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Psychological and physical health of nurses doing night shift at tertiary level hospitals

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Abstract

The demanding and unpredictable nature of nursing duties, particularly night shifts, poses significant challenges to nurses' overall well-being. Night shifts, characterized by altered circadian rhythms and increased workplace demands, present unique challenges affecting both the physical and mental health of nurses. This cross-sectional study aimed to explore the psychological and physical health of nurses due to night shift duty and identify research gaps. Conducted in Dhaka Medical College Hospital and Shaheed Suhrawardy Medical College Hospital, the study included 326 purposively selected nurses from January to December 2023. Data were collected through face-to-face interviews using the Depression, Anxiety, and Stress Scale (DASS-21) and the Physical Health Questionnaire (PHQ) and were analyzed using SPSS. The majority (75.5%) of respondents were female, with a mean age of 32 years (± 6.50 SD). Findings revealed that 14.4% of nurses experienced severe depression, while 8.9% suffered from extremely severe depression. Additionally, 19.9% reported severe anxiety, and 22.7% had extremely severe anxiety. Regarding stress levels, 16.6% experienced severe stress, and 6.1% faced extremely severe stress. In terms of physical health, 27.3% of nurses often struggled with sleep difficulties, 24.8% frequently suffered from headaches, 16.3% often had an upset stomach, and 23.9% experienced flu symptoms lasting more than seven days' post-night shift duty. Females exhibited significantly higher levels of anxiety than males ($\chi^2 = 14.813, p < 0.05$). A strong positive correlation was found between depression and stress ($r = 0.707, p < 0.001$). The findings suggest that night shift duties may impair both the psychological and physical health of nurses. Therefore, hospital authorities and policymakers must be sensitized to these issues, and appropriate measures should be implemented to make night shifts more comfortable, ultimately improving nurses' clinical performance, personal health, and overall quality of patient care.

Keywords: Night shift, physical health, mental health, depression, anxiety and stress

Introduction

Nurses are essential healthcare providers, delivering round-the-clock care. However, the intense and irregular nature of nursing responsibilities, especially night duties, negatively impacts wellbeing. The demand for round-the-clock patient care in the healthcare industry has significantly increased, necessitating that nurses work night shifts to ensure continuous service delivery. While night shifts enable hospitals to provide uninterrupted care, they present substantial challenges to nurses' psychological and physical well-being. The nursing profession is inherently demanding, requiring long working hours and exposing nurses to various stressors in their daily practice. In tertiary-level hospitals, night shifts are an integral part of nursing schedules, ensuring consistent patient care. However, concerns have been raised regarding the impact of night shifts on nurses' psychological and physical health. Research indicates that night shifts heighten the risks of sleep deprivation, family-related stress, and mood disturbances [1]. Understanding these challenges is crucial for healthcare organizations to develop strategies that enhance nurses' well-being, ultimately improving patient care quality. Bangladesh's healthcare sector is burdened by a chronic shortage of nurses, with only 6.13 nurses per 10,000 people, falling short of the WHO-recommended ratio of 3 per 1,000 [2]. This workforce shortage results in an increased workload for existing nurses, further exacerbated by the demands of shift work in 24/7 healthcare facilities such as tertiary hospitals. Research suggests that shift work contributes to occupational stress and potential health risks among nurses [3].

Examining these issues within the Bangladeshi healthcare context can guide the development of staff support programs and policies to mitigate their adverse effects.

