A Study to Assess the Quality of Sleep Among Nurses Working in Tertiary Care Hospitals

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ABSTRACT

Introduction: Sleep is the most prominent basic need for any living organism. Consistent sleep deprivation and stress can have long term drastic effects on health. Nurses being the most crucial part of health care team need optimum health status perform their duty with perfection.
Aim: Assessment of quality of sleep of Nursing officers.
Methods: The sample of 100 Nursing officers was selected by purposive sampling technique. The data was collected by Pittsburgh sleep quality index. Statistical analysis was done using Chi square test and logistic regression analysis.
Results: the mean age of sample was 27.01 ± 4.01 years. There were 62 males and 38 females. The prevalence of sleep was found 56% of the sample. A significant association was found between quality of sleep and socio demographic factors; professional experience and marital status.
Conclusion: The nursing officers experience poor quality of sleep. There is need for some effective measures that either control deprivation of sleep or enhance their ability to have adequate sleep at night when they do not have night duty shift.

Key words: Nurse, quality of sleep, nursing officers and tertiary care hospital

INTRODUCTION

All over the world, nurses working as frontline workers for health care, are facing some common difficulties like work related stress and poor quality of sleep due to many factors like shift rotation, work challenges, patient temper etc. In turn these problems can affect their health with chronic physical and psychological problems. Sleep is the most prominent basic need for any living organism. Consistent sleep deprivation and stress can have long term drastic effects on health. Now a days hospitals strive to provide high-quality and cost-effective care but with minimum staffing, nurses who are the major part of professional group in an organization are forced to struggle with irregular schedules. This leads to increased stress, poor quality of sleep among nursing officers resulting in physical and mental health conditions, which in turn reflects their professional performance and thus may jeopardize patient safety[1].

Nursing professionals in India as well as throughout the world experience high stress and poor sleep quality. High level of stress and poor sleep quality are also correlated with increased physical health complications such as hypertension, obesity, cardiovascular diseases, and low quality of life. Stress and poor sleep quality in nurses' even increases patient care errors[2]. As per a

study conducted in a tertiary care hospital Mumbai Maharashtra it was found that the personality trait of neuroticism was higher in nurses with poor sleep. 5 Neuroticism is a personality trait involving a long-term tendency to be in a negative or anxious emotional state[3]. As per a Cancer Prevention Study II of American Cancer Society it has been shown that short-duration sleepers experienced increased mortality hazard. There is mounting evidence that night shift work has a significant impact on health and performance in medical personnel due to the alteration of natural homeostatic and circadian sleep processes, which can seriously compromise public safety of both patients and medical staff by increasing the risk of errors and workplace accidents[4].

The International Classification of Sleep Disorders estimates that the syndrome known as "shift work disorder" is experienced by 20–30% of shift workers. In nightshift workers, sleep displacement leads to the so-called "circadian misalignment". This phenomenon refers to the lack of entrainment between internal bodily rhythms and the night schedule. In turn, the circadian misalignment alters natural sleep homeostasis. Chronic partial sleep deprivation represents an important risk factor for developing various diseases among nurses, primarily cardiovascular diseases type 2 diabetes, metabolic syndrome, gastrointestinal disorders, and cancer. Additionally, the interference with regular meal routines and the reduced physical activity of working the night shift contributes to worsening these pathological conditions. Mental health may also be affected by the persistent stimulation of the hypothalamic-pituitary–adrenal axis due to frequent exposure to external stressors in night workers, leading to high stress-response reactivity. In the long-term, night shift work may increase the risk for mental disorders, especially depression and anxiety[4].

Many strategies have been adapted like wearing sleep goggles, blue-enriched 6 light in the workspace, administration of exogenous melatonin in the morning to promote daytime recovery sleep etc Indeed, the effects on sleep are not universal, but they are mediated by some factors determining overall resilience and vulnerability hence resilience among nurses to overcome the stressful situations is of utmost importance in preventing the potential health problems among nurses. Since shift work is considered inevitable to ensure continuity of care in hospital settings, and nurses represent the largest healthcare workforce. It is essential to create a low-risk environment. The COVID-19 pandemic has exacerbated the already known critical situation of a healthcare system overwhelmed by unexpected emergencies.[4]

