

Appropriate Work Schedule Management and Social Support Among Nurse Colleagues Function as Crucial Factors in Reducing Work Fatigue

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ABSTRACT

Nurse burnout is a significant issue affecting the quality of care and patient safety. This study aimed to analyze factors associated with nurse burnout in the inpatient ward of Royal Prima Medan General Hospital in 2025. The study used a cross-sectional design. The sample consisted of 138 nurses selected using total sampling technique according to the inclusion criteria. The variables studied included length of service, work shift, work environment, and coworker support. Data were obtained through the Subjective Self Rating Test (SSRT) questionnaire and analyzed multivariately using logistic regression. The results showed that most nurses were female (90.6%), under 36 years old (85.5%), and D3 Nursing graduates (73.9%). The majority experienced moderate levels of burnout (84.8%). Multivariate analysis showed that work shifts were the most dominant risk factor with an odds ratio of 8.506 ($p=0.002$), while coworker support had a protective effect with an odds ratio of 0.085 ($p=0.000$). As conclusion, these findings confirm that appropriate work schedule management and social support among nurse colleagues are crucial for reducing work fatigue. Hospitals are advised to strengthen healthy shift rotation programs and develop a supportive work culture to maintain nurse well-being and patient safety.

Keywords: nurses; work fatigue; coworker support; work environment; work shifts

INTRODUCTION

Occupational burnout is a critical occupational health issue in the healthcare sector, particularly among nursing staff. According to the World Health Organization (WHO, 2020), mental health disorders characterized by feelings of severe fatigue and depression are predicted to become the second leading cause of death after heart disease in the coming decade. This phenomenon highlights the urgency of addressing occupational burnout, particularly in high-risk professions such as nursing.⁽¹⁾ The prevalence of occupational burnout among nurses is alarming, both nationally and internationally. A survey by the Indonesian National Nurses Association (PPNI) revealed that 50.9% of nurses working in four provinces in Indonesia experience occupational burnout.⁽²⁾ Similar findings have been reported in regional studies, such as one hospital in South Lampung Regency where 42.3% of nurses experienced burnout, and at the community health center level where prevalence reached 67.3% among healthcare workers.⁽³⁾ Globally, the prevalence varies but remains high, with international studies reporting rates of up to 91.9% among nurses abroad and 43.3% in Iran.⁽⁴⁾ This data indicates that burnout among nurses is a universal problem requiring serious attention from multiple stakeholders.

The impact of occupational burnout is severe, not only for workers but also for patient safety. The International Labour Organization (ILO) reports that two million workers die each year from workplace accidents caused by fatigue. In Indonesia, the Department of Manpower (2014) noted that an average of 414 workplace accidents occur daily, with 27.8% caused by high levels of burnout.⁽⁵⁾ Even more alarmingly, The Joint Commission (2008) reported a 300% increase in medical errors made by nurses due to fatigue, resulting in patient deaths.⁽⁶⁾ The Irish Health and Safety Authority also emphasized that fatigue can trigger mistakes that lead to workplace accidents, particularly in high-precision professions such as nursing. These findings indicate a strong correlation between nurse fatigue, decreased service quality, and patient safety.

Work fatigue in nurses is caused by multiple interacting factors. Hlado et al. (2024) identified determinants including workload, work capacity (such as age and length of service), and non-work individual characteristics.⁽⁷⁾ Amalia et al. (2022) found at Bhayangkara Hospital in Pontianak that excessive work hours beyond capacity accelerate the onset of fatigue and reduce accuracy.⁽⁸⁾ Nurses face consistently high workloads in carrying out effective nursing care.⁽⁹⁾ Burnout commonly occurs in jobs with tight schedules, long hours, and insufficient recovery time. This condition is further exacerbated by the high emotional demands of providing nursing care. Burnout in nurses is defined as a state of physical, emotional, and mental exhaustion resulting from chronic work stress.⁽¹⁰⁾ Dimkatni (2020) emphasized that burnout decreases endurance, efficiency, and capacity, influenced by both lifestyle and work-related activities. While fatigue can act as a protective mechanism to prevent overexertion, in the workplace it negatively affects functional capacity and performance.⁽¹¹⁾ Harison (2021) added the concept of empathy fatigue, characterized by diminished empathetic capacity, increased stress, and emotional exhaustion in service workers.⁽¹²⁾