Globally, nurses play a crucial role as the backbone of healthcare systems, delivering essential frontline care. However, the demanding nature of their profession, particularly night shift duties, negatively impacts their psychological and physiological health. Studies show that night shift workers report lower job satisfaction, increased psychological distress, and higher levels of occupational stress compared to their day-shift counterparts ^[4]. This research explores the effects of night shift work on nurses in Bangladeshi tertiary hospitals, assessing the association between shift work and various health outcomes. Meta-analyses have consistently linked night and rotating shift work to adverse health conditions. A systematic review found strong associations between night shift work and an elevated risk of breast cancer, metabolic disorders, gastrointestinal issues, cardiovascular diseases, and sleep disturbances, along with impaired mental health ^[5]. Night shift work disrupts the body's circadian rhythm, which regulates essential physiological functions, potentially leading to sleep disturbances, fatigue, and a decline in overall well-being. Additionally, the psychological strain of working night shifts can contribute to increased stress, anxiety, and depression among nurses. Circadian rhythm disruptions caused by night shift work can significantly affect psychological well-being. Previous studies have established links between night shifts and mood disorders, anxiety, cognitive impairments, and decreased work performance. Rotating shift schedules have also been associated with an increased risk of depression and anxiety ^[6]. Given these findings, it is essential to investigate how night shift work influences the psychological and physical health of nurses. To address this issue, the present study employed a quantitative research approach using an interview-based survey. The research was conducted in two tertiary-level hospitals where night shift work is prevalent, ensuring that the findings are directly applicable to the target population. Participants included nurses working in these hospitals, and their demographic information such as age, gender, years of experience, and shift schedules was collected to account for potential confounding factors. Standardized psychological and physical health assessment tools were employed to measure various aspects of well-being. A key focus of the study was assessing the quality and duration of sleep among night shift nurses, as sleep disturbances are a common consequence of circadian rhythm disruptions. The study aimed to provide insights into the extent of these disturbances and their implications for nurses' overall health and job performance. The findings can inform healthcare policymakers and hospital administrators in designing interventions to mitigate the adverse effects of night shift work and improve the working conditions for

nurses.

Nurses are vital healthcare professionals who frequently work long and irregular hours to ensure patient care. However, night shift work has been shown to have detrimental effects on nurses' health. This study examines the psychological and physical health consequences of night shift work among nurses in tertiary-level hospitals. Long-term night shift work disrupts circadian rhythms, which regulate various physiological processes. Circadian rhythm disruptions have been associated with multiple health problems, including diabetes, respiratory diseases, and gastrointestinal disorders ^[7]. Nurses who consistently work night shifts may be more susceptible to these conditions. Research has indicated that night shift nurses have higher rates of chronic illnesses compared to those working day shifts ^[8]. Despite this, limited studies specifically examine the health outcomes of night shift nurses in tertiary hospitals. Given that tertiary hospitals manage complex and critical cases, nurses in these settings may experience increased workloads and stress levels, making it imperative to assess their physical health. Beyond physical health challenges, night shift nurses are also vulnerable to psychological issues due to chronic sleep deprivation and circadian misalignment. Studies suggest that night shift nurses exhibit higher rates of anxiety, depression, and substance use disorders compared to their day shift counterparts ^[9]. However, much of the existing research does not differentiate between different hospital types. The fast-paced and high-pressure environment of tertiary hospitals may intensify psychological distress among nurses. Investigating these effects in tertiary settings is crucial for developing targeted interventions to support night shift nurses in these hospitals. Ensuring the well-being of nurses is essential for maintaining high-quality patient care. If night shift nurses experience significant physical and mental health issues, their job performance may decline, potentially affecting patient outcomes. Additionally, the cumulative impact of stress and health deterioration may lead to increased nurse attrition, exacerbating existing workforce shortages in the healthcare sector ^[10]. Effective preventive programs and workplace policies require high-quality research to understand the specific challenges faced by night shift nurses. In summary, this study explores the largely understudied psychological and physical health impacts of night shift work on nurses in high-stress tertiary hospital settings. The objective is to safeguard and support this essential workforce while striving to enhance patient care. The findings of this research could inform the development of occupational health policies and interventions aimed at improving nurses' working conditions and well-being at a national level. Assessing the psychological and physical health status of nurses working night shifts in tertiary hospitals is, therefore, a highly justified and necessary endeavor.

Materials and Methods**Table 1:** Distribution of the respondents according to sociodemographic characteristics (n=326)

