tobacco were reported in 2010 and 2011 respectively. The data of attitude toward tobacco free policy questionnaire, it showed 94.8% (147/155) of the staff and 90.1% (246/273) of the patients and families accepted the policy completely.

### Conclusions

The smoking ban was well accepted without observing overt adverse effects in form of incidents and disruptive behaviors. It is necessary for the staff to make and effort to provide information on smoking ban. Achieve tobacco and smoke free in mental hospital can be done.

### Comments

The myths of tobacco smoking in psychiatry should be managed appropriately. How to keep mentally ill people away from harms of tobacco is an important issue.

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## Session P2.12: Improving health promotion by healthcare technology

### A Framework for Intensive Patient-oriented Health Wiki; A Responsible Web-based Reference for Looking up Health Problems

**MASSAH Solmaz, KARIMZAD SHARIFI Behzad**

#### Introduction

Today, many people seek the answers for their questions through websites, and one of the most important types of questions they may have is those concerning their diseases and health conditions. However, the problem is that the Internet is filled with a lot of information which are relevant or irrelevant. The question of reliability and validity can be the most important issues in this regard. Also, the availability of useful information differs from one language and culture to another

#### Purpose/Methods

Investigating the Farsi-speaking community's tendency to look up their health-related questions on the Web and also the responses they receive, this project seeks to propose a framework for setting up a concentrated health wiki for patients. In other words, the purpose of this study is to design a Web-based responsible source only for the people tending to search for information on the Web and not for medical students and doctors seeking educational information.

#### Results

The primary purpose of this study is not to create a complete wiki but to set up its structure under the country's Medical Council. In this project, all the doctors will be defined as the people who can enter the system and add or edit information on it. However, once the structure and primary information are created, the system can gradually be changed to a complete wiki, in which all visitors can have the opportunity to edit the information.

#### Conclusions

Particularly in the issues concerning health, there is a demand for accurate and high quality information, in terms of both framework and content, in different languages. This project, regardless of borderlines, can be implemented in different geographical regions where people speak the same language so as to enrich the reliability of the information on the Web.

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## Dose-response effect of a college-based extracurricular exercise program

**CHENG JEN-LIANG**

#### Introduction

A college-based extracurricular exercise program (EEP) was realized through the combination of the sports timing system for marathon (i.e. the RFID system) and the Internet technology. Based on brisk walk, the program was proved effective in improving physical fitness among college students without any observatory labor. The aim of this study is to reveal the dose-response effect between the fitness improvement and the intensity of the exercise prescribed.

#### Purpose/Methods

College students were recruited for this study and divided into two groups (n=23, 39), said A and B. Physical fitness and locus of causality for exercise (LCE) were pretested. From third to sixteenth week, Group B were delivered an EEP based on brisk walk ( $\geq 5.5$  km/h) on the college's running track. Running speed of Group A's EEP was raised week by week till it reached 8km/h. At the seventeenth week, physical fitness and LCE were post-tested.

#### Results

Group A spent more energy for the EEP than Group B did ( $p=0.22$ ). The EEP of higher intensity level improve more physical fitness than EEP of lower intensity level did. Both EEPs, however, did not change intrinsic motivation for exercise (LCE) of the students.

#### Conclusions

EEP of higher intensity had made a larger effect size in physical fitness than EEP of lower intensity had made. Since course credit is an extrinsic factor to motivate college students, their intrinsic motivation is unlikely to be altered by the EEPs.

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## Medication Reconciliation in Inter-Healthcare Organizations: a pilot study

**HSIEH Yen-Yu, CHEN Chien-Hui, YEH I-Rou, CHIEN Su-Yu**

#### Introduction

Medication management in health care is a complicated process requiring communication and information sharing. This



complexity can lead to medication errors. Medication reconciliation during transition of care is a national patient safety goal, and it is the practice of acquiring an accurate and current medication list at each transitional point of care. This pilot study has demonstrated the benefits of medication reconciliation during transition among the inter-healthcare organizations.

#### Purpose/Methods

An electronic "Taiwan Medication Reconciliation Management Center" information transmission interface was designed and implemented in most inpatient care facilities, including hospitals and long-term care facilities. In this pilot study, we enrolled 8 healthcare organizations in Taiwan. All unintended discrepancies were recorded and analyzed.

#### Results

The electronic information transmission interface has increased the efficiency of medication information transmission. During this 8-week study, we completed medication reconciliation with 120 patients. 17 medication discrepancies were identified in 6 patients. The most frequent discrepancies were medication omissions and most omissions were associated with cardiovascular drugs (70.1%). We found the implementation of medication reconciliation can effectively reduce the potential harm of adverse drug events by 11.8%.

#### Conclusions

Medication reconciliation shows good benefits in improving communication among healthcare providers, reducing adverse drug events and improving the quality of care transition.

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## Effectiveness of the Community-Based Telecare Services for Self-Care Behaviors of Diabetic Cases

**LIN Hsiu-Jung**

#### Introduction

community-based telecare service

#### Purpose/Methods

The purpose of this study was to conduct a community-based telecare service model (CTSM) to examine the self-care behaviors of diabetic cases and evaluate participants' HbA1c of blood, self-care behaviors, quality of life and service satisfaction for the consideration of developing a practical healthcare guideline. Our study subjects were recruited from the Peng-hu islands. The eligible criteria were diabetes with the age of 20 years old and over, lived in Peng-hu district, conscious clearly, and willing to participate in this study. The quasi-experimental post-test method with randomized block design was used. The subjects were divided into two groups: comparison group and experi-

mental group. 23 patients in experimental group adopted the improvement program. 27 cases in comparison group I adopted Diabetes Mellitus health education clinic care. 28 cases in comparison group II adopted general treatment. The statistical analysis included frequency, percentage, mean, standard deviation, t-test, and ANOVA.

#### Results

The diabetic self-care behaviors of Experimental group and comparison group I were better than comparison group II ( $p > 0.05$ ). In the aspect of "regular exercise", "on a diet", "glucose monitoring" and "preventing, treating high and low blood sugar", there was a significant difference. The same result was also found on their quality of life score and service satisfaction.

#### Conclusions

Based on the progression of self-care, quality of life and service satisfaction, the CTSM seemed to be an effective and feasible health care program of diabetics.

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## Physicians' resistance to change on the electronic medical record

**LIN I-CHUN, YEH YU-TING, LIU CHIEN-TSAI**

#### Introduction

With regards to workflows and habits, implementing the electronic medical record (EMR) is like asking physicians (the primary user) to take personal changes. Previous research had already been confirmed user resistance as a barrier to IS success within organizations. To better understand physicians' resistance on the EMR and avoid such an occurrence, it is necessary to explore the antecedents having inhibiting and moderating effects on physicians' perceptions before introducing an EMR system.

#### Purpose/Methods

The research object is to integrate the enabling perceptions with the inhibiting ones to explore physicians' reactions to the EMR. 189 physicians participated in the field survey. Structural equation modelling was used to verify hypothesized model and continuity variables in the analysis of moderating effect.

#### Results

The inhibitor "perceived threat (PT)" has a direct effect on resistance perception, hence undermining perceived usefulness (PU) of the EMR. Compatibility with preferred working style (CwPWS) moderates and reduces the strength of the relationship between resistance to change (RTC) and PU, indicating PU is less likely to be affected by RTC when the EMR is more compatible with a physician's preferred work style. Compatibility with personal values (CwPV) moderates the relationship between RTC and behaviour intention (BI).

### Conclusions

Having added the moderators and inhibitors into a modified model, the explanatory power was successfully improved to 75%. Combining the technical, human, and psychological aspects, this research proposes a more extensive model to explain the antecedents and moderators. This study increases the understanding about physicians' resistance to change, also provides a reference and diagnose tool for change management to detect the status on EMR implementation.

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## Integrating the clouding computing system and work-based learning at ward into the nursing continuing education

**HUANG Ying-Chia, TSAI Yu-Chun, LIU Yi-Chun**

### Introduction

The national health insurance and forthcoming term care agenda to improve efficiencies, reduce costs, provide high quality evidence-based care while meeting stricter regulatory requirements simultaneously, has forced nursing home and clinic staff to change the way they work. Healthcare is evolving with fewer resources and more complex roles, and the face of nursing continuing education as we currently know is changing, and several driving forces have influenced the development and diffusion of the evidence-based practice and simulation.

### Purpose/Methods

With challenges to the impact of lecture-hall-based continuing learning, Work-based learning at ward seems as a potential solution under increased scrutiny, and these pressures require a reliance on new technologies to meet these goals. Through the introduction and implementation of a variety of clouding computing systems, such as point of care devices, and web-learning, ward group learning supports simulation/discussion as a viable teaching and learning strategy and allow employees to remain solely on patients and patient care.

### Results

Through the cloud computing system, work-based continuing education at ward has the potential to change practice. Web-based education resources, such as tutorials, self-directed learning modules, interactive case studies, and video-enhanced programs, e-learning is integrated into nursing training programs. Learning how to learn and critical reflection are key features. An innovative, web-based community was developed as a platform for the curriculum. The nurses will allow to take control of their own learning, and be empowered to make their continuing professional development.

### Conclusions

The cloud computing system has enhanced the performance, communication and ultimate outcomes of work-based continuing education at ward. But a change in culture from lecture-hall-based to work-based continuing education requires cautious planning and consideration of organizational cultures. To enable effective work-based continuing education at ward, nurse managers need to develop a learning atmosphere in their workplace, and ensure that skilled facilitation is provided to support staff with critical reflection and effecting changes in daily practice.

### Comments

It is vital to identify what facilitates and what the barriers are to the successful adjustment about the nursing continuing education from lecture-hall-based to work-based learning in order to assist the integration with traditional practice and web-based education resources into new workplace environments.

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## Evaluating Open Source Software Success in Healthcare and Medical Informatics: Theory & Measures

**CHANG Po-Yin, LIOU Yu-Ling, CHANG Yu-Min**

### Introduction

There has been a lot of interest among academics and practitioners in open source software (OSS). However, there is insufficient attuned on healthcare & medical informatics (HMI) of OSS, most studies on OSS success are either qualitative or exploratory in nature. We develop a HMI OSS success model from a previous Information Systems Success Model incorporating the characteristics of HMI domain. This research contributes towards theoretical understanding of HMI OSS success and offering practitioners for enhancing HMI OSS success.

### Purpose/Methods

We discovery to answer two essential research questions: (1) what are the critical factors dominate whether HMI OSS success or not? (2) How do the factors influence each other? Based on the identified determinants for HMI OSS success and the updated IS success model of DeLone and McLean [6], we propose the HMI OSS success model. Once we determined that the instrument was reliable with high validity, we carried out the survey and analyzed the data via PLS statistical software.

### Results

The developed HMI OSS success model consists of information quality, software quality and community service quality as



determinants of user satisfaction, health & MI OSS use and determine individual net benefits. We found that user satisfaction was significantly influenced by information quality, software quality and community service quality, and that HMI OSS use was significantly influenced by information quality, software quality and user satisfaction. Furthermore, we found that HMI OSS use and user satisfaction together significantly influence individual net benefits.

### Conclusions

This research constitutes one of the first empirical studies to measure HMI OSS success by developing a HMI OSS success model. Based on the existing models of IS success and a review of the relevant literature, we have developed an HMI OSS success model with six determinants. Overall, this study contributes toward the theoretical advancement of HMI OSS success and provides insights into improving the success rates for HMI OSS projects.