Hospitals, as healthcare institutions, are required to provide high-quality, safe, timely, efficient, effective, patient-oriented, fair, and integrated services. In the modern era, with advanced medical technology and increasingly complex care demands, the healthcare industry requires skilled and qualified resources. Novianty (2019) emphasized that hospital success depends on the quality of services and the performance of qualified staff, which requires each nursing team to work according to established standards to ensure safe care and meet patient needs in terms of both quality and quantity.⁽¹³⁾

Preliminary surveys and interviews at Royal Prima Hospital Medan revealed that the majority of nurses experience work fatigue in carrying out their responsibilities, including administering and monitoring medication, maintaining patient conditions, and recording and reporting nursing care. Night shifts, monotonous workloads, and pressures from patients and families exacerbate this fatigue, often leading to errors in medication administration and inaccuracies in patient documentation. Despite efforts such as training and certification programs, work fatigue among nurses at the hospital remains a persistent challenge.

Given the high prevalence of occupational fatigue among nurses and its impact on service quality and patient safety, in-depth research is needed to identify specific factors influencing occupational fatigue and develop effective intervention strategies. Therefore, the researcher raised the title Analysis of Determinants Related to Occupational Fatigue of Nurses in the Inpatient Ward of Royal Prima General Hospital Medan 2025. The output of this study is expected to contribute to the development of comprehensive occupational fatigue management policies and programs in the hospital environment.

METHODS

Given the background of the research problem, this study employed a quantitative, observational, and cross-sectional design. The research was conducted in the inpatient care unit of Royal Prima General Hospital Medan during the period of June to August 2025. The study population consisted of all inpatient nurses working at Royal Prima Hospital Medan in 2024–2025. Using a total sampling technique, a total of 138 nurses were included as respondents. The inclusion criteria were nurses aged 20–45 years, with a minimum education of Diploma 3 (D3), having completed the required training, holding active nursing status, and currently working in the inpatient unit. The exclusion criteria were nurses who were unwilling to participate and those who were undergoing training at the time of data collection. These criteria ensured that the sample obtained was representative and relevant to the analysis of determinants related to nurse burnout.

The independent variables included coworker support, tenure, work environment, and work shifts. Coworker support was defined as esteem, emotional, instrumental, informational, and network support, which was measured using a structured questionnaire with an ordinal scale. Tenure referred to the length of time the respondents had worked as nurses, categorized as short (less than 5 years), medium (5–10 years), and long (more than 10 years). Work environment and work shifts were also assessed through questionnaire items. The dependent variable, nurse work fatigue, was defined as subjective complaints experienced by nurses during work related to decreased activity, reduced motivation, and physical exhaustion. It was measured using the Subjective Self Rating Test (SSRT) questionnaire, with results classified as moderate fatigue (score >60) and mild fatigue (score ≤60).

Data collection was carried out using four complementary approaches: observation, interviews, questionnaires, and documentation studies. The data obtained were then analyzed in three stages. First, descriptive analysis was conducted to describe the characteristics of respondents and variables (formerly referred to as univariate analysis). Second, bivariate analysis was performed using the Chi-square test to determine the relationship between each independent variable and nurse fatigue, with Fisher's exact test applied when necessary. Finally, multivariate analysis was conducted using binary logistic regression to identify the most dominant variables influencing nurse fatigue while controlling for other variables.

Ethical approval for this study was obtained from the Research Ethics Committee of Universitas Prima Indonesia. All respondents provided written informed consent before participation, and the principles of confidentiality and anonymity were strictly maintained throughout the research process.

RESULTS

The results of the study show that the proportion of nurses was predominantly female at 90.6%. Based on the age of the nurses, the proportion of nurses aged over 36 years old was 85.5%. Based on nurse education, the proportion of the majority was D3 Nursing at 73.9% (Table 1).

Table 1. Distribution of gender, age and education of nurses at inpatient care unit of Royal Prima General Hospital Medan in 2025

Demographic variables	Category	Frequency	Percentage
Gender	Man	13	9.4
	Woman	125	90.6
Age	>36 Years	20	14.5
	<36 Years	118	85.5
Education	D3 Nursing	102	73.9
	Bachelor of Nursing	36	26.1

Table 2. Distribution of years of service, work shift, work environment, coworker support and nursing work fatigue at inpatient care unit of Royal Prima General Hospital Medan in 2025

Variables	Category	Frequency	Percentage
Years of service	<5 years	87	63
	>5 years	51	37
Work shift	Shift	120	87
	Non-shift	18	13
Work environment	Does not support	64	46.4
	Support	74	53.6
Coworker support	Less supportive	42	30.4
	Support	96	69.6
Nursing work fatigue	Currently	117	84.8
	Light	21	15.2

The proportion of nurses' work period was mostly over 5 years (63%). Based on work shifts, the proportion of nurses who work shifts was mostly 87%. Based on the work environment, the proportion of nurses who work in a supportive work environment was mostly 53.6%. Based on coworker support, the proportion of nurses who work in a supportive work environment was mostly 69.6%. Based on nurse work fatigue, the proportion of nurses who work in a moderate work fatigue was mostly 84.8% (Table 2).

