

Night-Shift Work, Self-Reported Well-Being, and Perceived Patient Care Quality Among ICU Nurses: A Cross-Sectional Survey

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Abstract

Background/Aim: Night and rotating shift work are inherent to 24/7 intensive care units (ICUs), but they can disrupt circadian rhythms, affect sleep, and increase physiological and cognitive strain in nurses. This study aimed to describe the self-reported physical health, psychological well-being, job performance, and perceived patient-care quality of ICU nurses in relation to night-shift work. **Methods:** A descriptive, cross-sectional survey was conducted among ICU nurses recruited by convenience sampling from 10 tertiary hospitals. A researcher-developed structured questionnaire assessed demographic characteristics, physical health, psychological and emotional well-being, job performance, and perceived patient-care quality using a 12-month recall period for subjective health and patient safety items. Data were summarized using frequencies and percentages. **Results:** Among 123 ICU nurses (all participating in shift schedules encompassing night duties; 113 on active regular night shift rotations and 10 on rotating schedules with periodic night shifts), difficulty falling asleep was reported by 110 participants (89.4%). Occupational back injuries were reported by 70 participants (56.9%), while stress, mood changes, and interpersonal workplace conflict were

reported by 59 (48.0%), 104 (84.6%), and 86 (69.9%) participants, respectively. Family conflict related to night-shift work was reported by 93 participants (75.6%). Nursing errors and missed care during night shifts were reported by 74 (60.2%) and 68 (55.3%) participants, respectively. These findings describe substantial self-reported health, psychosocial, and patient-care concerns among the study participants. **Conclusion:** The findings suggest that night-shift work is associated with self-reported sleep disruption, psychological strain, work-family conflict, and perceived patient-care risks among ICU nurses. Because the study used a cross-sectional design and self-reported measures, causal relationships cannot be established. Further studies using objective measures and longitudinal designs are warranted.

Keywords: Nurse Fatigue; Patient Safety; Shift Work; Sleep Disorders; Circadian Rhythm; Job Performance; Intensive Care Units; Psychological Well-being

1. Introduction

1.1 Context

ICUs require continuous 24-hour nursing coverage. Consequently, many critical care nurses work 12-hour or rotating night shifts, which have been associated with concerns regarding nurse health and patient safety (Kalra, 2025; Shin & Lee, 2024). Night-shift work can disrupt the endogenous circadian rhythm, contributing to sleep deprivation, hormonal changes, fatigue, and physiological stress (Parhizkar & Holtzman, 2025; Silva et al., 2024). These disruptions have also been associated with mood changes and metabolic and other health concerns (Weng & Chang, 2025). For nurses working at night, reduced alertness and attention may affect work performance. Night-time hospital work may also involve differences in management oversight, access to educational resources, and staffing support compared with daytime conditions (Sánchez et al., 2025). These organizational factors may contribute to physiological stress and communication challenges that can affect quality of care (Kim & Song, 2020).

International evidence suggests that night-shift work is associated with reduced nurse well-being and performance and with patient-safety concerns. Studies from different settings have reported associations between night work and nursing errors. These findings support the need for further investigation of this occupational issue, particularly in high-acuity ICU settings (Alqahtani et al., 2024).

1.2 Problem Description

The health consequences of night-shift work are an increasing concern for healthcare professionals, particularly nurses working in intensive care.

Night shifts may affect physical and mental health, job satisfaction, work performance, and perceived quality and safety of care for critically ill patients. Although international evidence is available, ICU settings remain important for continued investigation because of the high acuity of care and the potential consequences of errors (Caruso et al., 2004; Morse et al., 2024). This study describes physical, psychological, and performance-related outcomes reported by ICU nurses in relation to night-shift work.

1.3 Importance of the Study

This study addresses the challenges associated with night-shift work in intensive care nursing by describing self-reported health, well-being, job-performance indicators, and perceived patient-care concerns. The findings may help inform future research and practice related to the working conditions of ICU nurses.

1.4 Goals

The following five objectives guided the study.