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## Experience of a Coordinated Transition Program to Improve Communication between Hospital and Community Clinics

**LIN I-Ching, LIN Ying-Li, WANG Lu-Kai**

### Introduction

The hospital-to-community transition has poor link in Taiwan. It will be fraught with risks for patients after discharge from hospital under diagnosis related groups (DRG) payment system.

### Purpose/Methods

This article is to introduce a computer-assisted and nurse managed program for improving the poor communication between hospital and community clinics.

### Results

We constructed a coordinated system by computer-assisted system which provided the admitted patient's name list of community medical group (a Plan for the National Public Health Insurance Family Doctor Integrated Delivery System) on every Monday and Thursday. The nurse reviewed the admitted patient's namelist and transfer the message to every community clinics. In addition, The nurse also visited the admitted patient of the community medical group.

### Conclusions

All patients and community clinics physicians had higher satisfactory rate. It should be a good program for improving communication between hospital and community clinics.

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## Telephone-based pre-examination reminding system effectively improve quality of colon preparation and accuracy of colon-scope examination

**LEE Pei-Shin, WEI Meng-Hsien, LIN Yu-Sheng, CHIANG Cheng-Yen, LEE Tsae-Fen, HUANG Tzu-Hsin**

### Introduction

Colon preparation is the most important and modifiable factor to accuracy of colon-scope examination in health examination center. Therefore, we aim to conduct a telephone-based pre-examination reminding system to improve the quality of colon preparation

### Purpose/Methods

From Octo 1st to 31 2009, we prospectively using 3 aspects of scoring system including Osgard Score (investigate 610 patients), Colon-preparation-understanding Questionare(newly design, investigate 510 patients), Colon-preparation consultant nurse checklist (investigate 212 patients) to collect the quality data of colon preparation in health examination center

### Results

Total 610 Osgard Score records were collected and over 70% showed inadequate colon preparation. Colon-preparation-understanding questionnaire were completed from 480 patients (94.1%) and showed 60.3% of accuracy and found that the most important factors to colon-preparation are incorrect low-fiber diet knowledge and the poor diet control 2 days before examination. About the consultant nurse checklist, only 74.3% were completed. After analyze these results, we conduct a pre-examination reminding system including 1) Standarize colon-preparation consulting content 2) Low-Fiber diet education protocol 3) Telephone-based reminder before 7 days of colon-scope examination to improve the quality of colon preparation in our health examination center since Nov 1st 2009 to March 31 2010. The Colon-preparation consultant nurse checklist completed to 95.5% from 74.3%. Accuracy of Colon-preparation-understanding questionnaire improved from 60.3% to 89.1%. The most important Osgard Score record showed that inadequate colon-preparation reduced to 14.7% from initial 70%

### Conclusions

The pre-examination reminding system effectively improved the quality of colon-preparation and the accuracy of colon-scope examination

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## Application of Telematics Management Systems into improving the quality of discharge planning services

**SU Yi-Lin, LAI Chia-Min, LIN Pei-Lan, CHANG Chih-Chieh, FU Mei-Chiung, CHIEN Chih-Cheng**

### Introduction

Discharge planning services are an important part of comprehensive health care. However, the medical team cannot identify whether the patient is the case of discharge planning service and need to assess the health status again while he or she is re-hospitalized. The handover rate between case managers for discharge planning and medical teams was null. Telematics Management Systems might be useful for overcoming this barrier and improving the quality of discharge planning services.

### Purpose/Methods

The purpose of this study was to apply Telematics Management Systems to improve communication between case managers for discharge planning and medical teams so as to improve the quality of the services. This system included auto mobile-phone short message notification services auto medical informational system reminders, and a standard operational procedure for effective handover between case managers and medical teams.

### Results

This study found that case managers of discharge planning services could track all patients' status when they are hospitalized after the introduction of the Telematics Management Systems. It also achieved 100% of the handover. More than 100% of medical team members were satisfied with this system, and 95% of patients or their relatives felt satisfied.

### Conclusions

This study proved the effectiveness of the application of Telematics Management Systems which combine the information system and communication system into improving the quality of discharge planning services. It improved the handover rate between medical teams, shortened the time for assessing health status by case managers and improved satisfaction of medical teams and patients. Therefore, more attention should be given to the application of information and communication technology into health care.

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## E-Sex Counseling Trend from a Governmental Award Personal Website in Urology

**LU Chih-Cheng**

### Introduction

To explore the possible trend and health promotion in the internet for counseling about sexual medicine related problems from an award-winning personal urological website in Taiwan.

### Purpose/Methods

The personal urological website had consecutively won the award for 3 years in the annual health information-qualified contest under the auspices of the Department of Health in Taiwan. A major feature of the website is a friendly question and reply area. The mainly written language used in the website is Chinese (traditional characters) but no such limitations in the e-mail area. The contents of questions and answers including e-mail were categorized and analyzed.

### Results

This is the first government-qualified personal urological website in Taiwan. A total 352 questions were collected up to January 2011. Most of the questions (703/810) were inquiring sex related problems (e.g., erectile dysfunction, premature ejaculation, loss of libido) including contraception and infertility. It is interesting to note that several questions (70/810) were asked from the patient-related individuals such as homefolk or the sexual partner, not from the patients themselves. Second opinion-like questions (20/810) were also noted.

### Conclusions

In the modern medical era, internet is a way for counseling and education in health promotion. Sex is still no a well open topic or ready for formal discussion in Asia. There are full of data in the internet regarding sex and sexual medicine. Not all are useful or instructive. Physicians are needed to be familiar with internet knowledge. Internet users or patients can then be directed to high-quality websites to educate themselves and to prevent themselves from misleading.

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## The implementation of an e-learning platform for food and nutrition information in a medical center

**CHEN Hui-Chuen, KUO Yueh-Hsia, CHENG Chin-Pao**



### Introduction

Healthcare providers and the public have often been confused by true-or false food and nutrition information and do not know whether information can be trusted due to difficulties of accessing valid resources. Long-term unhealthy diet causes health problems. In the past, nutrition information was mainly disseminated via speeches, posters, and flyers, which could have been limited to particular time and location. Therefore, we provided two e-learning programs for healthcare providers and the public to improve their dietary knowledge.

### Purpose/Methods

The e-learning program, "Nutrition Information Supply", is bi-monthly courses for our hospital staffs, created in 2005. One course provided nutrition knowledge; the other provided food safety. Quiz followed by the courses. Rewards were given to the first thirty readers who answered all questions correctly. For the community, we have created "Healthy Cooking Month", since 2009. Dietitian and chef worked together to develop recipes of healthy dishes and demonstrate the dish. The process was filmed and posted online on NTUH E-News.

### Results

There have been 127 articles posted on Nutrition Information Supply since 2005 (October, 2011). 10,414 hospital staff attended the e-courses, and felt satisfied with the program. The case hospital continually gives support and funds the program with a total of NT\$380,300. Moreover, an average of 877 subscribers per month watched the online program of 'Healthy Cooking Month', and a total of 21,049 subscribers watched it.

### Conclusions

E-learning nutrition program has assisted healthcare professionals to obtain latest knowledge on food and nutrition information. Meanwhile, patients can get better quality of health care from these competent healthcare providers. Moreover, e-learning healthy cooking program shortened the distance between the general public and health professionals, extended public services, and improved chef's morale. Therefore, the e-learning system is considered as one of the feasible solution for future nutrition promotion.

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## The Cognition and expectation of Electronic Medical Record Services to People—A case study of a hospital located in Changhua

**YU- CHI Li, CHING-KAN Lo, KUAN-KAI Huan**

### Introduction

This is a questionnaire based study that designs via interviewing through the general public in order to analyze the level of understanding and satisfaction with its current status of implementation of electronic medical record(EMR). Further use of the level of important - satisfaction analysis (Importance-Performance Analysis, IPA) to explore the benefits and problems after the implementation of EMR in hospital. The results show that there are six key advantages, six over-expression, six potential threats and five urgent improvement items.

### Purpose/Methods

Importance of awareness and feelings of satisfaction is based on the subsidy program of exchange of EMR that published by the Department of Health that comprises of the medical security, control of medical resources, save costs and shorten the time of copying medical record and the exchange, speed up diagnosis and treatment decisions, and enhance protection of patient privacy.

### Results

The setting of the questionnaire is taken place mainly in Changhua, a total of 260 sample survey data, excluding of the seven invalid questionnaires, a total of 253 valid questionnaires were collected. In terms of the content validity, the questionnaire structure is based on the dimensions published by the Department of Health, and then review by the relevant professionals for the revised design.

### Conclusions

According to IPA analysis: There are six items fell on the first quadrant, indicating the importance of the public awareness of EMR and hospital services provided is standardly high which was a key advantage for the case hospital that should be maintained. Five items fell on the 4th quadrant, indicating an urgent improvement of the items asked for the public attention to the people in hospital is needed and has not yet reached the standard expected level.

### Comments

The allocation of limited resources for effective strategies to improve people's attention to these problems must be considered in development priorities. In addition to promoting EMR, the Department of Health should provide the public relevant information and knowledge. For a better future in Taiwan's medical information, it is equally important to consider the promotion of the program and the public understanding of the development trend of modern medical services.

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## The Application and Effectiveness of Tele-Healthcare System Using in Kaohsiung Linhai Industrial Park

**LIU Ching-Kuan, CHIEN I-Kuang, YANG Gary, HU Jung, TSAI Tien-Sheng**

### Introduction

Deaths from overwork (Karoshi) recurring in all kinds of industries in recently years. Caring of health promotion in the workplace are more and more important. Many laborers are easy to ignore the healthy information, so they need some helps to establish better health promotion behaviors.

### Purpose/Methods

Through internet, it can record and follow the blood pressure and blood sugar of companies' staffs. In an emergency, it can give medical suggests and assistances. Moreover, 24hours call-center can give medical consultations, regular companies interviews, and user's satisfaction survey.

### Results

From June 2010, it service more than 16 companies, a thousand of staffs. Half of the companies' unusual data from June 2010 to December 2011 are lower. More than 75% companies are satisfied this service.

### Conclusions

It is the duty of company to promote staffs' health, because healthy staffs can bring high work efficiency and profit. This service was received many official awards: 2011 THPH(Taiwan Society of Health Promoting Hospitals) best award in safety workplace, 2011 SNQ(Symbol of National Quality) award etc. Keywords: Tele-Healthcare System, Industrial Park, call-center, workplace, SNQ(Symbol of National Quality)

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## Creating a new referral model after Adult Preventive Care Services in Taiwan

**LAI Chung-Liang, HSU Pi-Shan, LEE Meng-Chih, CHEN Jin-Jong, CHANG Po-Lun, TU Ken-Rung, LIAO Miao-Yu, LIU Yin-Yin, LEE Hsuan-Yi**

### Introduction

In Taiwan, National Health Insurance provided a free periodic health examination (PHE) as Adult Preventive Care Services (APCS) for adults over 40 years old. The main aim is to detect the chronic diseases and risk factors and to improve health status through consultation, referral and treatment. It did not work out well after PHE so we create a new pilot model to improve this situation. This program was supported by the Bureau of Health Promotion, Department of Health, Taiwan.

### Purpose/Methods

The purpose of this program is to achieve effective intervention by creating a new computerized referral system after APCS. First, we invited experts including physicians from hospitals and clinics, health promotion specialist, case manager, nurse, exercise specialist, information management specialist, government staffs and community residents to discuss. Second, we merged the opinions of all attendees into a computerized referral system to make the referral more effective and comprehensive, and to make follow up more convenient.

