



Stress, Sleep, and Maternal Efficacy Among Taiwanese Mothers with a Preterm Infant

Yong-Chuan Chen² Ya-Fang Huang¹ Hui-Ju Ke² Pin-Hua Lin² Hsiu-Feng Liu²
TsaiChie Pu² Shih-Yu Lee¹

¹College of Nursing, Hungkuang University ²Taichung Veterans General Hospital
TCVGH-HK1118004



Introduction

- Mother's parenting behavior may vary due to their stress perception.
- Preterm births occur in 8-12 % of all pregnancies, and having a preterm infant hospitalized in the intensive care unit (ICU) is extremely stressful for mothers.
- Most mothers experience stress-related symptoms, such as sleep disturbance, depressive symptoms, fatigue, and low self-efficacy.
- Mothers are not all created equal and marked individual differences in parenting behavior, which may be derived from various stress perceptions.

Purpose

- To explore the associations between perceived stress, sleep disturbances, fatigue, and maternal parenting efficacy.
- To examine sleep as a moderating factor between maternal stress and parenting efficacy.



Methods

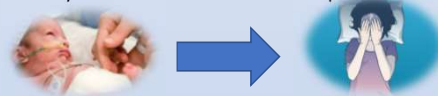
- This prospective exploratory study was conducted at a medical center in central Taiwan.
- All study participants signed the informed consent.
- A stratified sampling approach was used to recruit 60 mothers with or without sleep disturbances.
- Mothers were recruited within 5 to 10 days postpartum.
- Inclusion criteria
 - Mothers aged at least 20 years old.
 - Mothers with preterm infants (gestational age < 37 weeks) who were admitted to the NICU.
- Exclusion criteria
 - Mothers with extended hospitalized duration (more than 3 days for vaginal delivery, more than 7 days for cesarean section).
 - Infants diagnosed as critically ill by doctors.
 - Mothers who were shift workers before childbirth.
 - Use of medications that could alter sleep (any central nervous system stimulants, depressants, or antidepressants).

Measurements

- PSS: IH (Parental Stressor Scale: Infant Hospitalization): A 22-item, 5-point Likert-type scale was used to measure maternal stress. A higher average score indicates a greater perception of stress.
- EPDS (Edinburgh Postpartum Depression Scale): A 10-item, 4-point Likert scale was used to assess postpartum depressive symptoms. A score of equal to or above 10 suggests minor or major depression.

Measurements

- SENRQ (Self-efficacy in the Nurturing Role Questionnaire): A 16-item, 7-point Likert scale was used to measure maternal parenting self-efficacy. A higher mean score indicates better maternal self-efficacy.
- LFS (Lee's Fatigue Scale): A 7-item, 11-point Likert scale was used to measure the mother's fatigue severity at bedtime and wake-up time.
- GSDS (General Sleep Disturbance Scale): A 15-item, 8-point Likert scale was used to assess the frequency of sleep disturbances experienced over the past week. An average score of equal to or above 3 indicates clinically significant sleep disturbances.
- Mothers also were asked to keep a 3-day sleep diary to record their total sleep time.



Results

- A total of 60 mothers, predominately married (92.7%) with at least a high school education, participated in this study with a mean age of 35.7 (SD= 5.1).
- More than 70% of mothers reported poor sleep quality and quantity, and over half slept less than the recommended 7 hours of sleep, according to the National Sleep Foundation.
- Maternal stress is primarily caused by the child's appearance, followed by parental role alteration, and ICU environment.
- Mothers who reported high-stress levels were more likely to experience poor sleep, depressive symptoms, and a lack of confidence in infant feeding.
- Mothers who experienced more severe depressive symptoms tend to have lower confidence when it comes to feeding their infants.
- Infant severity of illness, parental stress, sleep disturbance, and depressive symptoms accounted for 20.1% of the variance in maternal self-efficacy ($F[4, 59] = 3.15, p = .02$); the depressive symptom is the only significant predictor ($t = -2.06, p = .045$).
- Infant severity of illness, parental role, sleep quality, and morning fatigue explained 25.2% of the variance in depressive symptoms ($F[4, 59] = 4.18, p = .005$); parental role stress is the only significant predictor ($t = -2.19, p = .033$).

Conclusion & Lessons Learned

- Mothers face serious clinical problems with hospitalized preterm infants.
- They are stressed out, sleep disturbed and deprived, depressed, and highly fatigued.
- More research is needed to explore the underlying biological and psychological mechanisms that regulate depressive symptoms and their contributions to parents.