| Variables | Category | Frequency | Percentage |
|--------------------|--|-----------|------------|
| Age groups | 30-35 Years | 137 | 42.0 |
| | 32.13(\pm 6.50SD), Minimum 24 years, Maximum 56 years | | |
| Gender | Male | 80 | 24.5 |
| | Female | 246 | 75.5 |
| Marital Status | Married | 248 | 76 |
| | Unmarried | 78 | 24 |
| Level of Education | Diploma in Nursing | 159 | 48.4 |
| | B.Sc. in Nursing | 98 | 30.1 |
| | MPH/MSN | 69 | 21.2 |
| Job position | Senior staff nurse | 316 | 96.9 |
| | Nursing in-charge | 10 | 3.1 |
| Residence | Quarter | 50 | 15.3 |
| | Dormitory | 9 | 2.8 |
| | Rental House | 235 | 72.1 |
| | Own House | 32 | 9.8 |
| Working Area | IPD | 179 | 54.9 |
| | ICU | 56 | 17.2 |
| | Operation Theater | 28 | 8.6 |
| Family Members | 1-4 | 207 | 63.5 |
| | 5-8 | 115 | 35.3 |
| | 9-12 | 4 | 1.2 |
| Income (BDT/Month) | \leq 30000 | 57 | 17.5 |
| | 30001-60000 | 147 | 45.1 |
| | 60001-90000 | 78 | 23.9 |
| | 90001-120000 | 39 | 12 |
| | 120001-150000 | 3 | .9 |
| | \geq 150001 | 2 | .6 |
| Distance from Home | \leq 5 Km | 249 | 76.4 |
| | 5-10 km | 44 | 13.5 |
| | 11-15 km | 14 | 4.3 |
| | 16-20 km | 14 | 4.3 |
| | 21-25 km | 2 | 0.6 |
| | \geq 26 km | 3 | 0.9 |

Table 2: Distribution of the respondents' according to distance from home to hospital and duration of night shift job (n=326)

| Variables | Category | Frequency | Percentage |
|----------------------|--------------|-----------|------------|
| Distance from Home | \leq 5 Km | 249 | 76.4 |
| | 5-10 km | 44 | 13.5 |
| | 11-15 km | 14 | 4.3 |
| | 16-20 km | 14 | 4.3 |
| | 21-25 km | 2 | 0.6 |
| | \geq 26 km | 3 | 0.9 |
| Duration of category | 1-5 years | 118 | 36.2 |
| | 6-10 years | 141 | 43.3 |
| | 11-15 years | 32 | 9.8 |
| | 16-20 years | 17 | 5.2 |
| | 21-25 years | 11 | 3.4 |
| | 26-30 years | 7 | 2.1 |

Table 3: Distribution of the respondents according to depression after night shift duty (n=326)

| Variables | Answer | Frequency(f) | Percentage (%) |
|--|-----------------------------|--------------|----------------|
| Couldn't seem to experience any positive feelings at all | Did not apply at all | 106 | 32.5 |
| | Applied some of the time | 115 | 35.3 |
| | Applied a good part of time | 70 | 21.5 |
| | Applied most of the time | 35 | 10.7 |
| Feeling nothing to look forward to | Did not apply at all | 151 | 46.3 |
| | Applied some of the time | 91 | 27.9 |
| | Applied a good part of time | 54 | 16.6 |
| | Applied most of the time | 30 | 9.2 |
| Feeling down-hearted and blue | Did not apply at all | 75 | 23 |
| | Applied some of the time | 128 | 39.3 |
| | Applied a good part of time | 80 | 24.5 |
| Unable to become enthusiastic | Applied most of the time | 43 | 13.2 |
| | Did not apply at all | 105 | 32.2 |
| | Applied some of the time | 122 | 37.4 |
| | Applied a good part of time | 69 | 21.2 |
| Didn't worth much as a person | Applied most of the time | 30 | 9.2 |
| | Did not apply at all | 155 | 47.5 |
| | Applied some of the time | 90 | 27.6 |
| | Applied a good part of time | 56 | 17.2 |
| Life was meaningless | Applied most of the time | 25 | 7.7 |
| | Did not apply at all | 168 | 51.5 |
| | Applied some of the time | 77 | 23.6 |
| | Applied a good part of time | 48 | 14.7 |
| | Applied most of the time | 33 | 10.1 |

Table 4: Distribution of the respondents according to level of depression (n=326)

| Depression level | Frequency(f) | Percentage (%) |
|------------------|--------------|----------------|
| Normal | 112 | 34.4 |
| Mild | 40 | 12.3 |
| Moderate | 98 | 30.1 |
| Severe | 47 | 14.4 |
| Extremely Severe | 29 | 8.9 |
| Total | 326 | 100 |

