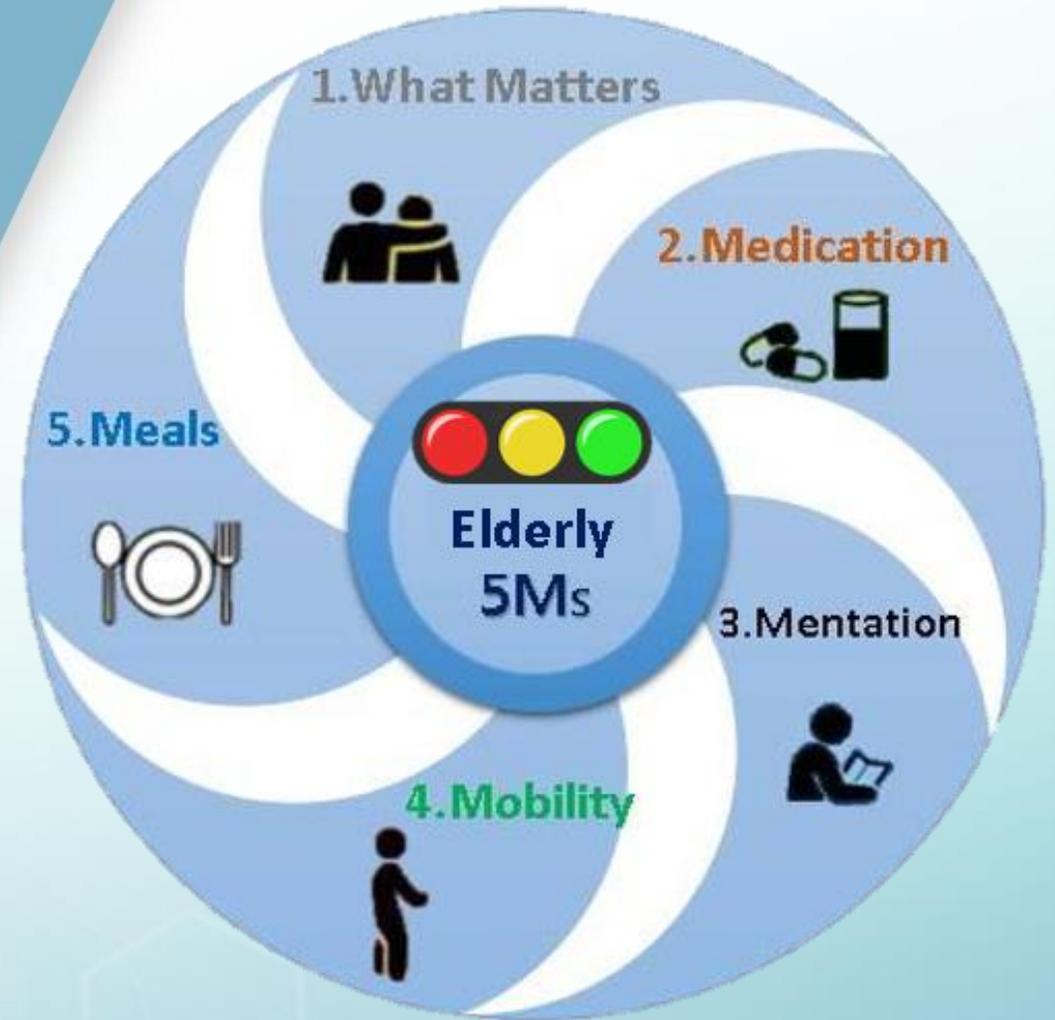# Elderly malnutrition is significantly influenced by geriatric depression and is related to functional disability in daily life and falls.