- To describe the physical health outcomes reported by ICU nurses in relation to night-shift work.
- To describe the psychological and emotional outcomes reported by ICU nurses in relation to night-shift work.
- To describe job-performance indicators reported by ICU nurses in relation to night-shift work.
- To describe perceived patient-care quality concerns reported by ICU nurses during night shifts.
- To recommend strategies for reducing the negative effects of night-shift work on ICU nurses.

2. Review of Related Literature

2.1 Impact of Night Shifts on Nurses' Physical Health

Studies have shown that night shifts can disrupt sleep-wake physiology and adversely affect nurses' health (Weng & Chang, 2025). The pineal gland secretes melatonin under circadian control, and exposure to light at night can suppress melatonin secretion and disrupt sleep. Circadian misalignment in night workers has been associated with insomnia, daytime sleepiness, and mood disturbances (Chen et al., 2023; Di Muzio et al., 2020; Folkard & Tucker, 2003).

2.2 Psychological, Mental Health and Emotional Impacts

Night-shift work has been associated with poorer mental health among nurses, including increased stress, anxiety, and depressive symptoms (Zhang et al., 2020). Night work may also contribute to social isolation and work-

family conflict. Reviews of healthcare workers have reported associations between chronic night work, burnout, and depressive symptoms. Chen et al. (2023) found that work-family conflict was associated with greater fatigue and lower life satisfaction among ICU nurses.

2.3 Work Performance and Patient Safety

Night work has been associated with reduced cognitive performance in nurses, with potential implications for job performance and patient safety (Folkard & Tucker, 2003). Sleep deprivation can reduce alertness and impair decision-making, thereby increasing the risk of errors (Scott et al., 2007). Previous studies of ICU nurses have also reported differences in perceptions of patient outcomes and discharge readiness across shift patterns. These findings have been discussed in relation to leadership presence and continuity of care during night shifts.

2.4 Work-life balance and interventions

There are a number of ways that nurses can improve their overall well-being while working on the night shift. Nurses who work at night need to manage their sleep and recovery effectively. Chen et al. (2023) found that while compensatory sleep may help with many of the problems related to working at night, it will also lead to long-term issues related to health due to the irregular sleep pattern, which causes a cumulative sleep debt. There are several methods by which the negative impacts of working at night have been identified as possible intervention strategies. These include: the implementation of shorter shifts, ensuring there is adequate time for rest before returning to work, creating an environment at work that supports its employees' needs, and providing employees with opportunities for health promotion through programs such as physical fitness, emotional wellness, and education about how to practice good sleep habits. Caruso et al. (2004), Folkard and Tucker (2003), and Zhang et al. (2020) all recommend scheduled napping during breaks from work when nurses are off duty, improving sleep hygiene practices, and maintaining controlled light levels during work hours.

2.5 Physiology of Circadian Rhythm

An understanding of chronobiology is needed for the analysis of these effects. In humans, the central circadian clock is in the suprachiasmatic nucleus (SCN) of the hypothalamus. Peripheral clocks and hormone release (i.e. nightly peak in melatonin) are rhythmically coordinated by the SCN when it receives proper day and night stimuli. SCN coordination fails due to night work as it makes people work during their biological night. This causes a circadian disruption that is manifested in sleep debt and chronic fatigue. Transient changes in blood flow to the frontal lobes (which are responsible for

higher cognitive functions) were detected by fMRIs, carried out by a different research team, on night shift nurses. Completion of a psychomotor vigilance task (PVT) provides objective evidence that reaction times are slower, and there is an increase in the number of errors. These findings add to the body of research that posits a decline in performance that is observable in our studies (Di Muzio et al., 2020; Molzof et al., 2019) because they utilize objective measures.

3. Methodology

3.1 Design & Setting

The study used a descriptive, cross-sectional survey design to describe self-reported physical health, psychological well-being, job performance, and perceived patient-care quality among ICU nurses in relation to night-shift work. Data were collected from 10 tertiary hospitals in specialized surgical, cardiac, neonatal, and pediatric intensive care units over a three-month period.

3.2 Participants and Sample

Recruitment was conducted using convenience sampling at the participating hospital sites. Participation was voluntary and anonymous. The planned target was at least 100 ICU nurses, and the final sample consisted of 123 respondents. The available study documentation does not include a formal a priori sample-size calculation or the total number of eligible ICU nurses at each participating hospital; therefore, these quantities are not reported as numerical estimates in this manuscript.