Table 5: Distribution of the respondents according to anxiety after night shift duty (n=326)

| Variables | Answer | Frequency(f) | Percentage (%) |
|--|-----------------------------|--------------|----------------|
| Aware of dryness of mouth | Did not apply at all | 51 | 15.6 |
| | Applied some of the time | 144 | 44.2 |
| | Applied a good part of time | 89 | 27.3 |
| | Applied most of the time | 42 | 12.9 |
| Breathing difficulty experience | Did not apply at all | 168 | 51.5 |
| | Applied some of the time | 90 | 27.6 |
| | Applied a good part of time | 48 | 14.7 |
| | Applied most of the time | 20 | 6.1 |
| Trembling experience | Did not apply at all | 140 | 42.9 |
| | Applied some of the time | 118 | 36.2 |
| | Applied a good part of time | 45 | 13.8 |
| | Applied most of the time | 23 | 7.1 |
| Worried about situation | Did not apply at all | 130 | 39.9 |
| | Applied some of the time | 119 | 36.5 |
| | Applied a good part of time | 55 | 16.9 |
| | Applied most of the time | 22 | 6.7 |
| Feeling close to panic | Did not apply at all | 111 | 34.0 |
| | Applied some of the time | 116 | 35.6 |
| | Applied a good part of time | 73 | 22.4 |
| | Applied most of the time | 26 | 8.0 |
| Aware of action of heart in absence of physical exertion | Did not apply at all | 102 | 31.3 |
| | Applied some of the time | 122 | 37.4 |
| | Applied a good part of time | 70 | 21.5 |
| | Applied most of the time | 32 | 9.8 |
| feeling scared without any good reason | Did not apply at all | 149 | 45.7 |
| | Applied some of the time | 116 | 35.6 |
| | Applied a good part of time | 39 | 12.0 |
| | Applied most of the time | 22 | 6.7 |

Table 6: Distribution of the respondents according to level of anxiety (n=326)

| Anxiety level | Frequency (%) | Percentage (%) |
|------------------|---------------|----------------|
| Normal | 75 | 23.0 |
| Mild | 34 | 10.4 |
| Moderate | 78 | 23.9 |
| Severe | 65 | 19.9 |
| Extremely Severe | 74 | 22.7 |
| Total | 326 | 100 |

Table 7: Distribution of the respondents according to stress after night shift duty (n=326)

| Variables | Answer | Frequency(f) | Percentage (%) |
|---------------------------------------|-----------------------------|--------------|----------------|
| Found hard to wind down | Did not apply at all | 50 | 15.3 |
| | Applied some of the time | 125 | 38.3 |
| | Applied a good part of time | 111 | 34.0 |
| | Applied most of the time | 40 | 12.3 |
| tended to over-react | Did not apply at all | 85 | 26.1 |
| | Applied some of the time | 126 | 38.7 |
| | Applied a good part of time | 83 | 25.5 |
| | Applied most of the time | 32 | 9.8 |
| Feeling using a lot of nervous energy | Did not apply at all | 92 | 28.2 |
| | Applied some of the time | 103 | 31.6 |
| | Applied a good part of time | 91 | 27.9 |
| | Applied most of the time | 40 | 12.3 |
| Found getting agitated | Did not apply at all | 82 | 25.2 |
| | Applied some of the time | 139 | 42.6 |
| | Applied a good part of time | 72 | 22.1 |
| | Applied most of the time | 33 | 10.1 |
| Found difficult to relax | Did not apply at all | 65 | 19.9 |
| | Applied some of the time | 128 | 39.3 |
| | Applied a good part of time | 91 | 27.9 |
| | Applied most of the time | 42 | 12.9 |
| Intolerant of anything | Did not apply at all | 64 | 19.6 |
| | Applied some of the time | 126 | 38.7 |
| | Applied a good part of time | 72 | 22.1 |
| | Applied most of the time | 64 | 19.6 |
| Feeling rather touchy | Did not apply at all | 87 | 26.7 |
| | Applied some of the time | 122 | 37.4 |
| | Applied a good part of time | 63 | 19.3 |
| | Applied most of the time | 54 | 16.6 |

