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Feature Article

The impact of job stressors on health-related quality of life of nursing assistants in long-term care settings

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ABSTRACT

This study aimed to investigate the relationship between various job stressors and health-related quality of life among female nursing assistants working in long-term care facilities. A cross-sectional study was conducted in Taiwan. Data were collected using a structured, well-designed, pre-tested questionnaire with background questions and questions about job stressors and health-related quality of life as measured by SF-12. Our empirical results show that nursing assistants with higher scores for job control and work-related social support tend to enjoy better mental health, as indicated by higher mental component summary scores. Additionally, nursing assistants with higher psychological demand scores tend to have worse overall health, as indicated by lower physical component summary and mental component summary scores. We suggest reducing selected job stressors and enhancing job control to improve nursing assistants' health-related quality of life.

Background

Taiwan is one of the most rapidly aging countries in the world. In 1993, people aged 65 and higher represented approximately 7% of the total population in Taiwan, and the elderly population reached 10.89% in 2011.[1] To support the aging society, the number of nursing assistants (NAs) in Taiwan has increased rapidly to provide care to patients in hospitals, in long-term care (LTC) facilities and at home. NAs, who provide the bulk of LTC services, are overwhelmingly women and disproportionately drawn from racial and ethnic minorities. Long working hours, low wages and benefits, little opportunity to advance to a more skilled position, and the stigma attached to LTC work in Taiwanese society make the recruitment and retention of NAs difficult.[2,3]

NAs are nonprofessional staff who assist with nursing care in LTC settings, which require frequent interaction with residents/families and continuous, comprehensive person-centered care.[2–4] NAs' job is physically and emotionally challenging.[5] In addition, NAs often work in an understaffed environment, leading to job stress and a high turnover rate.[2,3]

Job stress

Job stress is defined as harmful physical and emotional responses incurred in the workplace.[6] Job stressors for NAs come from a variety of sources, including general job tasks, resident care tasks, coworker relationships, supervisor relationships, workload/scheduling, and facility design/maintenance.[7] Other factors related to these stressors include age, nationality, identity, resident care time, number of residents for whom an NA is responsible, inadequate staffing, poor team communication, staff attitudes, and a lack of knowledge and training.[8]

The impact of job stress on health outcome has been extensively studied since the publication of Karasek's model in 1981.[9] Previous studies have found that job stress is associated with recurrent coronary heart disease events, high blood pressure, musculoskeletal disorders, lifestyle cancer risk factors, and psychosomatic symptoms.[10–14] Job stress in a healthcare setting may also result in a physical or psychological reaction, absenteeism, burnout, turnover, and reduced quality of care.[15,16] Hurrell and Murphy[17] found that job stressors caused 60%–80% of occupational accidents and absenteeism in Taiwan. By some estimates, work-related stress costs the national economy a staggering amount in sick pay, lost productivity, and health care and litigation costs.[18]

Building on previous studies investigating the relationship between job stress and health outcomes, this study aimed to evaluate the presence of job stressors among female NAs actively employed

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in LTC facilities in Taiwan and to explore the relationship between job stressors and health-related quality of life. It was hypothesized that job stressors would be present, that these stressors would be associated with reduced health-related quality of life even after adjustment for individual characteristics, and that selected factors may mitigate the putative effects of job stressors. This paper proceeds as follows: Section 1 describes the empirical methods and data. Section 2 shows the results of the statistical analyses. Section 3 presents the discussion of our findings. Section 4 concludes with our findings from this study.

Methods

Population studied

This research was based on a cross-sectional study conducted in Taiwan from January to May of 2012. A total of 64 institutionalized LTC facilities were selected through a proportional stratified random sampling. Five hundred twenty female NAs, all of whom had served in their current facility for over 3 months, were eligible for inclusion in the study. Although there was no specific educational requirement, all NAs in Taiwan are required to take a 90-h course, including 50 h of theory/lab work conducted in the classroom and 40 h of supervised clinical training at an accredited and approved long-term care facility. Those who successfully complete the training courses qualify to take the competency exam to become a certified nursing assistant. All of the participants were well-informed about the purpose of the study and the questionnaire's contents, and the participants could choose to finish the questionnaire or not. A signed informed consent form was obtained from each participant. The study protocol and informed consent forms were approved by the Human and Research Committee before the study was conducted. The collected questionnaires were numbered anonymously; all variables related to the participants were rendered anonymous. The final effective sample size was 443 individuals, including both native and foreign NAs, representing an 85.19% response rate.

