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ORIGINAL RESEARCH

Comparison of sleep quality of emergency health care workers and in patient department health worker in a tertiary care hospital

[1]Dr. Mamta Sharma, [2]Dr. Meenakshi Sharma, [3]Dr. Onkar Singh

[1]Demonstrator, [2]Associate Professor, [3]Assistant Professor, Department of Physiology, Government Medical College, Kathua, Jammu and Kashmir, India

Corresponding author
Dr. Meenakshi Sharma
Associate Professor, Department of Physiology, Government Medical College, Kathua, Jammu and Kashmir, India

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ABSTRACT

Introduction: Healthcare professionals (HCPs) are more likely to experience irregular sleep patterns, which leads them to disregard their own and others' health and well-being. Vigilance, attentiveness, and alertness are all impacted by sleep deprivation (SD). Sleep deprivation has been found to primarily impact the prefrontal cortex of the brain. Furthermore, it slows your reflexes, which hinders performance. **Aim:** To compare the sleep quality of emergency health care workers and in-patient department health workers in a tertiary care hospital. **Material and method:** After receiving approval from the institute's ethical council, the current comparative study was carried out at Government Medical College in Kathua, Jammu & Kashmir, over a six-month period and collected and studied the data of a total 200 healthcare workers working in emergency unit and in patient departments. The collected data was analysed with the help of social science software (SPSS), version 22.0. **Results:** It was observed that the average total sleep quality score for healthcare workers in emergency rooms was 6.63±3.12, whereas the average score for healthcare workers caring for patients was 7.25±4.37. **Conclusion:** It is concluded that healthcare personnel working in emergency and inpatient departments had significantly different sleep quality.

Keywords: Sleep, Sleep quality, Stress, Insomnia, Workload, Factor, Emergency & IPDs.

INTRODUCTION

"Eat healthily, sleep well, breathe deeply, move harmoniously." - ***Jean-Pierre Barral***

Sleep is a very complex process that involves more than just counting sheep and closing one's eyes. The body creates this active state of unconsciousness, in which the brain is largely at rest and responds mainly to internal stimuli. The precise function of sleep remains unclear. The inactivity hypothesis, energy conservation theory, restoration theory, and brain plasticity theory are some of the well-known ideas that have investigated the brain and tried to pinpoint a reason why humans sleep.[1,2,3,4]

The quantity and quality of sleep are essential because a person spends a third of their life asleep. Inconsistency in sleep amount and quality is more common among health care professionals (HCPs), which causes them to neglect their own and others' health and well-being.[5]

Sleep is becoming a major global public health concern that affects millions of individuals due to growing modernization and hastened life rhythms. Irritability, memory loss, inattention at work, accidents or injuries related to the job, absence, and even depression are all negative effects of sleep deprivation. Sleep deprivation may result in hypertension, altered rhythms endocrine and metabolic problems.[6,7,8,9,10,11]

Sleep deprivation (SD) affects vigilance, attentiveness, and alertness. It has been discovered that sleep deprivation mostly affects the brain's prefrontal cortex. Additionally, it causes reflexes to slow down, which impairs performance. Cognitive disturbances lead to poor performance in jobs where making decisions is essential. Among these is the healthcare industry, where poor sleep quality affects productivity. Ten to forty percent of healthcare professionals (HCPs) are thought to experience sleep

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difficulties due to working shifts. 56% of HCPs are sleep-deprived and make mistakes when providing patient care. Because frequent shift work interferes with the natural circadian rhythms, they suffer from symptoms of insomnia and excessive daytime sleepiness.[12,13,14]

Healthcare workers who don't get enough sleep have neurobehavioral performance problems, interfering with patients' benefits. Extended work hours are associated with a higher risk of alcohol use and unethical behavior. Changes in working hours and frequent night shifts increase the risk of psychological disturbance. Additionally, it was revealed that the likelihood of falling asleep during academic activities and surgery increased in proportion to their increased working hours, as did the number of cutaneous injuries.[15,16,17]

Additionally, emotional tiredness and a decline in job satisfaction are brought on by little sleep. Effective skill acquisition was found to be negatively correlated with longer workdays. Sleep deprivation is more common among healthcare professionals working in clinical settings. Overall, poor sleep has an impact on patient satisfaction, the standard of patient care, and the health and wellness of those involved.[18,19]

Thus, the present study is undertaken to compare the sleep quality of emergency health care workers and in-patient department health workers in a tertiary care hospital.