### Results

In this computerized referral system, there are 4 major time related standard operation procedures were created, which include client flow, service provider/case manager flow, financial supportive flow and information management flow. All original and feedback data could be connected through internet. The satisfaction of this computerized referral system was 3.429 (by using 1-5 scales)

### Conclusions

An integrated, incentive and friendly information system is the key for successful referral and follows up after Adult Preventive Care Services. Hopefully in the near future this new system could let users get health information, referral needs and feedback immediately not only through hospital local internet but also through a community based internet system.

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## Session P2.13: Developing specific types of health promoting health services

### The promotion of palliative care and advanced care planning by volunteer in the community

**WANG Shu-Chen, WANG Ying-Wei**





### Introduction

Background: The hospice movement in Taiwan started for 20 years ago and passed the "Natural Death Act" for ten years. A new movement begins in recent 2 years which focus on all the terminal disease including both cancer and non-cancer disease, and the promotion of advanced care planning (ACP) in the general population. Objectives: The purpose of this study was to understand the knowledge and belief of hospital volunteers about the palliative care service and advance care planning movement.

### Purpose/Methods

A cross-sectional anonymous survey was conducted for the volunteer in a medical center in Eastern Taiwan. There were total of 589 participants in the study.

### Results

Twenty-eight percent of the participants had completed the ACP document after the survey. And the other sixty percent volunteer participant reported that they would like to sign the ACP document in the future. Almost eighty percent of participants said that they will promote the palliative care concept in the community.

### Conclusions

The study demonstrated that volunteers are good promoter for the concept of palliative care and advanced care planning in the community.

## Hospice care for aromatic practical experience

**WU Hsiu-Chen**

### Introduction

Aromatherapy is a natural therapy, essential oils obtained by refining plant to full physical, mental and spiritual care for the feature. In other countries, the aromatherapy has been used in the hospital for several years, especially in Europe. It has become a part of hospice care. In Taiwan, aromatic care has not included in the regular treatment into the hospice care, but there are many hospitals try to use the aromatherapy for the terminal cancer patients to relieve pain, as an adjuvant therapy.

### Purpose/Methods

The purpose in using aromatic care in hospice is to help patients to relieve pain by aromatic massage. In a space that full of aroma, it make the patients feel calm and serene, promote the harmony between medical personnel and patients, and bring a peaceful atmosphere to the patients and their family to accompany them on the final journey of life.

### Results

Aromatic care really helps to improve the holistic care, promote physical and psychological comfort of the status of cancer patients. Patients maintain dignity at the end of life. However, the application of aromatic care should not be limited in hospice. It should be used in the generalized of hospice care.

### Conclusions

1 The cooperation of aromatherapy groups in Taiwan, has changed the impression of aromatic care and has got great effect. 2 The Sick and Poor in remote areas accessing to the finest aromatic care, virtually affected other people and hospitals in raising the willing of using the aromatherapy. 3 It is the first time the aromatherapy industry cooperation with the hospital. We have accumulated a considerable sum of case records, and the results will be shared with the aromatherapy and medical fields to help in the aromatic care practical application in clinical care.

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## The difference of care provision between hospice and non-hospice unit in a medical center

**CHING-CHUN Chiang, SHU-HUA Tang,  
YING-WEI Wang**

### Introduction

Background: Many terminal patients are referred to hospice for end-of-life (EoL) care. However many patients will not taking care by hospice unit due to various reasons. In order to solve this problem, it is better to improve the EoL care capacity in the general medical unit. Objectives: The purpose of this study is to compare the difference of nursing care and medication in hospice and non-hospice unit for terminal patients.

### Purpose/Methods

We did chart audit for 120 patients who died or discharged from hospital in the dying phase. Half of the patients were recruited from hospice and others recruited from general medical unit. We selected patients with one of the three most common cancers in the hospital (hepatoma, lung cancer and colorectal cancer). 28% were female patient. 48.3% patient died in the hospital and the others were discharged in the dying phase due to culture issue.

### Results

Regarding the nursing process, there were significance difference in measuring body weight, recording intake and output, urinary catheter insertion, NG tube insertion and TPN ( $P < 0.01$ ). All these nursing process were less performed in the hospice unit. Regarding the using of medication, morphine, haloperidol, and dormicum were more commonly used in hospice ( $P < 0.01$ ). The general medical unit used more pethidine and long acting diazepam than hospice. For those patients with lung cancer, general medical unit used more bronchodilator for the dyspnea symptom, but hospice unit used morphine to relief the dyspnea. ( $P < 0.01$ ).

### Conclusions

This study reflected the difference of care in hospice and non-hospice unit. In comparing with the Liverpool clinical pathway, many terminal patients suffered from unnecessary medication, unnecessary tubing in the general medical unit. The provision of palliative consultation team and end-of-life care training is important in the future program.

## The ultimate indicator for health promoting hospital—the hospice throughout the hospital

**KAO PI-YUEH, CHEN RONG-CHI, CHAN PI-TUAN**

### Introduction

Health impacting factors comprise of culture and environment, etc, and these should be engaged by all. To implement in this hospital, the health idea should be blended-in the daily routines. Revere the death is the ultimate indicator for health; in order to respect the caring for terminal stage in life, we regularly sponsor the life and ethical case study seminars to raise the quality experienced during the death process.

### Purpose/Methods

By scheduled case study discussion, it can stimulate caring and respects stemmed from our employees and have them blended into our daily routines. Approach: Starting from 2007, the ethical case study seminar had been regularly sponsored. Appraisal: Collected the satisfaction level survey sheets after the class and analyzed the results as well as feedbacks from the family members and medical staffs.

### Results

Mean value from the satisfaction level survey: In 2010, it was 87.6%; in 2011 (Jan to June), it was 85.1%. Family member feedback: Including the feeling of back to home, volunteered illustration by medical staff, and kindness. Medical staff: Caring of the pain suffered by patients, preparedness in facing the death and voluntarily providing religious service.

### Conclusions

Life issue is close-knitted with individual culture, the society and environment and also is part of living. Respect to life blends in with daily lives in the service provided so that the findings from case studies can be implemented and increase the self-confidence of all facility personnel.

### Comments

Life issue is part of daily routine. For improving quality of death, the terminal care knowledge and ability should be blended-in the daily routine of healthcare system through regular case reports.

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## The effectiveness of palliative share care team in improving symptom control in a University hospital in Eastern Taiwan

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### Introduction

The comprehensive palliative approach in a hospital should be focused on the integrated care, communications, dignity and design and patient autonomy. A good quality symptom control must be provided in every unit in the hospital. The palliative shared care program was launched in a tertiary care teaching hospital in eastern Taiwan since 2004. It aimed to improve the quality of care for terminally ill patients in the hospital other than those in the hospice.

### Purpose/Methods

This study compare the amount of morphine using in the original oncology team after the intervention and also study the satisfaction rate of primary team for the shared care team.

### Results

Through the implementation of shared care, progress has been made in increasing awareness of patients' condition and prognosis (44 % vs 69%), completing rates of DNR signature (11% vs 45%), improving symptoms and pain control, and increasing length of stay in home care. The number of patients in whole hospital using morphine has increased 100% from 2004 to 2009. The consumption of morphine has increased 200% since launch of the program. The satisfaction rate of the shared care service reached 80%.

### Conclusions

End-of-life care had been easily overlooked due to resource shortage and marginalized by other specialties in tertiary care institution. The share care program can effectively improve the outcome of pain control and quality of care in terminal ill patient in the hospital.

## A Preliminary Study on the Reliability and Validity of TAI in Taiwan - Based on Application to the Residents of LTC facility

**LIU Huoy -in**

### Introduction

Implementing the elderly health promotion for Long-Term Care(LTC) will be settled just counting on LTC needs handling. Rather, the exploring of LTC needs all counted on the professional team or assessment instrument/tool. Yet, the quality & quantity of professionals related to LTC has still been developing in Taiwan. The Typology of the Aged with Illustration(TAI)



was a simple assessment tool in Japan, mostly based on functional levels and care needs, has been developed and launched for the elders.

#### Purpose/Methods

The study was aimed to examine the reliability and validity of the adapted version of TAI in Taiwan. Reliability was examined by using the test-retest procedures by the same evaluator with 1 week interval, and re-assessing by the second evaluator within 24 hours. The validity was examined by using criterion-related validity and content validity approaching. Data were collected from the sample subjects of 104 elderly residents aged 60 and over in long-term care facilities.

#### Results

The intra-rater and inter-rater reliability presented high agreement index on its toileting, intake, mobility, and mentality care scale. However, only low agreement index noted in medical care scale ( $k < 0.5$ ). In validity examining, there were significant associations among TAI-mental scale and corresponding SPMSQ and GDS-15. There were significant associations among TAI toileting, intake, and related Barthel Index-ADL scale. However, no significant association between TAI mobility and IADL scale noted.

#### Conclusions

The results indicated a highly correlation between the adapted version of the instrument in Taiwan and currently common tools on its intra-rater and inter-rater reliability. There also implied the significance of agreement among several domains by using various instruments in validity examining. Hence, some parts of Taiwan TAI, for care needs determination with evidence-basis, might be regarded as one of the choices, just sparing mobility and medical care domains for further study or modification.

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## Using of NSDB strategy -The elders have dignity and longevity in the nursing home

#### CHOU A-Chou

##### Introduction

In order to the elders living in the nursing home can be closer and warmer of "retirement home", to respect for the conscious, self-expression for the elderly to have personal space, so that the elderly can have dignity even in the institutions. Our hospital services satisfaction of nursing home remained at 75-80%, by this innovation, "individualized service" program, hoping to improve service satisfaction to 85%.

#### Purpose/Methods

Using NSDB strategy for understand the needs of the elders in the nursing home (Need): dignity, freedom of autonomy; proposing solutions (Solution): collection of environmental layout, providing multiple models to let the elders choose by themselves; competitive differentiation (Differentiation): bedside card, house signs and drinking cups by making of individual, using meals with a la carte menu, adding video parlor system; creating the greatest benefits (Benefits): the elders in the nursing home feel more "dignified" and "longevity."

#### Results

The elders' utensils, bedside card, color and pattern of converge cards, designed by the staff to have their own areas of living space; using happy meals menu let the elders be able to enjoy the visual impression not imagined; let the family to see each other, to convey thoughts, and care by video. After the implementation satisfaction program survey, the total number of 38 questionnaires, 34 were satisfied, 89% satisfaction.

#### Conclusions

Nursing home services team through the hard feelings of the needs of the elders, used to create a line item, and brought the elders refreshing feeling of being respected. Hoping nursing home services team can continue to look forward to innovation for the elders, for their future and to create more "dignity" and "longevity" value.

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## Development and Evaluation of Long-term Care Competencies Training Program for Registered Nurses in Taiwan: The 2010-2011 Project

#### HUANG Chung-I, CHEN Ching-Min

##### Introduction

Responding to the fast growing elderly population, the government of Taiwan has planned and implemented the aged care projects since 2008. Until 2017, the "10 Years Plan for Constructing Long-Term Care System" was proposed by the Executive Yuan in order to develop a comprehensive long-term care services to improve the dignity and quality of care for the disabled clients. Hence, preparing for sufficient number and high quality professional service providers have become the most important task to reach this goal.

#### Purpose/Methods

Professional nurses play an important part in providing long-term care. Department of Health has called for various continuous proposals to initiate the continuing education programs for individual health professionals. The major tasks for each year's

project includes: 1. developing continuing education curriculum for nurses based on the standard required by the Department of Health; 2. developing and completing a 4-round 32-hour training course in class and in video; and 3. setting up manpower banks for trainees and lecturers.