3.3 Eligibility Criteria

Inclusion Criteria

Nurses were included if they were registered nurses currently working in an adult or pediatric intensive care unit, had experience working in an ICU for at least three months, worked full-time or part-time as an ICU nurse, were aged 20–60 years, and could read and understand the language used in the survey and consent materials. Crucially, all enrolled participants (N=123) were required to engage in shift schedules encompassing night-shift duties (defined as a shift primarily occurring between 7 PM and 7 AM), whether as regular active night rotations (113 participants) or rotating schedules that include periodic night shifts (10 participants).

Exclusion Criteria

Nurses were not included if any of the following conditions were present:

- Existing clinical diagnosis of a sleep disorder — e.g., sleep apnea, narcolepsy — that was not related to shift work demands.

- Experienced a major life event (e.g., childbirth, bereavement) in the three months prior to the study that could independently and significantly affect mental health or sleeping patterns.
- Concurrent employment in a second job outside of the ICU with night shifts or irregular working hours.
- Regular use of medications known to affect sleep or alertness, including sleep aids or stimulants, unless such medications were prescribed and maintained at a stable dose for a period of more than six months.
- Currently on extended leave of absence.
- Nurses assigned exclusively to day shifts without any night-shift duties were excluded.

3.4 Data Collection Tool

The study investigators developed the research instrument through a review of the relevant literature, supplemented by input from subject-matter experts in critical care nursing and occupational health. The questionnaire was pilot tested with five ICU nurses, who were excluded from the main study sample, and reviewed by three field experts for clarity, relevance, and completeness. Feedback from the pilot phase was used to improve the content validity of the tool. The final survey was administered through a secure web link. The final questionnaire consisted of five structured sections comprising closed-ended items using dichotomous (Yes/No), single-selection categorical, and nominal formats:

- **Section 1 - Demographic Data:** Demographic data collected included age, gender, marital status, years of experience in the ICU, the specific ICU department in which the participant worked, and night shift schedule characteristics (regular active night shift vs. rotating shift with periodic night duties).
- **Section 2 - Physical Health Outcomes:** Examined the presence and frequency of physical symptoms such as headache, backache, persistent fatigue, foot problems, and difficulty falling asleep. This section also recorded occupational injuries in night shifts, and recorded changes in eating habits and body weight.
- **Section 3 – Psychological and Emotional Well-being:** Assessed the presence and characteristics of psychological symptoms, including stress, anxiety, depression, anger, general mood disturbances, and attitude shifts to the nursing profession.
- **Section 4 — Job Performance Indicators:** Self-reported problems encountered in night shifts, such as difficulty in conducting clinical procedures, interpersonal conflict at work, family conflict regarding

shift schedules, rate of absenteeism, type of shift preferred, and self-assessed performance at work.

- **Section 5 — Perceived Quality of Patient Care:** Quantified self-reported nursing errors and missed care events, and perceptions of patient safety risks that take place in the night shift hours.

Recall Period and Scope of Interpretation: For evaluating physical health symptoms, occupational injuries, chronic disease impacts, and patient safety occurrences (nursing errors and missed care), participants were requested to respond based on a standardized 12-month recall period during their ICU night-shift work. All variables represent self-reported subjective perceptions and self-disclosed experiences rather than objective administrative audits or verified clinical records.

3.5 Validity and Reliability

Content validity of the instrument was established through face and content validation procedures using structured feedback from the expert panel during the pilot phase. The manuscript did not contain the numerical Cronbach's alpha or test-retest coefficients; therefore, no reliability coefficients are reported here rather than inserting unsupported values. The questionnaire was pilot tested as described above.

3.6 Statistical Analysis

Data were entered, managed, and analyzed using IBM SPSS Statistics. Frequencies and percentages were calculated to summarize the sociodemographic characteristics and responses across the five questionnaire domains. The analyses reported in this manuscript are descriptive; no correlation coefficients, chi-square statistics, regression coefficients, confidence intervals, odds ratios, or p-values are reported because corresponding inferential results are not available in the study record provided for this revision.