AIM OF THE STUDY

To compare the sleep quality of emergency health care workers and in-patient department health workers in a tertiary care hospital.

METHODOLOGY

The present comparative study was conducted in Government Medical College, Kathua, Jammu & Kashmir, over 6 months after obtaining approval from the institute's ethical committee.

A total of 200 healthcare workers working in emergency and in-patient departments were involved in the study after obtaining informed consent from all.

Data was collected with the help of a structured proforma which contains the questions regarding demographic variables and sleep quality.

Inclusion Criteria

- The healthcare workers willing to participate in the study were included.
- Healthcare workers who were directly involved in the treatment of patients.
- Healthcare workers who have work experience of more than six months.

Exclusion Criteria

- Healthcare workers who were not willing to participate.
- Healthcare workers with physical and mental disorders/impairments.

A detailed history was collected. The demographic variables age, gender, socio-economic status, number of children, smoking, alcohol use, hours of travel, working hours, and frequency of night duties per week, were recorded.Sleep quality was assessed with the Pittsburgh Sleep Quality Index (PSQI).All the healthcare workers were screened for the quality of sleep with the help of a structured questionnaire and the obtained data was compared.

Data was tabulated, organized, analyzed, and interpreted in both descriptive and inferential statistics i.e. frequency and percentage distribution, by using the statistical package for social science software (SPSS), version 22.0.Categorical variables were expressed as numbers and percentages.

OBSERVATIONS AND RESULTS

Table 1: Demographic data

Demographic variable	Frequency	Percentage
Age		
21-30	58	29
31-40	73	36.5
41-50	49	24.5
51-60	20	10
>60	0	
Gender		
Male	109	54.5
Female	91	45.5
Socioeconomic status		
Class I	37	18.5
Class II	88	44
Class III	66	33
Class IV	9	4.5
Class V	0	0
No. of children		
0	49	24.5

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1	77	38.5
2	43	21.5
>2	31	15.5
Smoking		
Yes	89	44.5
No	111	55.5
Use of alcohol		
Yes	73	36.5
No	127	63.5
Time of travel		
≤ 30 minutes	53	26.5
≥ 30 minutes	147	73.5
Working hours per day		
≤ 8 hours	77	38.5
≥ 8 hours	123	61.5
Frequency of night duties per week		
≤ 3 Nights	108	54
≥ 3 Nights	54	27
Nil	38	19

Table 1, depicted the demographic data of studied healthcare professionals. The majority of the subjects out of 200 were in the age group of 31-40 years (36.5). There was male predominance with amale-female ratio of 1.19:1. Most of the subjects belonged to socioeconomic class II (44%) and had 1 child (38.5%). The majority of the subjects were non-smokers and non-alcoholic. The traveling time was ≥ 30 minutes for most of the study subjects (73.5%), 61.5% of subjects had ≥ 8 working hours per day, and mostly (54%) subjects had ≤3-night duties per week.