Study measures

Data were collected using a structured, well-designed, pretested questionnaire with background questions and questions about job stressors such as job control, psychological demands, and work-related social support. Health-related quality of life of the participants was measured using SF-12.

To ensure the validity of participant understanding of and responses to the questionnaire, face-to-face, trained interpreter services were provided on-site to answer specific queries from the foreign NAs to avoid potential errors resulting from language barriers and to decrease the possibility that the questions would be misinterpreted. All of the surveys were completed by face-to-face interviews.

Health-related quality of life

Measures of health-related quality of life were treated as dependent variables in this study. Health-related quality of life was measured using the Chinese version of the SF-12, a shorter version of the SF-36 Health Survey designed to reproduce the physical component summary (PCS) and the mental component summary (MCS) scores.[19]

The SF-12 Health Survey includes 12 questions from the SF-36 Health Survey. These questions include 2 questions concerning physical functioning; 2 questions on role limitations because of physical health problems; 1 question on bodily pain; 1 question on general health perceptions; 1 question on vitality (energy/fatigue); 1 question on social functioning; 2 questions on role limitations because of emotional problems; and 2 questions on general mental health (psychological distress and psychological well-being). The results are expressed in terms of two meta-scores: the PCS and the MCS. The PCS and MCS are computed using the scores of the 12 questions and range from 0 to 100, where a score of zero indicates the lowest level of health-related quality of life measured by this scale and a score of one hundred indicates the highest level of health-related quality of life.

Job stressors

Job stressors, which were treated as independent variables in this study, were assessed primarily from responses to the Chinese version of Karasek's job content questionnaire (C-JCQ), a standard questionnaire. This questionnaire has been translated and validated by Taiwanese researchers and has been used in various studies in Taiwan with high validity and reproducibility.[20,21] The C-JCQ questionnaire consists of three scales, termed job control, psychological demand, and work-related social support. Items are scored using a Likert scale in which a score of 1 indicates strong disagreement and a score of 4 indicates strong agreement. Cronbach's α coefficients for job control, psychological demand, and work-related social support were 0.53, 0.81, and 0.84, respectively.

Descriptive variables

The variables associated with job stressors that we examined in this study included individual characteristics and institutional characteristics. Individual characteristics included age, nationality, educational level, marital status, salary per month, number of preschool children under 6 years old, possession of a government-issued license, length of employment at the current facility, work experience as an NA, management position, contract type, work shift, and care loads. Institutional characteristics included institution type, ownership, and institution size.

Statistical analysis

The statistical analyses in this study include bivariate and multiple linear regression analyses. The bivariate linear regression analysis was used to gain an initial understanding of the relationship between health-related quality of life and all independent variables, such as job stressors and potential confounders (including individual characteristics and institutional characteristics) identified in the previous studies. When the potential confounders were found to have a significant impact on health-related quality of life, these potential confounders served as descriptive variables in the multiple linear regression analysis that was used to confirm the relationship between job stressors and health-related quality of life. All analyses, including descriptive statistics and inferential statistics, were carried out using SPSS for Windows 19.0. A statistically significant difference was accepted at a p-value of less than 5%.

Results

Individual characteristics and institutional characteristics

Table 1 shows information about the 443 female NAs' individual characteristics. The mean age of the NAs in this study was 43.15 years, and 81.94% were native, with 17.83% foreign. Approximately sixty percent of them had at least a senior high degree. The NAs had a 62.75% marriage rate, and they earned approximately $20,001–30,000 NT dollars (about US $668–1000) per month. Approximately 10% of the participants had at least one preschool-aged child. One