As per a study conducted in Impal, Manipur among 457 nurses, prevalence of poor quality sleep was found among 43% of nurses[5] . Many studies have shown the association of poor sleep with decreased attention, reduced cognitive performance, altered sympathetic activity, impaired immune system, fatigue, anxiety, stress, risk taking behaviour, and impaired social relationships. Sleep quality, stress and resilience move as a cycle in one's life. If any one factor is affected negatively the other too are also hampered. As per a study conducted the association between nurses' job stress and sleep quality in a community hospital in China the outcome suggested that, Sleep problems were prevalent among clinical nurses. Occupational stress negatively affects sleep quality in nurses; the higher the stress is, the worse the sleep quality.[6]

MATERIALS AND METHODS

It was a cross sectional study with an aim to assess the quality of sleep of Nursing officers working in tertiary care hospitals. 100 nurses were selected from Kumareshwar hospital and research centre, Bagalkot Karnataka. The nurses who have completed their night duty at least before one month were enrolled for data collection.

After obtaining administrative permission from concerned authority the researcher approached the nurses, explained the purpose of the study and contained informed consent.

The baseline information was collected by structured baseline proforma and the quality of sleep was assessed by Pittsburgh sleep quality Index. It is a self-report questionnaire that assesses sleep quality over a 1-month time interval. The measure consists of 19 individual items, creating 7 components that produce one global score. It differentiates "poor" from "good" sleep quality by measuring seven areas (components): subjective sleep quality, sleep latency, sleep duration, habitual sleep efficiency, sleep disturbances, use of sleeping medications, and daytime dysfunction. Scoring.

Scoring: Each item is weighted on a 0–3 interval scale. The global PSQI score is then calculated by totalling the seven component scores, providing an overall score ranging from 0 to 21, where lower scores denote a healthier sleep quality. The score of 5 or higher was considered as poor sleep quality. The collected data was analysed using SPSS statistical package. The description of socio-demographic factors and quality of sleep was analysed using frequency and percentage distribution, the association between quality of sleep and baseline factors was found using Chi-square test and logistic regression analysis.

RESULTS

The mean age of sample was 27.01 ± 4.01 years. 38% of the sample were females and 62% were males. 70% Nursing officers had more than 3 years of experience. 78% Nursing officers had Diploma in Nursing qualification, 47% of Nursing officers were working in General wards and 53% of Nursing officers were married and 47% of Nursing officers were unmarried.

Table No. 1: Distribution of Nursing officers according to their sleep quality. N= 100

Sex	Normal sleep		Poor sleep		Total	
	F	%	F	%	F	%
Male	30	30	32	32	62	62
Female	14	14	24	24	38	38
Total	44	54	56	56	100	100

F= Frequency, % percentage.

Component wise description of sleep quality among nursing officers.

The prevalence of poor sleep quality was found among 56% of nurses. About 19% Female nurses 25% Males reported to have fairly good sleep during past month. 25% Female subjects & 33% Male subjects reported disturbance in sleep latency, 16% Females and 37% Males had slept more than 7 hours a day, 39% of the subjects reported poor sleep efficiency, 74 % nurses reported sleep disturbance, 48% nurses reported day time work disturbance due to poor sleep and only 1 subject used pharmacological assistance for sleep.

Table No. 2: Association between quality of sleep and baseline factors among nurses working in tertiary care hospital. N = 100

S No.	Socio demographic variable	Chi square value	df	P value
1	Age	2.34	2	0.64
2	Gender	1.06	1	0.12
3	Professional experience	17.376	2	0.000*
4	Professional qualification	7.924	4	0.094
5	Type of family	0.124	1	0.724
6	Marital status	3.041	1	0.011*
7	Type of diet	5.844	1	0.066
8	Blood pressure	5.005	6	0.543
9	Consumption	2.778	3	0.427
10	Non pharmacological therapy	0.258	1	0.611

$\alpha = 0.05,$

Chi square test was calculated to determine the significant association between quality of sleep and socio demographic factors. A significant association was found between quality of sleep0. and socio demographic factors; professional experience (P< 0.000), and marital status (p<0.011).

CONCLUSION

The nursing officers experience poor quality of sleep. The poor sleep can be attributed to night shift duty. With overall sleep the various components are also noted to be disturbed. This sleep disturbance causes disturbance in day time performance of nurses. Hence there is need of strategies that can help nurses to adapt to the changes in circadian of their body and favour sound sleep when they are not on night shift duty.

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