3.7 Ethical Considerations

The study protocol was approved by the IRBs of the participating hospitals, and the study was conducted in accordance with the Declaration of Helsinki. The nurses were informed of the study's purpose and of the voluntary and anonymous nature of their participation before data were collected. An anonymous online questionnaire was used with a cover page stating that the completion of the questionnaire constituted informed consent. No identifiers were included and no IP addresses were recorded. All data were stored on encrypted servers and access was restricted. Participants were made aware that there would be no consequences for failing to participate, nor withdrawal from the study, and that there would be no repercussions for their employment. All

researchers were trained in research ethics and data confidentiality before beginning their data collection.

4. Results

4.1 Sample Characteristics

The study sample consisted of 123 ICU nurses. Table 1 summarizes the sociodemographic characteristics. Most participants were female (79/123, 64.2%), aged 25–29 years (37/123, 30.1%), and married (68/123, 55.3%). The largest ICU group was pediatric ICU (46/123, 37.4%). The most common ICU experience category was 5–10 years (47/123, 38.2%). All 123 participants engaged in shift schedules encompassing night duties: 113 participants (91.9%) were assigned to active regular night shift rotations, and 10 participants (8.1%) worked rotating shift schedules that included periodic night duties. In terms of weekly frequency across the total sample (N=123), 43 participants (35.0%) reported working 3–4 night shifts per week, 39 (31.7%) worked 2–3 night shifts, 24 (19.5%) worked 1–2 night shifts, 9 (7.3%) worked >5 night shifts, and 8 (6.5%) worked 4–5 night shifts per week.

Table 1: Sociodemographic Characteristics of ICU Nurse Participants (N=123)

Variable	Category	Frequency	Percent (%)
Gender	Male	44	35.8
	Female	79	64.2
Age (years)	20–24	30	24.4
	25–29	37	30.1
	30–34	15	12.2
	35–39	25	20.3
	>40	16	13.0
Marital Status	Married	68	55.3
	Single	46	37.4
	Divorced	7	5.7
	Widowed	2	1.6
ICU Department	Surgical	28	22.8
	Cardiac	28	22.8
	Pediatric	46	37.4
	Neonatal	3	2.4
	Other	18	14.6
Experience	<1 year	2	1.6
	1–5 years	31	25.2
	5–10 years	47	38.2
	>10 years	43	35.0
Shift Duty Status	Active Regular Night Rotation	113	91.9
	Rotating Shift with Periodic Night Duty	10	8.1
Shifts/Week	1–2 nights	24	19.5
	2–3 nights	39	31.7
	3–4 nights	43	35.0
	4–5 nights	8	6.5
	>5 nights	9	7.3

4.2 Physical Health Outcomes (Table 2)

Table 2 summarizes physical health outcomes and occupational indicators based on a 12-month recall period. Occupational back injuries were reported by 70 participants (56.9%), and foot problems were reported by 11 (8.9%). Difficulty falling asleep was reported by 110 participants (89.4%). Fast-food consumption during the shift was reported by 74 participants (60.2%), while 13 (10.6%) reported not eating during the shift. Weight gain was reported by 55 participants (44.7%) and weight loss by 41 (33.3%). These findings describe substantial self-reported sleep, occupational, and health-behavior concerns in the study sample.

Table 2: Physical Health Outcomes and Occupational Indicators Among ICU Nurses
(12-Month Recall)

Signs and Symptoms / Occupational Indicators	Category	Frequency	Percent (%)
CURRENT SIGNS AND SYMPTOMS	Frequent headache	28	22.8
	Backache	41	33.3
	Persistent tiredness	24	19.5
	Feet ailment	11	8.9
	Loss of sleep	8	6.5
	None of the above	11	8.9
OCCUPATIONAL INJURIES (NIGHT)	Needle-stick injury	9	7.3
	Back injury	70	56.9
	Other injuries	20	16.3
	No injury	24	19.5
SLEEP AND EATING HABITS	Difficulty falling asleep (Yes)	110	89.4
	Fast food consumption	74	60.2
	Does not eat	13	10.6
	Healthy eating	18	14.6
	Increased food intake	9	7.3
BODY WEIGHT CHANGES	Weight gain	55	44.7
	Weight loss	41	33.3
	No change	27	22.0