Table 3. The results of the significance test of years of service, work shift, work environment and coworker support as candidate of risk factors for nursing work fatigue

Candidate of risk factors		Nursing work fatigue				p value	CI 95%	OR
		Moderate		Mild				
		Frequency	Percentage	Frequency	Percentage			
Years of service	<5 years	76	87.4	11	12.6	0.393	0.66-4.3	1,685
	>5 years	41	80.4	10	19.6			
Work shift	Shift	106	88.3	14	11.7	0.008	1,605-14,466	4,818
	Non shift	11	61.1	7	38.9			
Work environment	No support	64	100.0	0	0.0	0.000	0	0
	Support	53	71.6	21	28.4			
Coworker support	No support	27	64.3	15	35.7	0.000	0.042-0.339	0.12
	Support	90	93.8	6	6.3			

The analysis of candidate risk factors showed that the p-value was less than 0.25 for work shift, work environment, and coworker support (Table 3). Therefore, these three factors were included in further analysis, namely multiple logistic regression.

Table 4. The results of the significance test of work shift, work environment and coworker support as candidate of risk factors for nursing work fatigue

Risk factors	p value in model 1	OR in model 1	p value in model 2	OR in model 2
Work shift	0.003	10,873	0.002	8.506
Coworker support	0.040	0.271	0.000	0.085
Work environment	0.997	410186281.9		

Based on the results of the multiple logistic regression analysis, work environment produced an extremely large odds ratio with $p = 0.997$, indicating estimation instability (very large standard error) rather than a true effect. This pattern was consistent with quasi/complete separation or sparse cells (e.g., all cases in one category having the outcome), which makes the OR unreliable and not interpretable. Therefore, work environment was excluded from the final model to obtain stable estimates. Its exclusion did not indicate confounding; rather, the variable was non-significant and could not be estimated reliably in model 1. The refitted model (model 2) retained work shift and coworker support as predictors, and both remained statistically significant in explaining nurse fatigue. Next, a multiple logistic regression analysis was conducted by removing the work environment variable. It is known that coworker support was significantly related to nurses' work burnout ($p = 0.000$). Variables that theoretically have a strong relationship, the work shift variable with coworker support has a strong relationship. Based on this theory, an interaction test can be conducted with the following results:

Table 9. The results of multiple logistic regression statistical tests OR model 1

Omnibus tests of model coefficients				
Step 1	Step	Chi-square	df	p value
		43,044	3	0.000
	Block	43,044	3	0.000
	Model	43,044	3	0.000

The results are significantly related, with p-value of 0.000, meaning there was an interaction between work shifts and coworker support. In OR model 2, the results obtained a significant p value, namely work shifts and coworker support. The results of the OR analysis of the work shift variable were 8.5, meaning that nurses who work shifts are 8 times higher than non-shift nurses to experience work fatigue. The confounding variable is the nurse's work environment.

DISCUSSION

The demographic characteristics and working conditions of nurses are important foundations in understanding the dynamics of work fatigue at Royal Prima Hospital Medan. Therefore, the results of this study provide an empirical basis for examining the relationship between individual factors, work patterns, and fatigue levels. Interestingly, the majority of nurses at Royal Prima Hospital Medan are female, aged under 36 years, and with a Diploma 3 nursing degree. The dominance of female nursing staff is in line with the general characteristics of the nursing profession in Indonesia, where women have historically and culturally preferred caring professions. The high proportion of nurses aged under 36 years indicates that Royal Prima Hospital has a relatively young and energetic nursing staff, but with limited experience in managing complex work pressures. The dominance of D3 Nursing graduates reflects the structure of nursing education in Indonesia, which is still dominated by vocational programs. Although 26.1% of nurses have a Bachelor's degree in Nursing, this proportion indicates that hospitals

still rely on diploma-level nursing personnel. This condition can affect nurses' understanding and ability to apply evidence-based practice and effective coping strategies to deal with work stress.