Hsiang-Kuang Tseng Yun-Ju Cheng

2023.9.22

馬偕紀念醫院
MacKay Memorial Hospital

International Network of
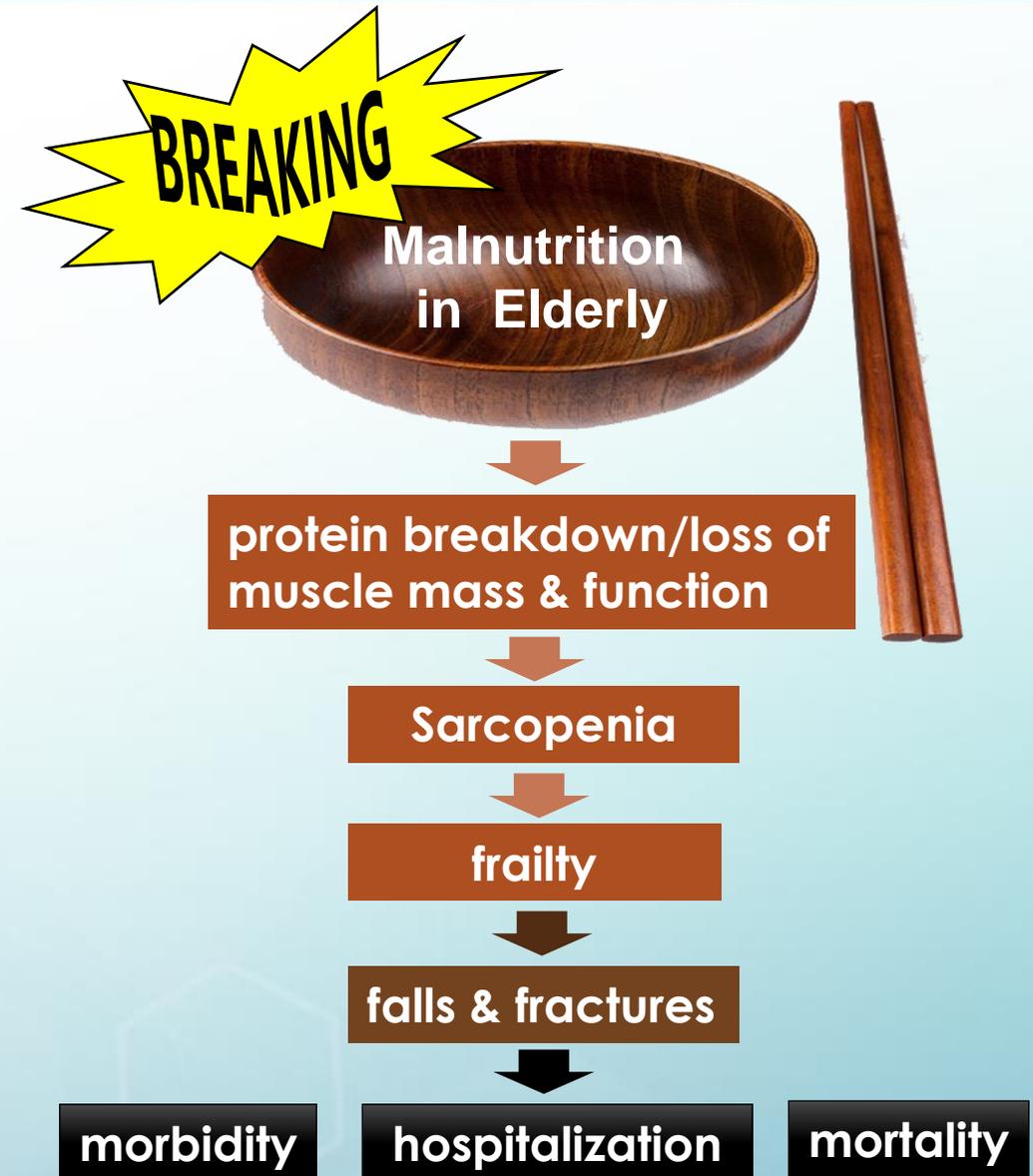Health Promoting Hospitals
& Health Services

MMH In Brief

- Taipei and Danshui together qualify as a Medical Center with the longest history in Taiwan

- A health network through northern, western and eastern of Taiwan

- Intradepartmental cooperation to provide integrated, comprehensive care.

- dedicated to conducting innovative research for practical clinical application

- upholds a mission to train future medical professionals.

淡水院區
Tamshui Branch

病床數1064
1064 inpatient beds

馬偕醫學院
Mackay Medical College

台北總院
Taipei Main Hospital

病床數1129
1129 inpatient beds

馬偕護專
Mackay College of Nursingand Management

新竹分院
Hsiuchu Branch

病床數550
550 inpatient beds

台東分院
Taitung Branch

病床數400
400 inpatient beds

2

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- **Background:** The elderly population in Taiwan is steadily rising, projected to reach 20.7% by 2025, marking the onset of a super-aged society. However, with an average life expectancy of 80.9 years, there is an unhealthy period of 8.5 years, emphasizing the urgency of addressing elderly health.