Table 8: Distribution of the respondents according to level of stress (n=326)

| Stress level | Frequency (%) | Percentage (%) |
|------------------|---------------|----------------|
| Normal | 125 | 38.3 |
| Mild | 63 | 19.3 |
| Moderate | 64 | 19.6 |
| Severe | 54 | 16.6 |
| Extremely Severe | 20 | 6.1 |
| Total | 326 | 100 |

Table 9: Distribution of respondent according to physical health (n=326)

| | Answer | Frequency (f) | Percentage (%) |
|---------------------------------------|------------------|----------------------|-----------------------|
| Difficulty in getting to sleep | Not at all | 13 | 4 |
| | Rarely | 7 | 2.1 |
| | Once in a while | 9 | 2.4 |
| | Some of the time | 63 | 19.3 |
| | Fairly often | 64 | 19.6 |
| | Often | 89 | 27.3 |
| | All of the time | 81 | 24.8 |
| Woken up during the night | Not at all | 18 | 5.5 |
| | Rarely | 15 | 4.6 |
| | Once in a while | 21 | 6.4 |
| | Some of the time | 65 | 19.9 |
| | Fairly often | 77 | 23.6 |
| | Often | 74 | 22.7 |
| | All of the time | 56 | 17.2 |
| Nightmares or disturbing dreams | Not at all | 79 | 24.2 |
| | Rarely | 49 | 15.0 |
| | Once in a while | 29 | 8.9 |
| | Some of the time | 69 | 21.2 |
| | Fairly often | 59 | 18.1 |
| | Often | 23 | 7.1 |
| | All of the time | 18 | 5.5 |
| Peaceful and undisturbed sleep | Not at all | 27 | 8.3 |
| | Rarely | 44 | 13.5 |
| | Once in a while | 51 | 15.6 |
| | Some of the time | 82 | 25.2 |
| | Fairly often | 14 | 4.3 |
| | Often | 43 | 13.2 |
| | All of the time | 65 | 19.9 |
| Headache | Not at all | 17 | 5.2 |
| | Rarely | 30 | 9.2 |
| | Once in a while | 28 | 8.6 |
| | Some of the time | 63 | 19.3 |
| | Fairly often | 81 | 24.8 |
| | Often | 70 | 21.5 |
| | All of the time | 37 | 11.3 |
| Headache due to pressure | Not at all | 16 | 4.9 |
| | Rarely | 31 | 9.5 |
| | Once in a while | 21 | 6.4 |
| | Some of the time | 63 | 19.3 |
| | Fairly often | 82 | 25.2 |
| | Often | 74 | 22.7 |
| | All of the time | 39 | 12.0 |
| Headache due to frustration | Not at all | 48 | 14.7 |
| | Rarely | 41 | 12.6 |
| | Once in a while | 28 | 8.6 |
| | Some of the time | 82 | 25.2 |
| | Fairly often | 70 | 21.5 |
| | Often | 39 | 12.0 |
| | All of the time | 18 | 5.5 |
| Stomach upset | Not at all | 51 | 15.6 |
| | Rarely | 39 | 12.0 |
| | Once in a while | 28 | 8.6 |
| | Some of the time | 73 | 22.4 |
| | Fairly often | 59 | 18.1 |
| | Often | 53 | 16.3 |
| | All of the time | 23 | 7.1 |
| Careful eating to avoid stomach upset | Not at all | 50 | 15.3 |
| | Rarely | 25 | 7.7 |
| | Once in a while | 16 | 4.9 |
| | Some of the time | 63 | 19.3 |
| | Fairly often | 39 | 12.0 |
| | Often | 52 | 16.0 |
| | All of the time | 81 | 24.8 |
| Nausea | Not at all | 88 | 27.0 |
| | Rarely | 60 | 18.4 |