### Results

The training programs were delivered in northern, central, southern and eastern parts of Taiwan. Experts in long-term care were invited and portfolio of lecturer was built. All courses were delivered and video recorded. Quality of the training program was evaluated in twofold, by passing written examination and participants' reports of satisfaction through questionnaire survey. This project has successfully trained 418 (passing rate 81.32%) in 2010, and 1,162 (passing rate 90.78%) nurses in 2011 equipped with long term care competencies.

### Conclusions

After the implementation of the Long-term Care Service Act, completion of the training program will be compulsory for future service providers. Hence, curriculums planning and qualification of lecturers need to give consideration to fulfill various professional needs. Results of this project demonstrate a successful model for developing training program for other health care professionals. The research team looks forward to promote the future preparedness for sufficient quality and quantity of registered nurses to devote to the long-term care services.

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## Improving for A Long Term Caring Institutions by Pharmaceutical care Model in Healthcare

**YANG Ying Pi**

### Introduction

Pharmacists in Pharmaceutical care Model can directly and effectively communicate with other medical professions, care staff, and patients to provide pharmaceutical care and drug-related health education services. Therefore, Pharmaceutical care Model can improve patients in healthcare.

### Purpose/Methods

Collected a total of 156 cases of pharmaceutical care in 13 cooperated caring institutes from July to Dec., 2009. In accordance with the "pharmacist evaluation in long-term caring recommendation table", we found some therapeutic problems in the institute prescriptions and provide suggestions. In addition, we also analyzed the service contents.

### Results

Within 156 pharmacist-intervention cases, the average items of drug per prescription are  $7.90 \pm 2.07$ . We found that (1) the most frequent medication guide is to explain the correct storage of medicines (ex: with locked and temperature control), accounting for 44.0%, followed by reviewing whether the drugs are expired or deterioration, accounting for 43.0%; (2) the main therapeutic problem found in prescriptions is the drug-drug interactions, accounting for 52.8%, followed by suspected adverse drug reactions, accounting for 12.4%; (3) the most often recommendations for drug medication is to follow-up routinely during medication, accounting for 51.9%, followed by recommended to stop using a drug, accounting for 16.2%.

### Conclusions

Hospitals establish a good cooperative relationship with community caring institutes may (1) assist patients and the community caring institutes to have better healthcare environment by taking patients as the center and simplifying medical procedures; (2) provide regular monitoring of clinical examinations to assist the medical professions for disease control, assessment of drug efficacy and side effects; (3) provide a complete medical and pharmaceutical history to allow medical personnel facilitating the medical assessment; (4) provide comprehensive health education and advice by the routine visiting of medical multi-disciplinary team; (5) provide a good bi-directional referral system. Therefore, pharmacists might provide similar pharmaceutical services as in the hospitals, or play an important role in healthcare for a long term caring institutions.

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## Use of information technology to enhance the effectiveness of discharge planning

**PI-CHUN CHANG, SHU-WEN WU, JEAN-FUN LEE**

### Introduction

This study is to enhance the effectiveness of discharge planning through the implementation of nursing care and look forward to providing patient care completely.

### Purpose/Methods

We use the method of 5W1H to analyze the poor implementation of discharge planning, then the checklist to confirm the real cause of the problem. Next, in the care process we use the concept of process management to build the information system of discharge planning. The information system will track until the seventh day of patient discharge.



### Results

After the implementation of discharge planning information system for 7 months, we find that nurses omission rate of high-risk screening is from 51.36% to 0%, the rate of enrolled is from 2.55% to 12.55%, the patient satisfaction is from 84.0% to 90.0%, and the nurse satisfaction is from 76% to 80%.

### Conclusions

By the concept of process management, we use the information system to change the workflow, we provide the high quality of continue patients service. The result show that the implementation of the information system help to fulfill the discharge planning, and to monitor the patient condition immediately, another it can low the omission rate, finally it can increase the satisfaction and the volume of service, and ensure the quality of care. We think information technology can be used in clinical care Effectively.

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## A Project to Revise the Comprehensive Assessment Instrument for Discharge Planning: A Preliminary Study

**WU Li-Wei, WU Chin-Jung**

### Introduction

Effect of discharge planning not only reduces the length of stay in hospital, unscheduled readmission rates, but also is an important mechanism for continuum care. Therefore, a comprehensive discharge planning assessment tool can be used to early identification of patients who individual's need and facilitates the provision of services. The purpose of this study was to revise the old type assessment tool which established in 2003, and anticipate improving the implementation of high quality discharge planning.

### Purpose/Methods

This study was a cross-sectional and one group pretest posttest design. The comprehensive assessment tool were modified from current guidelines of discharge planning and implemented by three case managers using check list to substitute handwriting mode.

### Results

A total of 12 new-model assessment sheets were recruited within a week. The average assessment time were reduced 4.5 minutes. Besides, the overall satisfaction of assessment tool contents in pre-and-post score were separately  $2.73 \pm 0.06$  as well as  $3.93 \pm 0.57$ . Moreover, evaluation the score of user satisfaction in pre-and-post were separately  $3.11 \pm 0.19$  as well as  $4 \pm 0.00$ . On the paired-t analysis showed there were significantly better satisfaction of using new-model assessment tool than old type ( $p < 0.05$ ).

### Conclusions

The assessment time were reduced, and the user as well as overall satisfaction were improved among case manager by using new-model assessment tool. Therefore, the new-model tool may provide appropriately continuum care for patients who preparing to discharge from hospital. However, further exam would be executed.

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## The effectiveness of dedicated case management system for discharge planning

**CHI WEN Chen, HSIU CHU Chian, LING CHU Wu**

### Introduction

Since the implementation of Taiwan's National Health Insurance (NHI) in 1995, it was found that the hospital length of stay (LOS) had been increasing; therefore, the Department of Health, Executive Yuan advocated the complete discharge planning to improve the continuation quality of care for patients after discharged in 1996. Kaohsiung Medical University Hospital (KMUH) also established the team of discharge planning at 1998. However, the LOS and the overstay rate have risen during the past decade in KMUH.

### Purpose/Methods

In 1998, the team had 39 case managers (CMs) in charge of discharge planning 2-3 days per week, and the rest of working days as a RN role. In August 2009, KMUH through dedicated of case management system and set up 16 CMs to serve. Each CM is in charge 1-3 clinical divisions. And then in order to deal with new regulations of insurance payment which named Tw-DRGs in 2010, CMs have a new mission which offers comprehensive caring within budget.

### Results

In July 2011, 2 years after organizational reengineering, the LOS reduced by 0.4 day and the overstay rate declined by 0.5%. Furthermore, the patient service volume has increased from 7.54% to 19.2%, and the average patient satisfaction score has improved from 4.38 to 4.52, and the average medical teamwork members' satisfaction score has increased from 3.94 to 4.70.

### Conclusions

In KMUH, the dedicated of case management system successfully reduced the LOS and the overstay rate, and saved more than NT 0.1 billion dollars in medical expense, and staff affairs expense didn't increase apparently. The organizational reform is not only saved the medical expense but also improved quality of care.

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## Session P2.14: Developing service quality with health promotion

### Establishing and Exploring the Effectiveness of an Information System of Nursing Quality Indicators

**SHU-FANG Tsai, LI-YIN Chang, HSIU-HUI Yu**

#### Introduction

An information system can increase the correction and completion of quality controllers data collection, more benefits and simplify the work flow

#### Purpose/Methods

The purpose of this research was to establish an information system of nursing quality indicators and explore its effectiveness. A quantitative cross-sectional design used a structured questionnaire. The Wilcoxon Signed-Rank test was used to compare the differences.

#### Results

The results showed that durations for completing "confirming the accuracy and completeness of the data", "statistical analysis", "improvement analysis review" and "total time" before and after using information system were 12.5, 10, 10, 31.5 minutes and 5.5, 5.19 minutes respectively, reducing 39.68% time consumption. The nurses' satisfaction rate was between 92.73% and 100%. Personal characteristics did not influence the satisfaction rate.

#### Conclusions

These results may be of use for nursing administrators as a reference in monitoring information systems which measure quality control indicators.

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## Combinations of policy deployment, quality improvement team and quality control cycle to boost up the medical quality, patient safety and workplace health : Experiences in a regional hospital

**HSU Yuan-Nian, Hsu Jin-Chyr, YANG Nan-Ping**

#### Introduction

A well-managed hospital can provide satisfactory accuracy of patient safety and superior quality of medical services to the visitors and the residents of neighborhood communities and, even apparent progress of workplace health to the employees and the environment. Many quality management methods had been developed in running hospitals and, among that, an added effect could be observed when combinations of various management tools were used.

#### Purpose/Methods

In 2011, 25 crews of policy-deployment (PD) based on independent medical departments, 213 projects processed through individual quality-improvement-team (QIT) and 83 topics of quality-control-team (QCC) operated by different units were performed in a regional hospital with 600 beds and 1,000 medical staffs and employees in Taiwan. The main visions of these managements were: (1) to increase the utilization of medical services; (2) to advance the medical quality and patient safety; (3) to raise the employees' health and environmental protection.

#### Results

After a 12-months operation of combined PD, QIT and QCC, the amount of medical services of the present hospital was 10% more than the past year but its expenditure of water and electronic resources was below before. There were 170 uncharacteristic events reported monthly that would be resolved in time. In general, recorded medical errors had decreased 74% than the past two years. The satisfactory score of the medical staffs and employees of the studied hospital was more than 85% and, more than 2,000 kgw of weight loss was obtained from all the members' efforts on health promotion.

#### Conclusions

It is worthy for the hospital manager to promote and integrate various management methods of quality assurance or quality planning to gain an improvement of the medical quality, patient safety and workplace health. Furthermore, an innovative emerging care model could be developed to take into account the medical services and social responsibility.

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## A Creative Way to Promote the Adherence of Handwashing in Surgeons and Surgical Nurses

LEE Mei-Man, CHANG Chiung-Jen, CHEN Hsien-Wei, HUANG Tzu-Shin

### Introduction

Handwashing is not the easiest, most economical and most effective way to prevent nosocomial infections, but also the most important strategy to reduce spreading nosocomial organisms. The adherence rate of hand-washing in surgeons and nurses at the surgical ward was low around 78.19%.

### Purpose/Methods

The project aimed at identifying reasons of the low handwashing rate in surgeons and surgical nurses and executing the effective strategies for promoting the adherence rate of handwashing and decreasing infections regarding hand transmission of healthcare providers. A retrospective data of handwashing rate, a knowledge test of handwashing, and handwashing observation of surgeons and surgical nurses were used to identify causes of low handwashing rate. Educational training, irregular handwashing audit, handwashing posters and tags, and alcoholic rubs facilities were adopted to improve the low handwashing rate of the healthcare providers.

### Results

Reasons of the low handwashing rate include unclear about timing of handwashing, lack of handwashing knowledge, easy to forget handwashing due to lack of handwashing reminding stickers on working carts, and lack of handwashing facilities. After this project, the adherence rate of handwashing increased from 78.19% to 92.2%. The mean scores of a knowledge test of handwashing timing were risen from 79.33 to 96.57. The satisfaction level of using handwashing reminding stickers on working carts was 95.67%. A convenient environment of handwashing using alcoholic rubs facilities was created at the surgical ward.

### Conclusions

This multi-strategies project was effective to improve the issue of low handwashing rate among surgeons and surgical nurses and to lower spreading germs from patients to patients within the healthcare unit. These means of the project also can be applied to other healthcare institutions for reducing nosocomial infections and providing safe care among sick people.

