FATIGUE AND SLEEP QUALITY OF NURSES IN HOSPITALS, SAMUT SONGKHRAM PROVINCE, THAILAND

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ABSTRACT

This research is descriptive research aimed at studying fatigue and sleep quality among nurses in hospitals in Samut Songkhram province, and finding the relationship between fatigue and sleep quality among nurses in hospitals in Samut Songkhram province. The sample group consists of professional nurses in hospitals in Samut Songkhram province, selected using the formula of Krejcie & Morgan, with a total sample size of 110 individuals. The sampling method employed was stratified sampling. Descriptive statistical analysis and correlation analysis were conducted using the Pearson product moment correlation method. The study found that 59.10% of the sample group did not experience fatigue, while 100.0% of the sample group reported good sleep quality. There was a significant positive correlation between fatigue and sleep quality in the same direction at a significance level of .05 (r = .28). Therefore, promoting good sleep quality can greatly enhance work efficiency.

Keywords: Fatigue, Sleep quality, nurses

INTRODUCTION

Fatigue is a sensation of exhaustion and discomfort that arises when an individual feel weak and unwell until they become depleted of energy. Fatigue can occur regularly in everyday life, regardless of whether the person is young, elderly, in good health, or ill. When experiencing fatigue, individuals will feel unwell and weak. If fatigue occurs frequently, it can persist for extended periods, disrupting daily life and complicating resolution. Consequently, this can significantly impact the individual's quality of life. Nurses may experience professional fatigue due to both physical and psychological factors. Physically, it may result from the demands of shift work, lack of sleep, and insufficient rest. Psychologically, it can stem from work-related stress, such as the responsibilities of patient care. (Cholticha, Y., & Peerapon, L.,2013). Based on research findings, it has been discovered that the longer the duration of each shift, the more significant the relationship with job fatigue. Moreover, job fatigue correlates with burnout, which acts as a predictor of job fatigue, affecting emotional exhaustion and personal accomplishment (Rogers, Hwang W-T, Scott LD, Aiken LH, Dinges DF, 2004). Confirming these findings from research, the relationship between nurse job fatigue and the quality of patient care ratings was examined among 53,846 individuals across six countries (USA, Canada, UK, Germany, New Zealand, and Japan). It was found that higher levels of job fatigue were significantly associated with lower-quality patient care. (Poghosyan, Clarke, Finlayson, & Aiken, 2010). The fatigue resulting from the work of professional nurses affects patient safety, the nurses themselves physically, mentally, and emotionally, and leads to economic losses for the country. Nurse fatigue diminishes the effectiveness of nursing work. Nurses working continuously for more than 12 hours experience higher error rates in medication management, surgery, documentation, and

interpretation. The probability of errors in practice rises with the level of fatigue. (Jiraporn, N., & colleagues.,2017)

The quality of sleep is an important factor for the quality of life of individuals. Poor sleep quality is associated with weakened physical health, fatigue, lethargy, increased daytime sleepiness, and decreased immune system function. In the long term, it can lead to chronic health problems such as obesity, diabetes, cardiovascular diseases, and depression. (Benjanirat, T, et al. 2021) Nurses are the healthcare professionals closest to patients. They must face stressful situations such as pain, suffering, and death. Additionally, nurses are expected by society to uphold ethical standards similar to physicians. They work hard with little rest, often in shifts lasting 24 hours. Their irregular schedules lead to reduced sleep quality and uncertain sleep patterns, resulting in accumulated fatigue. This affects their physical, mental, emotional, and social well-being, as well as their relationships with society and family, which may deteriorate. (Prianuch, J., 2019) Moreover, nurses have to work in rotating shifts, taking turns or working in shifts. Shift work is divided into morning shifts (08:00-16:00), afternoon shifts (16:00-24:00), and night shifts (24:00-08:00). Working in shifts disrupts the body's circadian rhythms, which regulate sleep-wake cycles. This is one of the reasons why nurses tend to have poor sleep quality. The irregularity of shift work leads to unpredictable sleep patterns, fewer hours of sleep per night, feeling unrefreshed upon waking, experiencing drowsiness, and accumulating more fatigue because the body doesn't get adequate rest by its natural sleep cycle, resulting in decreased sleep quality for nurses. (Nijwaran, K., et al. 2020) From reviewing literature and research, it is found that shift work increases the risk of sleep quality problems. The impact of sleep quality issues and work reveals that sleep quality is a significant health concern. This study aimed to address this issue directly by investigating the relationship between fatigue and sleep quality among nurses. The findings will be used to improve work quality and prevent fatigue among nurses in the future.

OBJECTIVE

1. To investigate fatigue and sleep quality of professional nurses in hospitals. Samut Songkhram Province.
2. To find the relationship between fatigue and sleep quality of nurses in hospitals. Samut Songkhram Province.

METHODS

Population and sample

The population consists of professional nurses working in hospitals in Samut Songkhram province, namely Somdet Phra Phutthaloetla Hospital, Nopphalai Hospital, and Amphawa Hospital, totaling 442 individuals. The sample group consists of professional nurses working in hospitals in Samut Songkhram province, namely Somdet Phra Phutthaloetla Hospital, Nopphalai Hospital, and Amphawa Hospital. The sample size was calculated using Krejcie & Morgan's formula, resulting in a sample size of 110 individuals. Therefore, the researchers employed a method of stratified sampling to ensure a proportional distribution of data according to the population. Inclusion criteria in this study were as follows: 1) Nurses working in hospitals in Samut Songkhram province. 2) Not on maternity leave/sabbatical. 3) Have been working for at least 6 months. 4) Willing to participate in the research questionnaire.