| | | | |
|-----------------------------|------------------|-----|------|
| | Once in a while | 29 | 8.9 |
| | Some of the time | 54 | 16.6 |
| | Fairly often | 48 | 14.7 |
| | Often | 30 | 9.2 |
| | All of the time | 17 | 5.2 |
| Constipation or diarrhea | Not at all | 90 | 27.6 |
| | Rarely | 49 | 15.0 |
| | Once in a while | 32 | 9.8 |
| | Some of the time | 46 | 14.1 |
| | Fairly often | 49 | 15.0 |
| | Often | 37 | 11.3 |
| | All of the time | 23 | 7.1 |
| Minor Colds | 0 Times | 26 | 8.0 |
| | 1-2Times | 111 | 34.0 |
| | 3 Times | 31 | 9.5 |
| | 4 times | 30 | 9.2 |
| | 5 Times | 34 | 10.4 |
| | 6 Times | 38 | 11.7 |
| | 7+ Times | 56 | 17.2 |
| Respiratory infections | 0 Times | 143 | 43.9 |
| | 1-2Times | 92 | 28.2 |
| | 3 Times | 18 | 5.5 |
| | 4 times | 20 | 6.1 |
| | 5 Times | 17 | 5.2 |
| | 6 Times | 20 | 6.1 |
| | 7+ Times | 16 | 4.9 |
| Duration of bad cold or flu | 1 Day | 35 | 10.7 |
| | 2 Days | 31 | 9.5 |
| | 3 Days | 69 | 21.2 |
| | 4 Days | 46 | 14.1 |
| | 5 Days | 47 | 14.4 |
| | 6 Days | 20 | 6.1 |
| | 7+ Days | 78 | 23.9 |

Table 10: Correlation between stress and anxiety (n=326)

| | | Stress | Anxiety |
|--|---------------------|--------|---------|
| Stress | Pearson Correlation | 1 | .719** |
| | P value | | .000 |
| Anxiety | Pearson Correlation | .719** | 1 |
| | P value | .000 | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Table 12: Correlation between total score of PHQ and total score of stress (n=326)

| | | PHQ | Stress |
|--|---------------------|--------|--------|
| PHQ | Pearson Correlation | 1 | .436** |
| | P value | | .000 |
| Stress | Pearson Correlation | .436** | 1 |
| | P value | .000 | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Table 11: Correlation between depression and anxiety (n=326)

| | | Depression | Anxiety |
|--|---------------------|------------|---------|
| Depression | Pearson Correlation | 1 | .716** |
| | P value | | .000 |
| Anxiety | Pearson Correlation | .716** | 1 |
| | P value | .000 | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Table 13: Correlation between PHQ and anxiety (n=326)

| | | PHQ | Anxiety |
|--|---------------------|--------|---------|
| PHQ | Pearson Correlation | 1 | .463** |
| | P value | | .000 |
| Anxiety | Pearson Correlation | .463** | 1 |
| | P value | .000 | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Table 14: Correlation between PHQ and depression (n=326)

| | | PHQ | Depression |
|--|---------------------|--------|------------|
| PHQ | Pearson Correlation | 1 | .286** |
| | P value | | .000 |
| Depression | Pearson Correlation | .286** | 1 |
| | P value | .000 | |
| **. Correlation is significant at the 0.01 level (2-tailed). | | | |

Table 15: Association between sex of the respondent and level of anxiety (n=326)

| Level of Anxiety | Sex of the Respondent | | Total |
|------------------|-----------------------|-------------|--------------|
| | Male | Female | |
| Normal | 24 (32.0%) | 51 (68.0%) | 75 (100.0%) |
| Mild | 12 (35.3%) | 22 (64.7%) | 34 (100.0%) |
| Moderate | 23 (29.5%) | 55 (70.5%) | 78 (100.0%) |
| Severe | 14 (21.5%) | 51 (78.5%) | 65 (100.0%) |
| Extremely Severe | 7 (9.5%) | 67 (90.5%) | 74 (100.0%) |
| Total | 80 (24.5%) | 246 (75.5%) | 326 (100.0%) |

Test of significance: $\chi^2=14.813$ (df=4, n=326); ($p<0.05$)

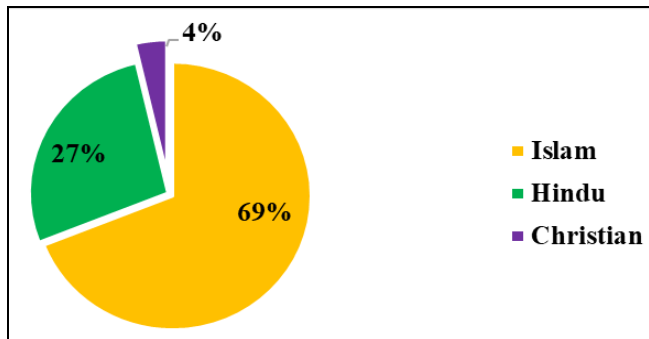


Fig 1: Distribution of the respondents according to religion (n=326)