4.3 Psychological and Emotional Effects (Table 3)

The most frequently reported predominant psychological symptom was stress (59/123, 48.0%), followed by anxiety (28/123, 22.8%), depression (13/123, 10.6%), anger (9/123, 7.3%), and aggressive behavior (2/123, 1.6%). Mood changes related to night-shift work were reported by 104 participants (84.6%), while 68 (55.3%) reported that night-shift work negatively affected their attitude toward nursing. Interpersonal conflict at work related to night-shift work was reported by 86 participants (69.9%). These findings indicate that psychological and interpersonal concerns were frequently reported in the study sample.

Table 3: Psychological and Emotional Indicators Among ICU Nurses

Psychological and Emotional Indicator	Category	Frequency	Percent (%)
PREDOMINANT SYMPTOM	Stress	59	48.0
	Anxiety	28	22.8
	Depression	13	10.6
	Anger	9	7.3
	Aggressive behavior	2	1.6
	Other	12	9.8
BROADER PSYCHOSOCIAL OUTCOMES	Mood changes reported (Yes)	104	84.6
	Negative nursing attitude	68	55.3
	Interpersonal conflict (Yes)	86	69.9

4.4 Job Performance Indicators (Table 4)

Table 4 summarizes job-performance indicators. Family conflict related to night-shift work was reported by 93 participants (75.6%). Morning shift was the preferred shift for 81 participants (65.9%), whereas 11 (8.9%) preferred night shift. The most frequently reported difficult task during night shifts was writing nursing notes (31/123, 25.2%). Thirty-nine participants (31.7%) reported no chronic health problem, while hypertension was the most frequently reported chronic condition (25/123, 20.3%). Among participants, 75 (61.0%) reported that a chronic health condition affected their night-shift work.

Table 4: Night Shift Work and Job Performance Indicators Among ICU Nurses

Job Performance Indicator	Category	Frequency	Percent (%)
FAMILY AND WORK CONFLICT	Increased family conflict (Yes)	93	75.6
PREFERRED SHIFT	Morning	81	65.9
	Afternoon	31	25.2
	Night	11	8.9
DIFFICULT PROCEDURES (NIGHT)	Preparing medication	17	13.8
	Writing nursing notes	31	25.2
	Patient care tasks	13	10.6
	Handling ICU devices	13	10.6
	Other	49	39.8
CHRONIC DISEASE PROFILE	No health problem	39	31.7
	Hypertension	25	20.3
	Diabetes mellitus	18	14.6
	Asthma	12	9.8
	Musculoskeletal disorder	11	8.9
	Chronic disease impact (Yes)	75	61.0

4.5 Perceived Quality of Patient Care (Table 5)

Table 5 summarizes perceived patient-care quality indicators over a 12-month recall period. Nursing errors during night shifts were reported by 74 participants (60.2%), while missed care was reported by 68 (55.3%). Because these outcomes were self-reported and the study did not report inferential comparisons, these findings should be interpreted as perceived or self-reported patient-care concerns rather than estimates of causal effects.

Table 5: Perceived Patient-Care Quality Indicators Among ICU Nurses (12-Month Recall)

Patient Care Quality Indicator	Category	Frequency	Percent (%)
Nursing errors (Self-Reported Yes)	Night Shift	74	60.2
Missed care (Self-Reported Yes)	Night Shift	68	55.3

5. Discussion

The findings describe self-reported concerns related to night-shift work among ICU nurses, including sleep disruption, physical symptoms, psychological and interpersonal concerns, and perceived patient-care risks. Similar concerns have been reported in international studies of night-shift nursing. However, because this study is cross-sectional, uses convenience sampling, and relies on self-reported measures, the findings should be interpreted as descriptive rather than causal.

5.1 Physical Health and Fatigue

In this sample, participants reported occupational back injuries (56.9%) and frequent backache (33.3%). These findings are consistent with evidence showing an association between shift work and lower-back pain among nurses (Chang & Peng, 2021). Weight gain was reported by 44.7% of participants, and 60.2% reported fast-food consumption during the shift. Difficulty falling asleep was reported by 89.4% of participants, indicating substantial self-reported sleep disruption in this sample.