The research instrument was a questionnaire, divided into 3 parts as follows:

Part 1: General Information Questionnaire. This questionnaire asks for general information about the respondents. Respondents should select only one answer that best

reflects their characteristics. The details of the questionnaire include gender, age, marital status, income, medical history, alcohol consumption, and smoking habits. Part 2: Assessment of Fatigue using the Revised Piper Fatigue Scale (R-PFS). The R-PFS is a fatigue assessment scale where respondents rate their fatigue level on a scale from 1 to 10. A rating of "1" indicates no feeling of fatigue at all, while a rating of "10" indicates the highest level of fatigue. Scores range from 13 to 130 points. The scores are then calculated to find the average and interpreted by assigning fatigue scores to each level and categorizing fatigue into 3 levels. Part 3: Assessment of Sleep Quality in Thai Version (The Pittsburgh Sleep Quality Index, PSQI). Developed by Tawanchai Jirapramukpitak and Waranyu Tanchaisawad (1997), it consists of a total of 9 questions and 7 components. The questionnaire was measured for content validity by three experts. The results obtained from the experts were used to investigate the congruence between the question items and research objectives using the index of item objective congruence (IOC), for three sets of the questionnaire, achieving scores of 0.94, 0.98, and 0.86, respectively. The questionnaire was pretested by 30 people having similar characteristics to the samples. The reliability of the whole questionnaire was tested using Cronbach's Alpha coefficient, with values of 0.87, and 0.94, respectively.

Ethical approval: The research was approved by Human Research Ethics Committee, Suan Sunandha Rajabhat University, COA. 1-033/2023.

Statistical analysis: Statistical analyses were conducted using SPSS (SPSS Inc., Chicago, IL, USA) software for Windows. Descriptive statistics were used to analyze the general information of the sample and analyze the relationship between fatigue and sleep quality among professional nurses in hospitals in Samut Songkhram province using statistical analysis with Pearson's Product Moment Correlation Coefficient.

RESULTS

The research participants consisted of 491 people. The majority of the sample group were females, accounting for 98.2 percent. Regarding age, 36.4 percent were between 41 and 50 years old, followed by 34.5 percent between 51 and 60 years old. Regarding accommodation, 80.9 percent resided in welfare housing, while 15.5 percent lived in dormitories/apartments. Regarding marital status, 50.9 percent were married, while 40.0 percent were single. Most had a total monthly income of 46,000 baht and above, with 68 people, accounting for 61.8 percent, followed by 14.6 percent earning between 36,000 and 45,000 baht. The majority had no chronic illnesses, at 55.5 percent, and most did not consume alcohol, at 95.5 percent.

The fatigue levels of the majority of the sample group were found to be as follows: Not fatigued, 59.10 percent; moderately fatigued, 36.36 percent; and highly fatigued, 4.54 percent, as shown in Table 1.

The sleep quality level of the majority of the sample group was found to be as follows: Excellent sleep quality, 100.0 percent. as shown in Table 2.

The analysis results regarding the relationship between nurse fatigue and sleep quality among professional nurses in Samut Songkhram province revealed that fatigue has a statistically significant positive correlation with statistical significance (p-value < 0.05). (r= .28). as shown in Table 3.

DISCUSSION

The study results found that participant, it was found that the sample group did not experience fatigue due to not feeling fatigued from work activities, or various tasks, not feeling depressed, not experiencing stress, and feeling satisfied with their work. This contradicts the study by Suwanan Intarasataporn, Oranee Kaewboonchu, and Plearnpis Boonyamalik (2020) on work-life balance and factors related to nurse fatigue among nurses working in a high-level hospital ward. The study found that 71.3 percent of the sample group experienced moderate fatigue.

The sleep quality appears to be good, likely because the sample group in this research comprises professional nurses from both small and large hospitals. There is a sufficient number of nurses per patient each day, and they have ample rest time. They rarely experience drowsiness during activities like driving, working, or eating. Unlike the findings of Suthi Kongnanta's (2022) study on sleep quality issues and related factors among nurses at Bandan Hospital, where 64.2 percent of the sample group reported poor sleep quality, often attributed to factors such as tea/coffee consumption and susceptibility to depression. The relationship between nurse fatigue and sleep quality among professional nurses was found to have a statistically significant correlation in the same direction at the .05 level ($r = .28$). This aligns with the study by Cholticha Yaemmam and Peeraphon Leubunthuwat (2013) on sleep problems, fatigue, and performance among professional nurses at Chulalongkorn Hospital, which found a significant relationship between sleep problems, fatigue, and work performance at the. with statistical significance ($p\text{-value} < 0.01$).

ACKNOWLEDGMENTS

The researcher would like to thank the Institute of Research and Development, Suan Sunandha Rajabhat University that granting the research supporting fund and among professional nurses in Samut Songkhram province who provided data in the research.

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