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## Reducing central venous catheter induced blood stream infection rate in the medical intensive care unit

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### Introduction

This project was to reduce central venous catheter (CVC) induced blood stream infection rate in the medical intensive care unit. We organized staff training program, developed instructions to "SOP of CVC insertion and CVP measurement", devices reset and audit system. We minimized the CVC induced blood stream infection rate to 0.3%, promoted CVC care knowledge to 96.6%, and the correction rate to 96% which following "SOP of CVC insertion and CVP measurement".

### Purpose/Methods

This project was to reduce CVC induced blood stream infection rate. We organized training program, developed instructions to "SOP of CVC insertion and CVP measurement", devices reset and audit system. Thus, we Minimizing the central venous catheter (CVC) induced blood stream infection rate from 12.7 to 5.0; Maximizing the concept rate of nursing staff awareness of CVC care from 75.6% to 94.5%; Maximizing the correction rate from 76.5% to 95% for nursing staff assisted the CVC insertion and CVP measurement.

### Results

The central venous catheter (CVC) induced blood stream infection rate was minimized from 1.27% to 0.3% after project performed. The efficiency of quality improvement was 76.4%. and the CVC care knowledge of nursing staff as maximized from 75.6% to 96.6%. The efficiency of goal achievement was 110.5%.

### Conclusions

After improvement practices for our nursing staff to initiate the querying of the CVC removal, not only doctors pay more attention to indwelling day, but also review the necessity of the CVC. Other measurements included electronic reminding system to inform the CVC indwelling days when medical orders were started in computer system. These practices were for early evaluation of CVC removal, reducing CVC induced blood stream infection rate, minimizing hospital stay, and decreasing medical cost with improvement of care quality.

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## Recognition of Diabetes Health Promotion Institutes in Taiwan

**YU Neng-Chun**

### Introduction

The prevalence rate of diabetes is increasing globally and places a tremendous burden on modern society. Diabetes is the 5th leading cause of mortality and it accounts for 43% of new renal dialysis in Taiwan. There is evidence showing that education and lifestyle modifications can minimize the risk of diabetes and improve outcomes. Therefore, a system design with training of health care providers and teams is essential to ensure information on health promotion can be delivered effectively.

### Purpose/Methods

In order to incorporate health promotion education in delivery system, recognition program of diabetes educators (CDE) started since 1997, criteria including core curriculum, 50 hours CME, written test, 80 hours internship and oral test. Recognition program of diabetes health promotion institutes (DHPI) was co-promoted by TADE and Bureau of Health Promotion (BHP), criteria including structure, education service, accountability and health promotion program. The CDE has to maintain 150 hours CME every 6 years, DHPI is reviewed every 3 years.

### Results

The CDEs increased from 240 to 4,500 during 1997-2011, including nurses, dietitians, physicians and pharmacists who account for 45.1%, 35.1%, 17.1%, 2.8%, respectively. The number of DHPI increased from 136 to 186 during 2006-2011, including medical centers, regional hospitals, local hospitals and primary clinics which account for 10.2%, 40.3%, 23.7%, 25.8%, respectively. The DHPIs take care of 58.9% of total diabetes population in Taiwan, 80% of them provided health promotion programs for individuals with metabolic syndrome, IGT or smoking.

### Conclusions

Health promotion is an important strategy for health care organizations and system to combat non-communicable diseases. There are many common issues on health promotion for both diabetes and high risk population, such as weight control, healthy diet, physical activity, monitoring, problem solving skills, health risk reduction and positive coping. The recognition of CDE and DHPI is a consistent and effective program to provide a national health service network for diabetes management and prevention in Taiwan.

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## Establishing the „Prevention of nosocomial infection” module in first year undergraduate medical curriculum

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### Introduction

Education is one of the basic socio-economic determinants of health. Relying upon the statement that the scope of disease prevention – as defined in the Health Promotion Glossary – is of including “measures not only to prevent the occurrence of disease, such as risk factor reduction, but also to arrest its progress and reduce its consequences once established”, we realised that future medical doctors have no systematic information on healthcare associated infections (HAIs) risks, prevention and control.

### Purpose/Methods

Starting 2006, we structured a module of 4 hours lectures and 10 hours practical tutorials, equivalent to one credit, addressed to freshmen in our medical schools, in order to make them sensitive to the potential risks of HAIs and the preventative approaches to be addressed to healthcare workers (HCWs) and patients. The proposal has been approved by the Dean of the Medical School, the Dean of the Dentistry School and the Rector and Senate of our University.

### Results

The module of Prevention of nosocomial infection started by being compulsory for all freshmen in the two medical schools. The feedbacks of their evaluation were very positive. For administrative reasons imposed by the Ministry of Education, in 2008 the module became optional in Medical School, staying compulsory for Dentistry School freshmen. The level of attendance exceeds the 2/3 of all students. A very summarising lecture on HAIs (two hours) is also addressed to the final year medical students.

### Conclusions

Teaching undergraduate medical and dentistry students on HAIs helps them better understand personal risks, patients' risks and risks at community level. Knowledgeable HCWs could much more efficiently early detect, prevent and control indoor and outdoor HAIs. Healthcare efficiency, attractiveness, and patients' satisfaction could improve relying upon HCWs better level of knowledge on HAIs. This is a life-long efficient early medical educational investment, improving knowledge, and developing life skills which are conducive to better and safer individual and community health.

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## Improve the hand Hygiene compliance rate in intensive care unit

LIAO YU-RU, JI YA-CHEN, TSAI YUE-YING

### Introduction

In order to reduce health care-associated infections, World Health Organization bring up that "clean care is safe care," as the goal of patient safety. In October 2010, we participated the hospital hand hygiene certification activities of the health policy and founded that the low rate of hospital hand-washing compliance. "The implementation of infection control" is one of the nine patient safeties all over the country.

### Purpose/Methods

The project implementation period is October 2010 to September 2011. The second district in the ICU, staff of hand hygiene compliance rate is the lowest 18%. The nurses received hand hygiene training by infection control nurse. Each examiner with checklist has more than 30 times to check procedure of hand-washing. And perform the survey of hand-washing knowledge, behavior, attitude by questionnaire. Based on the results, we do the strategies: (1) Equipment improvements: setting a bottle of alcohol and dry hand sanitizer per bed, changed package of Hibiscrub to single-use. (2) Process improvement: to establish monitoring hand washing program. (3) Policy amendments: training seeds teachers of the hand hygiene, the development of reward and punishment. (4) Enhanced understanding: up loading hand hygiene education to disease-learning network.

### Results

From April to June in 100 (the third quarter) hand hygiene compliance rate increases 84% to 87% and progress rate is 3%. From July to September in 100 (the forth quarter) hygiene compliance rate still maintains 87%. 100 years of ICU infection rate decreases from the 7.04 % to 3.33 %.

### Conclusions

Intensive care units are high-risk of infection rate. During the promotion of project, using strategy to achieve goals, the group should continue hand hygiene program and achieve sustained hand hygiene compliance rate, in order to reduce infection rates, improve quality of care and avoid medical waste of resources.

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## Improve health care professionals hand-washing rates

LIU Fan-ju

### Introduction

Quality of care is health care facilities an important indicator of the quality of medical care, seriously affect the health care cost and quality. Hand washing is the easiest to prevent nosocomial infections way, the Ministry of health promotion policies, health care can improve hand-washing compliance rates, health care workers perform at the appropriate time to wash hands, improve care those hands are the implementation of health degree, reducing health care-related of infection targets.

### Purpose/Methods

Infection control team in September 2010 to November, monitoring health care workers wash their hands an average of only 37.8% compliance rate, Through reflection and analysis, Solution : 1. Improve hand hygiene facilities close to health care workers. 2. The development of hand-washing step, the timing and standardized. 3. Planning in-service education. 4. Hand-washing teacher training. 5. Development of variety advocacy methods. 6. Active participation the public hand-washing activities, take advantage hand hygiene policy to improve staff hand-washing rate.

### Results

September 2010 to November before, the health care hand-washing rates only 37.8%, Identify the main causes and solutions, Through various programs to promote, the measured rate of health care workers wash their hands raised to 89.38%.

### Conclusions

Nosocomial infections are caused patient death one of the main reasons, so effective and practical guidelines for control the spread of infection is necessary is to reduce infections and the primary means of enhancing patient safety, through the implementation of hand hygiene, health care workers at the right time to develop a habit of washing hands, provide patients a more secure environment and quality of care in order to really achieve the effect of improving compliance rates.

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## Promoting of Compliance Rate in Hand-washing Among Internal Medicine Staff

DAI Meei-Lin, LEE Yea-Hui, CHAO Shan-Ching, LEE Yu-Taing

### Introduction

Since January 2011, our hospital's infectious disease control initiated survey on compliance in hand-washing among hospital staff. The survey revealed compliance rate among internal medicine staff is only 21.3%. Therefore, from January to November 2011, through internal medicine team and by using QCC, has initiated the improvement. The result of this study can

provide reference to other hospitals, and move forward into promoting hospital staff's professional safety and health care quality.

#### Purpose/Methods

The aim of this study is using QCC to improve the compliance rate in hand-washing among medical professionals in internal medicine ward, namely: 1. to improve hand hygiene consciousness among health professionals, and 2. to improve hand hygiene compliance rate among health professionals.

#### Results

Through series of brain-storming meetings and discussions, and using three major measures lead to improvement. Results revealed the following: 1. hand hygiene consciousness among health professionals has improved from 68.5% to 85%, 2. hand hygiene compliance rate has improved from 21.3% to 60 %.

#### Conclusions

With implementation of QCC by the medical team, 12 sessions and meetings, and 6 intra-departmental educational trainings, has helped to improve hand hygiene consciousness among health professionals, which also gradually formed the hand-washing habit, leading to health professional's and patient's health benefit.

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#### Results

As a result, dry and wet hand wash equipment normal function rate is 100%. Fixed hand-wash equipment normal function rate is raised from 88.6% to 100%. In-ward dry hand-wash equipment function rate is raised from 76.8% to 100% as well. Hand-wash protocol following rate is 100%. Accuracy rate of following the protocol is 93.9%. Hand-wash importance recognition rate is 97.8%. All the hospital personnel have completed five major topics of hand wash courses. The general public attending our hospital can also correctly perform hand wash with the easily accessible hand-wash equipments we provide.

#### Conclusions

Due to our program in promoting the importance of hand wash, as well as the correct execution and audit, the health care personnel and the general public both have better understanding of its importance than before. In the mean time, the awareness of health quality and the concept of disease prevention are both increased. Not only individual health is improved, the community health is also improved. The concept of health is not limited to increase of life expectancy. The emphases are on sense of well-being and quality of life. Health quality promotion should be the essential works of every hospital, school, working place, and family.

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## Save Lives: Clean Your Hands – Have you washed your hands?

**CHEN Tsai-Hui, PAI Jih-Tung, HSU Yuan-Nian, HSU Jin-Chyr**

#### Introduction

World Health Organization has been promoting hand wash to improve health care. A health institute functions like a small community. There are plenty of possibilities to contaminate working surfaces while working on patient care and laboratory test. If there is not enough awareness of hand-wash importance, there could be infection incidents, which may cause increasing cost of health care or even loss of lives in the worse scenarios.