From a physiological perspective, these findings are consistent with the established literature on circadian disruption and shift-work-related fatigue. Previous studies using objective neurophysiological and psychomotor measures have reported slower reaction times and changes in cognitive performance among nurses after night shifts (Di Muzio et al., 2020; Molzof et al., 2019). The present study did not include objective neurophysiological or psychomotor measures; therefore, its findings should be interpreted as self-reported outcomes.

5.2 Psychological Impact

Psychological concerns were frequently reported. Stress was reported by 48.0% of participants, anxiety by 22.8%, and depression by 10.6%. Mood changes were reported by 84.6%, and 55.3% reported a negative effect of

night-shift work on their attitude toward nursing. These findings are consistent with previous literature describing associations between night-shift work and psychological outcomes among nurses (Ungurianu et al., 2025; Okechukwu et al., 2023). Family conflict related to night-shift work was reported by 75.6% of participants.

5.3 Job Performance and Organizational Climate

Regarding job-performance indicators, 65.9% of participants preferred morning shifts, whereas 8.9% preferred night shifts. Writing nursing notes was reported as the most difficult specific task by 25.2% of participants. These findings describe participants' perceptions of night-shift work and do not establish that night work caused the reported difficulties. Interpersonal workplace conflict related to night-shift work was reported by 69.9% of participants. Previous literature has discussed organizational factors such as managerial presence, staffing, and communication as potential contributors to workplace tension during night shifts (Gómez-García et al., 2016). These factors were not directly measured as causal variables in the present study.

5.4 Patient Care Quality

More than half of the participants reported nursing errors (60.2%) and missed care (55.3%) during night shifts. These findings are clinically relevant because they reflect perceived patient-care concerns. A previous Saudi Arabian study reported patient-safety concerns among nurses working night shifts (Alsharari et al., 2021). The present study did not compare these outcomes with day-shift outcomes and did not perform inferential testing; therefore, it cannot determine whether the reported rates are higher than those for day-shift nursing or establish a causal relationship with night-shift work.

The broader fatigue literature provides plausible mechanisms through which sleep disruption may affect attention, working memory, and decision-making. However, these mechanisms were not directly measured in the present study. Accordingly, the current findings should be interpreted as self-reported patient-care concerns rather than direct evidence of the causal pathway between night work and care omission.

6. Recommendations

Based on the findings of this study and consistent with Objective 5 – to suggest ways to mitigate the negative consequences of working night shifts in ICUs on nurses – the following evidence-based recommendations are suggested:

6.1 Scheduling Reform and Shift Optimization

ICU management should routinely audit current shift patterns with the specific intention of reducing the physiological load of night work. Specific measures should include limiting consecutive night shifts to no more than two to three in a row before a mandatory recovery period and favoring forward-rotating schedules, which are more consistent with the natural direction of circadian drift; and where operationally feasible, testing fixed night shift assignments for nurses who voluntarily choose this schedule, as stable schedules may permit greater circadian adaptation than quickly alternating rotations. Staff have different tolerances for night work, so scheduling decisions must take into account individual chronotype.

6.2 Structured Rest and Nap Protocols

Institutional policy should be updated to explicitly allow and support short, scheduled rest breaks during night shifts. A short 20-minute nap during a night shift can significantly reduce error rates and restore alertness. ICU administrators should provide suitable resting spaces and have clear coverage policies.

6.3 Environmental and Lighting Interventions

Hospitals should consider the lighting environment in ICUs to better support the circadian health of night shift workers. This could involve the use of appropriately timed bright light exposure during the early part of the night shift to promote alertness and blue-light-filtering measures towards the end of the shift.

6.4 Enhanced Nighttime Organizational Support

Hospitals should purposefully work to strengthen the support infrastructure available to night-shift staff. Recommended actions include the appointment of a senior nurse or clinical coordinator to each shift on night teams and ensuring that critical supplies are as easily accessible at night as during the day.

6.5 Mental Health and Psychological Support Services

Hospitals should implement specific psychological support programs for nursing staff working in shifts, including confidential counselling services and peer support networks. These services should be scheduled at times that are genuinely accessible to night-shift workers.