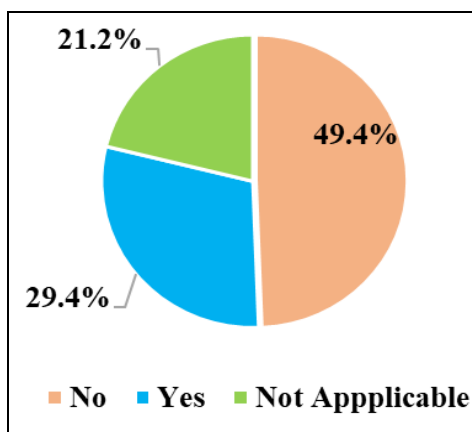


Fig 2: Distribution of the respondents according to child under 2 years (n=326) Discussion

Results

This cross-sectional study conducted among 326 nurses at DMCH and ShSMCH aimed to explore the impact of night shift work on their psychological and physical health from January to December 2023 using a semi-structured questionnaire and a convenient sampling method. The majority of respondents were young (80.7% aged 24-35 years, mean age 32.13 ±6.50 years), predominantly female (75.5%), and mostly married (76%). Sleep disturbances were prevalent among night shift nurses, with 71.7% frequently struggling with sleep onset, aligning with previous findings indicating night shift workers suffer from significantly worse sleep quality than day workers [11]. The study found that 71% of night shift workers reported poor sleep quality versus 50% of day workers, and 52.2% experienced sleep onset difficulties compared to 37.5% of day workers [12]. Similarly, study found that poor sleep correlated with job stress and worse self-perceived health in Taiwanese nurses [13]. The current study also revealed that 91% of respondents experienced headaches due to shift work, with 57.6% reporting them frequently, a result

consistent with the study, who observed increased symptom prevalence, including headaches, chronic fatigue, and cardiovascular issues among rotating night shift nurses [14]. Depression and anxiety were also significantly prevalent, with 54.8% exhibiting moderate to extremely severe depression, surpassing the study findings of 62.08% depression prevalence among shift nurses in China [15]. Similarly, the present study found 22.7% of respondents had extremely severe anxiety, which was notably higher than estimates in other studies [16]. Dodia and Parashar (2020) [4] found significantly higher psychological distress among night shift workers compared to day workers (p=0.001), reinforcing the association between shift work and anxiety [17]. Regarding stress, 38.3% of respondents had normal stress levels, while 41.6% had moderate to severe stress, similar to study reported high stress prevalence among Indian nurses [18]. Occupational stress was significantly greater among night shift nurses (p<0.001), highlighting the impact of disrupted circadian rhythms and social conflict on mental health [19]. The chi-square test revealed a significant association between gender and anxiety (p<0.05), but not depression or stress. Pearson correlation tests confirmed strong associations between depression and anxiety, as well as anxiety and stress (p<0.05), supporting prior research that links shift work to heightened mental distress [20]. A weak positive correlation was also found between PHQ scores and depression, stress, and anxiety (p<0.05). Overall, the findings reinforce existing literature on shift work’s adverse effects and emphasize the need for workplace interventions, policy adjustments, and support programs to mitigate these health impacts on nurses.

Conclusion

This study investigated the psychological and physical health impacts of night shift work among nurses in tertiary hospitals, revealing significantly higher risks of mental health issues such as anxiety, depression, mood disorders, and emotional exhaustion, alongside physical health problems including sleep disturbances, gastrointestinal disorders, and respiratory issues. Increased stress due to lower staffing, reduced resources, and higher patient acuity at night further exacerbated these effects. Additionally, unhealthy lifestyle behaviors were more prevalent among night shift nurses, likely both a cause and consequence of their deteriorating health. The findings highlight the urgent need for strategic interventions, including improved shift scheduling, enhanced workplace support, and systemic policy changes such as increased night staffing, shift limits, and stronger occupational health regulations. Addressing these challenges is essential to safeguarding the wellbeing of nurses, ensuring their ability to provide high-quality patient care while maintaining their own health and work-life balance.

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Conflict of Interest

Not available

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