#### Purpose/Methods

We propose the following methods to improve health care via promoting hand wash. Under the supervision and full support of upper management, we set up adequate equipments for hand wash. Digital learning of infectious diseases is forced upon all personnel so the training is complete. Inside as well as outside audit, questionnaire investigation, and in-person training are practiced. Posters, banners, TV commercials, flyers, slogans, reminders, and training classes are among the means to promote hand wash. Quality control measures are also established

## A pilot project investigating the influence of conducting medication reconciliation in hospitals

**CHEN Chien-Hui, HSIEH Yen-Yu, WU Chih-I, CHIEN Su-Yu**

#### Introduction

Medication reconciliation is a process of identifying the complete current medication list of a patient and using the list to provide accurate medications for that patient anywhere within the health care system. According to the data of MEDMARX, 2022 medication errors involving a reconciliation issue were reported. Of those, 23% of reconciliation errors occurred upon admission, and 12% upon discharge. In order to address this issue, we should promote medication reconciliation in hospitals more aggressively and systematically.

#### Purpose/Methods

In this study, we developed a standard procedure of medication reconciliation including admission and discharge. We also designed the multi-discipline cooperation model and created a new application of computerized system. We enrolled four hospitals (3 hospitals belong to The Changhua Christian Healthcare System) to conduct this project. In 2010.08~11, we included 60 inpatients above the age of 18, who were on complex medication regimens and we then investigated the influ-



ence of implementation of medication reconciliation in hospitals.

### Results

There were 38 male patients and 22 female patients enrolled, and the average length of hospital stay was 6.9 days. We observed that the time of physicians/ pharmacists completed medication reconciliation was 2.05 days upon admission. Through the pilot study, we found the implementation of medication reconciliation can effectively reduce the potential harm of adverse drug incidents by 8.3%. All health care providers in this pilot study considered this study could actually improve patient safety.

### Conclusions

We realized that implementation of medication reconciliation in intra-hospital organization is a useful strategy to maintain patient safety. However, we can only execute medication reconciliation successfully by simplified procedure, effective team work and user-friendly computer system. In the future, we hope to set up an information exchange platform to make medication reconciliation more effective across different organizations.

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## Evidence for health promotion interventions- The use of BNP and Pro-BNP rapid diagnosis of heart failure

### SUE MEI Hong

#### Introduction

In recent years, cardiac disease, more and more, And what way to quickly check can acquire the correct diagnosis of cardiac function? Searching for relevant literature through evidence-based medicine, we found that BNP and Pro-BNP testing could rapidly diagnose heart failure in a short time. Coupled with the use of BNP and pro-BNP during the medical examination we must also assess the physical condition, and ensure that patients get the best quality of treatment in clinical care

#### Purpose/Methods

After a thorough search and read the Cochrane review of the literature database at the right time, We saw a paper (2008) about pro-BNP and the BNP can be applied to check heart failure, More pro-BNP and BNP examination is needed to quickly diagnose the causes because of physical discomfort of patients from the intensive care unit, emergency department, or outpatient medical care. Literature also compared the advantages and disadvantages of pro-BNP and BNP with cardiac ultrasound.

### Results

The main conclusion is that use of BNP and pro-BNP inspection, Its strengths synchronize with blood examination time, And it takes as long as 20 minutes, be capable of testing at any time.

### Conclusions

The medical team also recommended that hospitals can use the BNP and pro-BNP in the emergency room inspection prior to echocardiography, Indeed, you can check out earlier because of heart failure, increased cardiac stress situations, and give early treatment.

### Comments

In the clinical examination when there is doubt, evidence-based medicine can give strong force to explain the doubts and leads to the application of BNP and pro-BNP test items in the hospital, we sincerely hope that this will benefit more patients.

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## The effectiveness of isomalto-oligosaccharide intake for intestinal flora and bowel in patients with tube feeding

### RAW-POU Hung, BE-TAU Hwang

#### Introduction

Diet and diseases will change the components of intestinal flora and then affect human health. Intestinal flora gradually decreases as people get old. Patients with tube feeding usually are senior people, have trouble eating and fall ill. Their health regarding intestinal flora and bowel deserves more attention. Previous studies suggested that isomalto-oligosaccharide should be effective in improving intestinal flora and bowel.

#### Purpose/Methods

The study examined the effectiveness of isomalto-oligosaccharide intake for intestinal flora and bowel in patients with tube feeding. We recruited 20 qualified subjects who were aged more than 45 years old and received tube feeding during between 15 March and 15 June, 2011, dividing them into experimental and control groups. The experimental group additionally received 10 gram isomalto-oligosaccharide for 4 weeks and stopped this intake for 2 weeks. We collected pre-and-post data and conducted descriptive analysis and paired t-tests.

### Results

The study found there was no statistically significant difference in fecal, PH, water and intestinal flora between the experimental group and control group at week 0. After 4 weeks, the experimental group had statistically significant decreases in

*Clostridium perfringens* and increases in *Lactobacillus* and *Bifidobacterium*.

### Conclusions

This study proved the effectiveness of isomalto-oligosaccharide intake for intestinal flora and bowel in patients with tube feeding.

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## Declining the nursing mistake of valuation in a medical intensive care unit

**KUO fang shiou, WU Xin-Yi**

### Introduction

An audit team was set up to check for every single entry of medical billing. The three leading causes of entry errors were (a) improper design of the item lists (b) improper recording behavior, and (c) lack of cost control awareness. The following solutions have been implemented to improve the situation, which included packaging the related items, using card reminders, setting up an audit team and implementing an educational program to promote cost control awareness and a self-check process among nursing staffs.

### Purpose/Methods

The purpose of this project is to reduce the errors of medical billing charge entry in a medical Intensive Care Unit (ICU), in order to reduce hospital cost and nursing work-hours, to avoid any possible delay in treatment caused by shortage of medical supplies, which included packaging the related items, using card reminders, setting up an audit team and implementing an educational program to promote cost control awareness and a self-check process among nursing staffs.

### Results

The charge entry errors decreased from 32% to 15% after all these efforts. Hence, the financial loss from omission of billing was also decreased. Besides, cost control awareness among nursing staffs was also improved and the patient's right was protected.

### Conclusions

Not merely counts the price mistake only then the nursing staff to be supposed to take, in the literature counts the price wrongly also possible because enters the mistakes in bookkeeping and allocates and supplements causes the health material to lack wrongly, therefore should aim at all medical care personnel, the wholesale price and allocates and supplements the personnel, carries on the related cost, the idea price subject curriculum, strengthens regarding counts price work handling to be able to have the correct idea and the foundation.

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## A Study on Physicians' intension of Using EMR System-Based on Technology acceptance model combined Innovation of Diffusion Theory and Innovation Resistance

**LEE Yueh Hsuan, HUANG Ying Chia**

### Introduction

Electronic medical record (EMR) system has some excellent effects on improving the medical service quality, and it is about ten years in Taiwan to promote EMR system. The physicians are the main subjects to use the EMR system, but there is few research on the influencing factors of the physicians' intent of adoption before. It is very important to analyze the major factors to make EMR system more acceptable, and to make physicians get used to EMR system.

### Purpose/Methods

Based on Technology Acceptance Model, Innovation of Diffusion Theory and Innovation Resistance Model, we construct and test the hypotheses of physicians' perspectives on the adoption of EMR system. We surveyed 1,233 physicians of regional hospitals in Taichung, the largest city of Central Taiwan. After confirming the reliability and construct validity, the 5-point Likert scale self-administration structured questionnaires were delivered and 282 copies were collected, and 276 copies of them were good for analyzing, which the effective response rate was 22.22%.

### Results

By using the multiple regression analysis, we test five aspects of factors, such as Performance Expectancy, Effort Expectancy, Social Influence, Facilitating Conditions and Risk Obstacle. All of them showed significant influence on the physicians' intent of adoption of EMR system, and explained overall model variance is 52.7%. Using hierarchical regression analysis to predict the physicians' behavior, we also found Risk Obstacle and Social Influence as the two major factors influencing physicians to adopt the EMR system.

### Conclusions

The result means the construct of technology acceptance model about physician's behavioral intention to adopt new technology system (EMR) is well implemented in the medical service industry as those found in the other high technology industries. Therefore, eliminating negative risk factors perceived by physicians and increasing the compliance of the physicians with friendly hospital policy will be helpful for the government and hospital to promote EMR system smoothly.



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## The survey of the satisfaction of the hospital emergency service- an example of a public hospital

**SZU-HAI Lin, JUI-SHENG Sun, PO-HAO Chiu, MENG-SHIUAN Shiu**

### Introduction

In the recent years, quality of medical service and a patient-oriented service concept have become key points in hospitality management. In order to increase the quality of medical service and satisfaction of its visitors, the medical industry must understand the real needs of their patients to provide comprehensive medical service.

### Purpose/Methods

This research focuses on emergency medical treatment patients, studying the level of satisfaction of the patients or their family members treated at this hospital, in order to understand how the patient felt about the quality of medical treatment and whether this experience will affect their willingness to be treated again. Surveys were by the researchers, from 2011/9/11 until 2011/9/16. 250 questionnaires were distributed and received, recovery rate 100%. SPSS 14.0 was used for descriptive analysis and cross-table analysis.

### Results

From the stated statistical analysis, majority of those surveyed were family members, female, and mostly technical college educated. Overall satisfaction with the emergency room: 65.7%, emergency room procedure satisfaction rated 85.4%, waiting time rated 84.5%, environment and facility rated 50.9%, and patient safety 69.7%. Of all these, 94.6% answering that the doctors patiently listen to the patients describe their illnesses. Waiting time rated the lowest, 0.0% for the reasonableness of waiting time for procedures requiring operation.

### Conclusions

This report finds that overall satisfaction for this public hospital rated at 3.54, representing a satisfaction level between high and medium. Responses were mostly positive for physicians patiently listen to the patients describe their illness, representing that physicians take into account patients stories when diagnosing their patients. Reasonableness of waiting time for procedures requiring operations rated the lowest, suggesting this public hospital could aid patients in transferring hospitals for their operations, to reduce the waiting time for patients requiring operations.

### Comments

(1) Emergency Room Environment: Improving the allotted space for emergency rooms and movement logistics, dividing diagnosis areas and treatment areas more clearly, arrange the areas

for different specialties (2) Emergency room staff service attitude: Letting patients know how the meanings behind the categories of severity, why there is a priority list for treatments, and reduce the expectations gaps, which results in complaints and conflicts. (3) Parking Suggestion: Hospital can reorganize its parking lot, to reduce time on parking.

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## Regional additional resources for HPH program in cancer care

**MAZZA Roberto, CERATI Cristina, ROLI Anna, POZZATI Ivan, BOFFI Roberto, LINA Micaela**

### Introduction

Cancer diagnosis and treatments represent an important crisis in anyone's life. But it is also a moment to empower people by teaching them to take an active part in restoring their health, to stop smoking, to choose healthy food and to stay active with physical activity during every stage of the illness. The principles of health promoting programs are very clear in every setting, but when we are in times of resource shortages, it is very difficult to implement HPH activities. The financing of the Ministry of Health for current research in our Institute for the year 2000 amounted to 15.590.801€, while for 2010 was 9.648.061€, with a reduction of 38%. So it is very important to find new resources to start health promoting programs.

### Purpose/Methods

In Lombardy, our Regional Health System subsidizes a small but significant part of nurse's wages with the integration of special projects of quality improvements in health care, called RAR (Regional Additional Resources). We proposed an HPH project to our Administration to implement a 2011/2012 RAR project for all the National Cancer Institute Nurses, Physiotherapists and Technicians, totaling more than 600 healthcare personnel. The proposal was accepted and we established and implemented a program where nurses assess patients in three specific areas: check smoking status for every patient at every hospitalization and provide minimal advice to smokers on the benefits if they stop smoking, assessment of nutritional status and a small educational intervention on physical activity with a specific leaflet on this topic.