- **Purpose:** Through comprehensive geriatric assessment, we aim to understand the factors contributing to malnutrition in the elderly and strive to break this detrimental cycle. The findings will provide valuable guidance for healthcare professionals.

BREAKING

Malnutrition in Elderly

↓

protein breakdown/loss of muscle mass & function

↓

Sarcopenia

↓

frailty

↓

falls & fractures

↓

morbidity   **hospitalization**   **mortality**

3

Norman, K., Haß, U., & Pirlich, M. (2021). Malnutrition in Older Adults—Recent Advances and Remaining Challenges. *Nutrients*, *13*(8), 2764. MDPI AG. Retrieved from http://dx.doi.org/10.3390/nu13082764

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Materials and Methods

- This retrospective cross-sectional study collected medical record data from patients who received comprehensive geriatric assessment at a certain medical center's geriatric medicine department, inpatient department, or outpatient department from January 1 to December 31, 2021.

- The electronic medical record data were extracted using Brio Query version 8.3 and analyzed using SPSS24.0

The contents of "Comprehensive Geriatric Assessment" include:

- IADL;ADL;CFS
- Caregiver burden
- High healthcare utilization

What matters

- Medication issues
- Pain (VAS)
- Sleep issues

Medication

- Delirium (CAM)
- Dementia (SPMSQ)
- Depression (GDS-5)
- Hearing impairment

Mentation

- Falls risk
- Hand Grip Strength
- Timed Up and Go (TUG)
- Visual impairment

Mobility

- Nutritional assessment (MNA-SF)

Meals

4

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Results

- During the study period, 183 patients underwent evaluation, and 131 patients were included in the analysis.

- The mean age was 80.4±8.5 years, with 48% (n=63) from the outpatient department and 52% (n=68) from the inpatient department, and females accounted for 55% (n=72).

- Multiple linear regression analysis between the nutritional status of the elderly (MNA-SF) and the various aspects of the evaluation showed that two factors, geriatric depression GDS 5(P=0.004), and two falls in the past year (P=0.017), were important influencing factors.

Table 3: Analysis of Variance for Nutritional Assessment and Comprehensive Geriatric Assessment[a]

Variable	Sum of Squares	Degrees of Freedom	Mean Square	F Value	p Value	Variable
Regression	19.8	8	2.48	5.54	.000b	
Residual	54.5	122	0.45			
Total	74.3	130				

a. Dependent variable: MNA-SF

b. Independent variables: Caregiver Burden, Fall, SPMSQ, GDS 5, IADL, TUG, ADL, CFS

Table 4: Multiple Regression Model for Nutritional Assessment and Comprehensive Geriatric Assessment[a]

Item	Unstandardized Coefficient Coefficient	Unstandardized Coefficient Standard Error	Standardized Coefficient β	T Value	P Value	Variance Inflation Factor VIF
1.CFS	0.084	0.064	0.166	1.313	0.192	2.664
2.GDS-5	0.361	0.124	0.238	2.910	0.004	1.114
3.SPMSQ	0.041	0.076	0.044	0.534	0.595	1.156
4.Fall	0.295	0.121	0.194	2.426	0.017	1.067
5.IADL	0.171	0.160	0.105	1.070	0.287	1.613
6.ADL	0.031	0.069	0.054	0.444	0.658	2.481
7.TUG	0.033	0.184	0.021	0.179	0.858	2.368
8.Caregiver burden	0.153	0.174	0.076	0.877	0.382	1.253

a. Dependent variable: MNA-SF

Conclusions and Future Prospective

Past Medical Beliefs	• Weight loss in the elderly was often attributed to tumors or gastrointestinal diseases, leading to extensive testing.
Research Findings	• Malnutrition in the elderly is closely correlated with geriatric depression and falls.
Improvement Approach	• Addressing geriatric depression can break the cycle of malnutrition and reduce the risk of falls.
Future Research	• Further analysis using data from 2022 can emphasize the relationship between elderly nutrition care and geriatric depression.
Antidepressants and Exercise	• The use of antidepressants and regular exercise may be beneficial in improving the nutrition status of the elderly and preventing falls.

Thank you for your attention