6.6 Education and Professional Development

Night-shift nurses should have equal access to continuing education. Nursing orientation programs should formally include health education on

shift work, including strategies of sleep hygiene and nutritional advice for non-standard work hours.

6.7 Policy-Level Advocacy

Nursing leadership should lobby for staffing guidelines that specifically address the physiological demands of night shift work, incorporating evidence-based limits on consecutive night shifts and minimum rest interval requirements into national nursing workforce policy.

Conclusion

In this cross-sectional study of ICU nurses, 113 of 123 participants (91.9%) reported working regular night shifts, while all 123 participants engaged in shift patterns encompassing night duties. Difficulty falling asleep was reported by 89.4% of participants, occupational back injuries by 56.9%, stress by 48.0%, mood changes by 84.6%, family conflict by 75.6%, nursing errors by 60.2%, and missed care by 55.3%. The findings suggest that night-shift work is associated with substantial self-reported sleep disruption, psychological strain, and perceived patient-care risks. These findings should be interpreted cautiously because the study used a cross-sectional design, convenience sampling, and self-reported measures, and did not provide inferential comparisons between night- and non-night-shift nurses.

Key Findings Summary:

- 91.9% of nurses worked night shifts; 89.4% reported difficulty falling asleep.
- 56.9% experienced occupational back injuries; 33.3% reported frequent backache.
- 48.0% reported stress; 84.6% reported mood changes; 22.8% reported anxiety.
- 69.9% experienced interpersonal workplace conflict; 75.6% reported family conflict.
- 60.2% reported nursing errors during night shifts; 55.3% reported missed care.
- Only 8.9% of nurses preferred the night shift; 65.9% preferred the morning shift.

This study has limitations. Because of its cross-sectional design, causal relationships cannot be established. The outcomes were self-reported and may therefore be subject to reporting bias. Future research should include objective performance measures and longitudinal follow-up to examine temporal and causal relationships more robustly.

The findings highlight the importance of nurse well-being in relation to patient-care concerns. The recommendations presented in this study may be considered by ICU administrators and nursing leaders when reviewing shift patterns, staff support, and sleep-health education. Further research is needed to determine the effectiveness of specific scheduling and support interventions.

Conflict of Interest: The authors reported no conflict of interest.

Data Availability: All data are included in the content of the paper.

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Declaration for Human Participants: Permission to conduct the study and administer the questionnaire was obtained from the administration of the National University Hospital in Damascus. The study involved an anonymous questionnaire administered to nurses to assess health problems and challenges associated with night-shift work. Participation was voluntary, and the confidentiality and anonymity of the participants were maintained throughout the study. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

References:

1. Alqahtani, J. S., Arowosegbe, A., Oyelade, T., Alanazi, T. M., Al Rajeh, A. M., & Alzahrani, E. M. (2024). The effect of cumulative night shift duties on insomnia, fatigue, and mental health in intensive care unit nurses. *Heliyon*, 10(10), e31066. <https://doi.org/10.1016/j.heliyon.2024.e31066>
2. Alsharari, A. F., Abuadas, F. H., Hakami, M. N., Darraj, A. A., & Hakami, M. W. (2021). *Impact of night shift rotations on nursing performance and patient safety: A cross-sectional study*. *Nursing Open*, 8(3), 1479–1488. <https://doi.org/10.1002/nop2.766>
3. Caruso, C. C., Hitchcock, E. M., Dick, R. B., Russo, J. M., & Schmit, J. M. (2004). *Overtime and extended work shifts: Recent findings on illnesses, injuries, and health behaviors*. National Institute for Occupational Safety and Health.
4. Chang, W. P., & Peng, Y. X. (2021). Prevalence of lower-back pain in nurses: A systematic review and meta-analysis. *Nursing & Health Sciences*, 23(1), 25–36.
5. Chen, S., Wu, H., Sun, M., Wei, Q., & Zhang, Q. (2023). Effects of shift work schedules, compensatory sleep, and work–family conflict