### Results

Our political aim is to ensure health promotion with each patient assessment and we hope to gain this with the RAR program. To date, we have prepared small leaflets in the three health assessment areas and education to facilitate the nurse interventions, we have planned three editions of a one day training for all nurses in 2012. The program will start in four pilot wards in January and will be implemented in all National

Cancer Institute wards by the end of 2012. RAR and HPH projects need coherent evaluation systems of the intervention. This was designed with the Quality Improvement Office, Nurses Management Services (SITRA), Patient Claims, and the Information and Education Services (URP) and will be made with audit on clinical document (% of items correctly filled in) and on outcomes (% nurses trained, % smokers patients who received minimal advice etc)

### Conclusions

This is the first time that a HPH project involves all the nurses at the National Cancer Institute of Milan, and positive impact evaluation will result in a small increment of their wages. It will provide us evidence of the feasibility of health promotion even with limited resources but with a commitment of the Institute's Administrative, Clinical and Scientific Staffs and the involvement of the Lombardy Regional Health Authority.

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## Promoting the family-centered care in pediatric setting: the revealing of parental perception of their presence during the performance of invasive procedure on their hospitalized child

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### Introduction

With an increasingly emphasis on family-centered care in pediatric nursing, health care settings are more willing to promote family-centered care to parents. However, Hong Kong parents are not permitted to stay with their child while performing the invasive procedures. With the discouragement in this arrangement, it is questionable to the promotion to family-centered care in pediatric settings. This study, therefore, aims to explore the appropriate strategies in developing family-centered care in pediatric nursing.

### Purpose/Methods

A qualitative approach was adopted for this study. Convenience sampling was used to recruit parents having child hospitalized in general pediatric ward of a hospital in Hong Kong. Eight parents participated in this study. Data were collected through individual face-to-face semi-structured interview. The interviews were recorded and transcribed. Content analysis was used to identify the categories and sub-categories from the interview data.

### Results

Parental perceptions during invasive procedures and their reasons for staying were identified. Their presence was a way to achieve family-centered care. Parents believed invasive procedures were necessary in the recovery process in which they have no control upon. All participants showed their eagerness and chose to stay with their children if permitted. They perceived they can support their children and assisted the nurses. And it fulfilled the role of parents and satisfaction of participants' psychological and emotional needs.

### Conclusions

This study revealed the positive perception of the promotion of family-centered care during invasive procedures from parents' perspective. All participants perceived the allowance of parental presence during the invasive procedures as a good way to promote family-centered care in hospital settings. The identified perceptions provide impetus for developing appropriate strategies to promote family-centered care in pediatric nursing.

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## Promoting Integrated Care System Program by Establishing Integrated Care Model

**HUANG Ching-Huei, JUNG Jia-Rong, HUANG Paul**

### Introduction

Based upon the integrated care system program of National Health Insurance Bureau in Taiwan, our hospital provides Integrated Care Clinic for the elderly. The Integrated Care Clinic designates physician in providing medication integration and advices on medical services for the multiple chronic diseases elderly patients which aim to lower the risk of duplicate medication.

### Purpose/Methods

Our hospital set up an integrated care team in providing referral function by giving alert message in outpatient physician order entry system and medication delivery guides. We also promote the services of integrated care clinic for the elderly patients by staff recommendation, providing message in outpatient schedule, hospital website, making outpatient appointment through case managers, and postcard.

### Results

Our results, December 2009 to December 2010, showed significant improvements in medication management. The average medication items reduced from 5.756 to 5.708 (-4.77%). The average medication cost per patient per month reduced from NT\$3,560 to NT\$3,366 (-5.43%). The average clinic visits reduced from 0.918 to 0.741 (-19.24%).



### Conclusions

The establishment of integrated care team has the following achievements. 1. reducing the risks of duplicate medications, 2. providing integrated evaluation, medical service advices and following up services. 3. substantially reducing unnecessary medical treatments and saving time in keep coming back to clinic for the elderly patients.

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## Improving healthcare system support for transsexual people in Taiwan

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### Introduction

Transsexualism (gender identity disorder) is an individual's identification with a gender inconsistent with their biological sex. It remains to be the focus of medical and legal controversy in countries throughout the world. Transsexual people always experience discrimination and poor health quality in accessing healthcare, according to the Transgender Eurostudy : Legal Survey and Health Care. Health and legal issues have persistently been associated with transsexualism. It is necessary to analyze how to improve healthcare system support for transsexual people in Taiwan.

### Purpose/Methods

To improve health quality of transsexuals in Taiwan, we created a series of medical-legal-ethical matrix analysis based on a biopsychosocial-ethics-culture model to detail the barriers that transsexuals face when accessing healthcare. Besides, we continue to perform a comparative legal study to collect international information. We will present our recommendations for contributions of health and legal system. According to the principles of health promotion, we try to improve health quality of transsexuals by clinical healthcare, legal study and reform in Taiwan.

### Results

In Taiwan, the prevalence rate is 30~200 in 100,000 (female dominance, 9:1). However, there exists male dominance in literature (1:3). Taiwan legalized sex change operations in 1988, but the health and legal system still contains little concern regarding issues of medical ethics and health gain. The medical-legal-ethical analysis reveals poor health gain that the surgery is not covered by national health insurance. Some countries have passed legislation. Comparatively, transsexualism hasn't received much attention in Taiwan. What we need is

to establish an anti-inequality law to improve healthcare support for transsexual people.

### Conclusions

The healthcare treatment for transsexual people is still insufficient in Taiwan. We propose the establishment of the Taiwan Gender Recognition and Health Promotion Act, to deal with the related issues comprehensively, including education, employment, and health insurance. Our health promotion hospital advocates collaborative efforts among Plastical Surgical Association, Bureau of National Health Insurance and Law Schools, in order to open channels between health and legal system, for legislation and national insurance reimbursement to improve healthcare system support for transsexual people in Taiwan.

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## Satisfaction Survey of Long-term Care Management Centers for the Proposers

**CHUANG Wen-Ling, CHANG Wen-Dien, LAI Ping-Tung**

### Introduction

Long-term care management combines health services, public welfare and government and civil resources. Through consultation and referral, long-term care management provides professional evaluation and transition mechanism with better accessibility and feasibility of customized care services, which can help needed proposers with disability and their families to handle the challenges in living.

### Purpose/Methods

This study investigated the degree of satisfaction of long-term care management to clarify if the public satisfied with the manner of service of the long-term care center and their services were practical or not.

### Results

The result found that the general degree of satisfaction of long-term care center was 57% of very good and 35% of good.

### Conclusions

More than 80% of participants satisfied with the services of long-term care center and the manner of service of care manager, besides, more than 90% of them expressed very good and good to the general degree of satisfaction of long-term care center.

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## Evaluation of Mental Health Care Services in Greece, 2010: Results from the Hellas Health III Survey.

**PETROULIA Ioanna, SCHORETSANITI Sotiria, TOUNTAS Yannis**

### Introduction

Mental health care services hold an essential part of health care services provision. Comprehensive information about access and patterns of use of mental health services in Greece is lacking. Data on recent treatment patterns are needed to estimate the unmet need for services. This study tracks access, utilization, and costs of mental health care. We present the first results of the use of health services for mental disorders in Greece.

### Purpose/Methods

The aim of the present study was the investigation of mental health care services and the level of satisfaction on their provision and use. The national household survey Hellas Health III was conducted during October 2010. The survey sample consisted of 1,000 individuals, aged 18 years old or more. Respondents were selected by means of a three stage, proportional to size sampling design. Effective response rate reached 48.6%. The sample was representative in terms of age and residency.

### Results

Only 7% of respondents have visited a mental health professional during the past year. 78% of those respondents asked for help for emotional or mental health issues. 49% sought help in private and 51% in public sector. 52% had to cover medical expenses on their own budget. 22% visited a mental health professional 3 times during the past year and 23% >6 times. Nevertheless 85% of mental health care users declared to be highly satisfied of the services provided.

### Conclusions

According to eurobarometer 2010, Greek population experienced positive emotions at 46% vs. EU average of 61%. However, less than average sought help from professionals in the past year (7% vs. EU average of 15%) evident for the underestimation of this issue. The fact that 52% of mental health care users cover their own medical expenses is discouraging. The strengthening of health policies is vital to protect and educate about the importance of detection and treatment of mental health issues.

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## Building health promoting environments for light meals

## RAW-POU Hung, BE-TAU Hwang

### Introduction

Eating out is very common in Taiwan. However, a high intake of food with high quantity of heat is a problem. In a busy work life, how to empower people to prepare healthy light meal in an easy way become important. This study aimed to establish health promoting environments for light meals.

### Purpose/Methods

Since August 2011, we have established health promoting environments for light meals through the following three ways. First, we have provided healthy diet related education through morning seminars for outpatients, inpatients and the community and bulletin boards. Second, we particularly incorporated monthly light meal receipts into the design of upright desk calendars. Third, we held live light meal cooking presentation to educate and promote light meals through the hospital annual celebration event.

### Results

The establishment of health promoting environments for light meals appeared to be an effective approach to promote healthy diet.

### Conclusions

This study concluded that the development of innovative tools such as upright calendar holder with light meal receipt was important in advocacy for promotion.

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## Experience in a weight losing campaign in a psychiatric hospital

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### Introduction

In current consensus, increased prevalence of overweight and obesity are associated with various diseases and substantial health and socio-economic problems. We believe workplaces as a setting that has a strong potential for health promotion and disease prevention. Our goal is to build up the habits of regular exercise and healthy lifestyle via a weight losing campaign. This campaign was held in the Lu-Tung hospital, which is a psychiatric hospital belonged to Changhua Christian hospital in Taiwan.

### Purpose/Methods

All voluntary, aged 20-60 years, overweight staffs, patients, and community residents, whose BMI  $\geq 20 \text{ kg/m}^2$  can participate this campaign. Participants can choose to join competition individually or in a 20-people group. We offered prize money for the first three winners after a 3-month follow-up. Participants who lost more than one kilogram have a chance to get "a lucky





draw" as bonus reward. The study's primary outcome is change in body weight loss among participants and group summation over a 3-month period.

### Results

A total 207 participants took part in this weight-losing campaign. In individual group, 72 staffs lost a total of 39.7 kilograms, 28 patients lost a total of 16.6 kilograms, and 7 community residents lost a total of 1.4 kilograms. In 20-people groups, 60 staffs (in 3 teams) lost a total of 81.7 kilograms, and 40 community residents gained a total of 19.6 kilograms.

### Conclusions

In this study, we found that group-based behavior interventions were more effective. Both staffs and patients could get dietary advices, scheduled exercise programs and adequate place for physical activities much easier than community residents. In community residents, either in 20-people groups or in the individual group did not achieve the goal. Long term follow-up and increasing the accessibility of fitness programs, equipments and dietary education may last the effect of weight control.

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## The experience of whole gains promotion in a medical center

**HSIAO Pei-Chen, YU Ya-Ting, CHEN Pey-Rong, CHENG Chin-Pao**

### Introduction

Eating whole grains has many health benefits including reduced risk of cardiovascular disease, diabetes, cancers and better weight control. The updated dietary guidelines for Taiwanese 2011 also suggest that more than 1/3 consumed cereals should be from whole grains and non-refined cereals. There were only 4 main cereals in our staff meals and hospital diet before. Therefore, whole grains were designed not only to increase the variety of cereal, but also to enhance the health of our colleagues and patients.

### Purpose/Methods

Whole grains, beans, herbals, nuts, and oolong tea were mixed to develop more than 10 kinds of rice. The whole grain mixed rice was also available for inpatients. We promoted the whole grain mixed rice by (1) weekly menu of the staff meal was posted on the intra-net; (2) the information was declared on different conferences, ex. the inpatient food service and the staff meal consultative council; (3) monthly diet demonstrations were held at different wards and patient admission center.