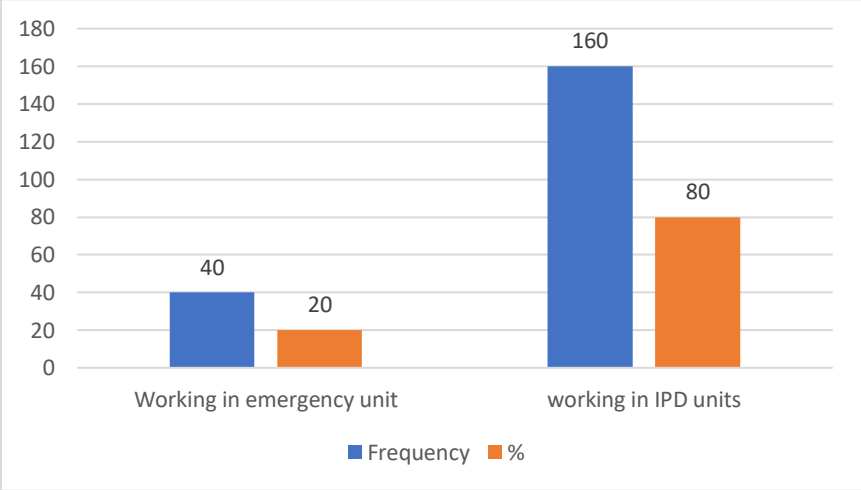

Figure 1. Areas of work

It was reported that most of the healthcare workers were posted in patient department units (80%) followed by emergency unit (20%) as shown in figure 1.

Table 2: Quality of sleep

Parameters	Emergency unit (Mean±SD)	Inpatient departments (Mean±SD)
Sleep Quality	1.25±0.85	1.27±0.66
Sleep latency	1.86±1.64	2.66±2.38
Duration of sleep	5.89±1.47	5.69±1.29
Efficiency of sleep	0.97±0.06	1.08±0.05
Any disturbances during sleep	5.94±2.7	7.53±6.45
Use of sedatives	0.45±0.52	0.35±0.64
Daytime dysfunction	1.8±1.34	5.22±1.62
Overall sleep quality	6.63±3.12	7.25±4.37

Table 2 presented the mean score of sleep quality among the healthcare workers working in emergency unit versus healthcare workers working in inpatient departments.It was observed that there was a significant

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difference in the overall sleep quality of healthcare workers working in emergency unit and healthcare workers working in inpatient departments.

DISCUSSION

In the transcendental condition of sleep, each person is reborn every day. Because even a brief bout of insomnia can impair functioning, humans can tolerate ongoing insomnia at the expense of their efficacy and well-being.[20]

A total of 200 healthcare workers were studied .Out of 200 respondents, most were between the ages of 31 and 40 (36.5). The male-to-female ratio was 1.19:1, indicating a male predominance. The majority of the subjects had one child (38.5%) and were from socioeconomic class II (44%). The vast majority of the participants did not smoke or drink alcohol. 61.5% of the study participants had > 8 working hours per day, the majority (54%) had <3-night duties per week, and the majority (73.5%) had ≥ 30 minutes of travel time. These observation findings are consistent to the study conducted by Rashidi MA et al. (2020) reported that most of the study subjects were in the age group of 21-30 years and the majority of the study subjects were nonsmokers.[21]Similarly, Ravi A et al. (2020) found that most of the participants were in the age group of 31-40 (31.3%), and the majority (85.3%) had < 30 minutes of travel time, most of the participants were working for ≥ 8 hours per day and the majority of the participants had ≤ 3 night duties per week.[5]

Healthcare professionals who work in emergency rooms and inpatient departments were shown to have significantly different total sleep quality levels. Among health workers who work in emergency unit, the mean overall sleep quality score was 6.63±3.12 and among in patients' healthcare workers, the mean overall sleep quality score was 7.25±4.37. These findings are similar to the study conducted by Garcia-Tudela A et al. (2023) found that compared to emergency healthcare professionals who worked outside of hospitals, those who worked in hospital emergency rooms were twice as likely to have poor sleep quality and drowsiness.[22]In another study performed by Kafle B et al. (2024) found higher prevalence of poor sleep quality among healthcare workers.[23]

CONCLUSION

The present study concluded that there was a significant difference in the sleep quality of healthcare workers working in emergency and inpatient departments. As the healthcare workers working in emergency had poor sleep quality. As the sleep deprivation can lead to multiple physical and mental health issues. Thus, the institution should consider the needs to establish a good working atmosphere for the healthcare workers who involved in direct patient care.

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