- on fatigue of shift-working nurses in Chinese intensive care units. *Nursing in Critical Care*. <https://doi.org/10.1111/nicc.12909>
6. Di Muzio, M., Diella, G., Di Simone, E., Novelli, L., Alfonsi, V., Scarpelli, S., & De Gennaro, L. (2020). Nurses and night shifts: Poor sleep quality exacerbates psychomotor performance. *Frontiers in Neuroscience*, 14, 579938.
 7. Folkard, S., & Tucker, P. (2003). Shift work, safety, and productivity. *Occupational Medicine*, 53(2), 95–101.
 8. Gómez-García, T., Ruzafa-Martínez, M., Fuentelsaz-Gallego, C., Madrid, J. A., Rol, M. A., Martínez-Madrid, M. J., & Moreno-Casbas, T. (2016). Nurses' sleep quality, work environment and quality of care in the Spanish National Health System: Observational study among different shift workers. *BMJ Open*, 6(8), e012073.
 9. Kalisch, B. J. (2006). Missed nursing care: A qualitative study. *Journal of Nursing Care Quality*, 21(4), 306–313.
 10. Kalra, Y. (2025). Chronotype and nursing shift work. *American Journal of Nursing*, 125, 64.
 11. Kim, J. H., & Song, Y. (2020). The effects of indoor ambient temperature at work on physiological adaptation in night shift nurses. *Journal of Nursing Management*, 28, 1098–1103.
 12. Molzof, H. E., Peltier, M. R., Zeallier, B. L., Reed, M., & Marshall, G. N. (2019). Misaligned core body temperature rhythms impact cognitive performance of hospital shift work nurses, 160, 151–159.
 13. Morse, L., Duncan, H., Apen, L. V., Reese, K., & Crawford, C. L. (2024). Centralized scheduling of nursing staff: A rapid review of the literature. *Nursing Administration Quarterly*, 48, 347–358.
 14. Okechukwu, C. E., Colaprico, C., Di Mario, S., Oke-Oboh, A. G., Shaholli, D., Manai, M. V., & La Torre, G. (2023). The relationship between working night shifts and depression among nurses: A systematic review and meta-analysis. *Healthcare*, 11(7), 937. <https://doi.org/10.3390/healthcare11070937>
 15. Parhizkar, S., & Holtzman, D. M. (2025). The night's watch: Exploring how sleep protects against neurodegeneration. *Neuron*, 113, 817–837.
 16. Sánchez Onrubia, I. M., Resta Sánchez, E. J., Cabañero Contreras, T., Perona Moratalla, A. B., & Molina Alarcón, M. (2025). Emergency nursing staff's well-being, burnout, and sleep on 12-hour shifts. *Enfermería Clínica*, 35, 102141.
 17. Scott, L. D., Hwang, W.-T., Rogers, A. E., Nysse, T., Dean, G. E., & Dinges, D. F. (2007). The relationship between nurse work schedules, sleep duration, and drowsy driving. *Sleep*, 30(12), 1801–1807. <https://doi.org/10.1093/sleep/30.12.1801>

18. Shin, S. H., & Lee, E. H. (2024). Development and validation of a quality of healthy work environment instrument for shift nurses. *BMC Nursing*, 23, 37.
19. Silva, R. M. D., Zeitoune, R. C. G., Lenz, F. C. D., Pretto, C. R., Santos, K. M. D., Magnago, T. S. B. D. S., & Centenaro, A. P. F. C. (2024). Sleep duration and quality of Brazilian nursing staff who work in shifts. *Revista Brasileira de Enfermagem*, 77, e20230167.
20. Ungurianu, A., Coculescu, E. C., Coculescu, B. I., & Purcarea, V. L. (2025). Burnout and circadian disruption in night-shift nurses: A systematic review. *Journal of Medicine and Life*, 18(1), 12–20.
21. Weng, P. W., & Chang, W. P. (2025). Relationship between shift type and sleep quality in rotating-shift nurses with chronotype as a moderator variable. *International Nursing Review*, 72, e13010.
22. Yu, F., Somerville, D., & King, A. (2019). Exploring the impact of 12-hour shifts on nurse fatigue in intensive care units. *Applied Nursing Research*, 50, 151191.
23. Zhang, Y., Duffy, J. F., & de Castillero, E. R. (2020). The impact of shift work on nurses' mental health and sleep patterns. *Sleep Medicine Reviews*, 52, 101310.