### Results

The average number of daily order for staff meal increased 72 (9.4%). The proportion of selecting whole grain mixed rice

increased from 17.7% to 31.5%. These results indicate the welcome and acceptability of whole grain mixed rice we provided. The average percentage of inpatients who ate whole grain mixed rice was 25.9%.

### Conclusions

The well designed and delicious taste of whole grain mixed rice was acceptable by our colleagues in the medical center. Only a quarter of inpatients ate whole grain mixed rice may due to limitations of inpatient's age, food habits, and disease condition.

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## Exploring the Cost-effectiveness of Hospital Resources Involvement For Health Promotion

**LEE Su-Jane, CHIU Hsien-Jane**

### Introduction

Jainan mental hospital has created patient-centered medical care and therapeutic environment actively since 1997. Continue to promote smoke-free hospital and in honor through certification in 2011. It cost totaled 93,359,000NT dollars with each program, Facilities and equipment up to 83.7% was highest cost, followed by manpower 16.1%, than for the process quality. Hospital continued investment to take care of the patient, family, staff and community public health in 2012.

### Purpose/Methods

The purpose of this study is to explore the cost-effectiveness of resource input and output for health promotion policy. Data collecting included: 1. the satisfaction of inpatient, outpatient and staffs, staffs turnover rate, investment return rate, medical income and other quantitative indicators since 2010 to 2011; 2. Applying Blue Ocean strategy four actions framework to draw a new value curve of hospital policy draft.

### Results

The study result reveals that 1. Maintain patient satisfaction to 88.45%, inpatient satisfaction increased to 70.14%, rose 3.84%. Staffs satisfaction breakthrough to 96.0%, staffs turnover rate has dropped 11.82%, investment return rate 0.19% increased, medical income growth of 3.7%. 2. Eliminate - to maintain people healthy and reduce - reduce accidents, upgrade - a safe medical environment, creation - the first psychiatric hospital set up Chinese medicine, to identify new value curve.

### Conclusions

The above is sufficient to take care of hospital patients and staff health, it is the important result though effort and resources involvement. To face of competitive pressures, the hospital

obtains recognition by outside world. Although unequal wages, the cohesiveness of staffs still visible. Hospital management has strength; from action framework, establishing the hospital strategic direction for new value curve

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## Session P2.15: Organizational approaches towards HPH and HPH Networking

### Find the Taiwan Centuple Mountains in Hospital

**HUANG Hsin-Ping, LI Ying-Ying, YANG Kuen-Cheh, TASI Jui-Yaun, CHEN Meng-kann, LAI Yun-Fong, CHU Yu-Ying**

#### Introduction

In order to carry out the core dimensions of HPH, NTUH Hsinchu Branch implemented the health promotion for the patients, community members and employees. Therefore, we created the supportive environment and organized the step aerobic exercise to improve their muscle strength and cardiopulmonary endurance

#### Purpose/Methods

Based on Ottawa charter of health promotion, we implemented following actions. First, we built health policy of the hospital. Secondly, we established the supportive environment by using the limited space. Thirdly, community development and empowerment were achieved by creative activities of "Mountain Summit". These activities attracted employees, residents of the community to do stair-climbing activity. By doing the public and just rewards, it enabled people to strengthen their executive ability. This exercise also increased their daily activity, encouraged energy conservation and carbon reduction indirectly.

#### Results

Most people and employees took the elevator instead of climbing the stairs before "Mountain summit". The Community Health Center used the photos of Taiwan's top 100 mountains to decorate the stairs. Many people chose to climb the stairs to enjoy the beautiful mountain scenes. From July to the end of October, we had succeeded with 1F-10F stair-climbing for 1689 times.

#### Conclusions

By decorating the stairs, we improved the rigid and dull environment. The habit of climbing stairs increased the people's cardiopulmonary endurance. These changes also provided a

friendly environment, which made people try step exercise while waiting. It lowered the customer claim and raised the satisfaction. Meanwhile, it provided the alternative space for exercise while working. In conclusion, this project carried out the core dimensions of HPH using a creative idea.

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## Health promotion as a way forward to build skills

### VILLANI Giuseppe

#### Introduction

With regard to health promotion, the Regional Health Authority (RHA) of Aosta Valley found that the disparate nature or lack of theoretical and methodological references is combined with the infrequency of initiatives. Thus, a need was highlighted to take action on healthcare professionals training by setting up an operational project together with a competent public structure and to implement a training course based on a preliminary participants' training needs analysis.

#### Purpose/Methods

Such learning path aims at enhancing the acquisition of a health promotion culture within the RHA by building skills, so to reorient local health services towards a salutogenesis-based policy, and at linking up all players in the Aosta Valley area, looking towards empowerment of individuals and groups.

#### Results

Critical analysis of theoretical, methodological and operational approaches by benchmarking between currently used models and the best experience at national and international levels; Making healthcare professionals more literate in theoretical and planning models as well as in efficacy evidence available for actions to be taken; Critical review of programmes currently implemented by the RHA, by detecting strengths, critical problems and hypothetical improvements to develop sustainable best practices; Sharing of strategic health communication models.

#### Conclusions

The whole learning path will be assessed by taking into account the training planning and provision process, participants learning level and the impact of the training course against the specific working environments involved. Suitable individual and group assessment tools will be selected, adjusted and used on a case-by-case basis. The final report will mainly focus on the different assessment stages.

#### Comments

The learning path will be useful for professionals coming from different backgrounds (physicians, nurses, healthcare assistants, educators, social workers, teachers, administrative staff) and



organizations (the RHA, social services, schools, the non-profit sector) to apply in everyday situations what they learn and to reflect on the main steps to be taken to improve their integration.

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## New systems of governance of health promotion

**SANSON Sara, AGUZZOLI Cristina, CROCI Eleonora, ZORATTI Raffaele, BERTOLI Marco, MAGGIORE Adele**

### Introduction

According to HPH & HS network, the creation of networks and alliances is essential to support Public Health. The HPH & HS network has involved healthcare Companies that for years have embarked on a re-orientation by transforming health promotion in their "mission", seen as a strategy of integrated work. It's necessary to support in decision-making "policies of governance" in which the network is integrated with tools and best practices validated nationally and internationally.

### Purpose/Methods

The mainstays of our Company's policy are: to create synergies between different operative models; establish and consolidate alliances with third parties, not only in healthcare; identify health workers as the bearer of values of health prevention and promotion; implement prevention interventions at any time of the natural history of diseases; provide citizens with equal access to healthcare services; monitor and evaluate interventions of prevention, treatment and rehabilitation realized; experiment with new models and methods of prevention, care and rehabilitation; initiate innovative processes and communication patterns.

### Results

We are developing a model of strong integration between different processes and activities, which sees the different work groups like equal and gives particular attention to innovative and effective processes and patterns of communication.

### Conclusions

The philosophy of creating networks and alliances is critical to take action on the determinants of health as indicated by numerous studies. A lever to allow for a significant change and impact on organization can be achieved only through an integrated program with other agencies and institutions (municipalities, INAIL, Federsanità ANCI, etc.) using protocols and conventions in the interests of organizations that interact with the same language and with common objectives.

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## An evaluation of a health promotion (HP) initiative implemented in 9 Polyclinics – the experience from a Singaporean health-promoting organisation of empowering staff, patients and local communities to adopt healthy lifestyle practices.

**YUEN Estonie, Wing Ting**

### Introduction

Poor lifestyle practices, along with other socio-environmental factors, have led to increase of non-communicable diseases. With approximately 2.6 million annual patient attendances and 1530 staff, we implement a unique HP-Initiative that reorients preventive healthcare and workplace HP and we aim to turn all Polyclinics into "Health-promoting classrooms" for staff, patients and the community where HP information and healthier choices are readily accessible. This submission evaluates the process and impact, and identifies the successes and gaps of our HP-Initiative thus far.

### Purpose/Methods

The evaluation described here consists of 3 components to answer 6 research questions designed based on the principles of process/ impact evaluation and RE-AIM framework. (1) Surveys for staff and clinic visitors regarding the supportive HP environment in our work/ clinic premises were completed to evaluate awareness, satisfactory level, knowledge and stage-of-change for healthy lifestyles. (2) Work progress/ compliance were reviewed and measured against Key Performance Indicators. (3) Evaluation was done for short-term activities (e.g. Staff Weight-management Programme) to assess intermediate impact.

### Results

Our HP-Initiative is participatory with staff and some degree of community involvement. More than 90% of staff and clinic visitors were satisfied with the Initiative while staff had better awareness than visitors. 78% of interviewees have made positive dietary changes. There has been excellent compliance with guidelines making only healthier choices available in vending machines, pharmacies; cafeteria-vendor and staff events have had fair compliance with Healthier Choices and Catering Guidelines. There were also health-gain and positive impacts from short-term activities.

### Conclusions

Singapore healthcare begins with building a healthy population through preventive healthcare and promoting healthy lifestyle.

As a HP-organisation providing one-stop medical facilities and healthcare services, multiple HP-strategies are in place to empower the target groups. The success of these strategies relies on intersectoral-collaboration of internal and external stakeholders to create supportive environment for health-gain. Based on current evaluation and by closing the gaps identified, we expect the HP-Initiative will be effective in improving skills and health literacy of target groups.

#### Comments

This submission enables shared-learning on Best Practices to fostering transparency and public accountability. Changing risk factors in the community as a whole rather than focusing on specific high-risk individuals is a more holistic disease-prevention approach. It is cost-effective to make full use of work/clinic environment for conveying health messages. The required incremental resources include (1) large-scaled surveys and health risk-profiling for sustainable programme development, (2) leadership/ involvement from all levels within the organisation, (3) staff training for programme execution, (4) funding/ marketing support.

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### Catalan HPH Network

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MÒNICA, ROMERO NENÉ**

#### Introduction

The Catalan HPH Network was constituted in 2007. This communication presents the evolution in the last four years of the current organization and the aims that follows. The mission of the Catalan HPH Network is leading the dissemination and implementation of Health Promotion in hospitals and health centers from the Catalan region, promoting the incorporation of concepts, values, strategies, standards and indicators in its structure and organizational culture. The Catalan network is the only HPH network in Spain.

#### Purpose/Methods

The methodology is based on a retrospective study. The data has been obtained since the creation of the Catalan HPH Network from the archive and records of the meetings. There are three kinds of meetings: Ordinary meetings, for all partners; permanent meetings, for the members of the permanent commission; working group meetings, for the members of each working group.

#### Results

The Catalan Network started in 2007, promoted by 5 institutions grouped in 11 hospitals. Currently is constituted for 18 hospitals. The Chair on Health Promotion was created to promote scientific knowledge and it was constituted as the secretariat. At the same time a collaboration agreement with the Public Health Department of the Catalan Government was established. 3 working groups have been developed: health literacy, standards of health promotion and sustainability of the environment. A fourth working group is launched: Staff.

#### Conclusions

The reorganization of the Catalan HPH Network along its existence allowed being more affective, with the support of the Chair on Health Promotion of the University of Girona and the agreement with the Public Health Department. It has participated in the HPH international conferences and has organized 2 national conferences. A work plan has been established with a 4-year projection, which has been achieved 80% the first year. The results of the first strategic plan evaluation makes us optimistic.

#### Comments

Authors are members of the permanent commission of the Catalan HPH Network.

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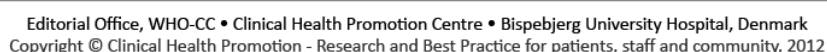
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