The majority of nurses had less than five years of service, indicating that Royal Prima Hospital has a relatively new nursing workforce. This is consistent with the finding that the majority of respondents were under 36 years old. Nurses with short tenure often face a challenging adaptation period, particularly when navigating complex clinical situations and demanding hospital work systems. The finding that 87% of nurses work shifts reflects the reality of 24-hour hospital operations. Shift work, especially night shifts, is known to disrupt circadian rhythms and natural sleep patterns, contributing to increased physical and mental fatigue. Only 13% of nurses work non-shift shifts, likely those in administrative units or clinics with regular working hours. Positive aspects found were that 53.6% of nurses considered their work environment supportive and 69.6% felt supported by their colleagues. However, a significant proportion (46.4%) still considered their work environment unsupportive, and 30.4% felt inadequate support from their colleagues. The most concerning finding was the high prevalence of moderate burnout among nurses (84.8%), with only 15.2% experiencing mild burnout.

The majority of nurses (63%) had less than five years of service, indicating that Royal Prima Hospital has a relatively new nursing workforce. This is consistent with the finding that the majority of respondents were under 36 years old, a group that is generally considered to have higher physical stamina but less experience in dealing with complex and stressful work environments. Nurses with short tenure often face a challenging adaptation period, particularly when navigating clinical decision-making, high workloads, and the demand for multitasking in a dynamic hospital setting. Such conditions can increase psychological pressure and heighten vulnerability to fatigue.

The analysis in this study revealed that length of service did not have a statistically significant relationship with the level of nurse fatigue. This means that both junior nurses with shorter service and senior nurses with longer tenure may experience similar levels of burnout. These findings are consistent with research by Syah et al. (2024) who also reported no significant relationship between tenure and worker fatigue.⁽¹⁴⁾ The similarity with research by Widyanti & Febriyanto (2020) who studied firefighters in Samarinda, further emphasizes that job fatigue may not always be determined by the duration of employment, but rather by the intensity and demands of the work itself.⁽¹⁵⁾ Likewise, the results align with the study by Sari & Paskarini (2023) which found no association between tenure and fatigue among workers in different contexts.⁽¹⁶⁾

Theoretically, longer tenure is expected to strengthen coping strategies and adaptation to occupational stress. However, the present findings suggest that tenure is not a sufficient protective factor against burnout. This can be explained by the fact that fatigue is more strongly influenced by contextual and organizational factors, such as workload distribution, managerial support, and staffing adequacy. Even senior nurses who have been working for many years may still be at risk of burnout if their workload is excessive, their autonomy is limited, or organizational support is weak. Conversely, junior nurses with less tenure may perform well if they are supported by an adequate system and strong peer relationships.

The odds ratio of 1.685 observed in this study suggested a trend that nurses with less than five years of service may be more likely to experience fatigue than those with longer tenure. However, this result was not statistically significant, so it should not be overinterpreted. Instead, it indicates that while tenure might contribute to differences in coping ability, the decisive factors for burnout are still embedded in the organizational environment and job demands.

From a practical standpoint, these results imply that hospital management cannot rely on tenure alone as a protective factor against burnout. Efforts to reduce fatigue must focus on creating supportive organizational systems, adequate staffing policies, and effective coping training for both junior and senior nurses. This interpretation strengthens the argument that interventions should be systemic rather than solely focused on individual characteristics such as years of service.

Rotating work shifts are an essential requirement for 24-hour hospital operations, ensuring that patient care is provided continuously. However, the findings of this study showed that work shifts are strongly associated with nurse fatigue. Nurses who worked in rotating shifts, especially those including night duties, reported a higher prevalence of moderate fatigue compared to those on fixed non-shift schedules. This result emphasizes the significant burden that irregular scheduling imposes on the physical and psychological well-being of nurses.

The analysis indicated that nurses who worked shifts had a substantially greater risk of experiencing burnout compared to non-shift nurses. The proportion of moderate fatigue among shift nurses (88.3%) was markedly higher than among non-shift nurses (61.1%), illustrating how shift work contributes to sustained exhaustion. The odds ratio of 4.818 suggests that shift nurses were nearly five times more likely to experience fatigue, reinforcing the conclusion that irregular working hours are a strong risk factor for burnout.

This finding is consistent with the research of Roberto Sitanggang et al. (2024) also identified a significant association between work shifts and fatigue, demonstrating that irregular scheduling increased the likelihood of exhaustion in clinical staff.⁽¹⁷⁾ Other study of inpatient nurses at PKU Muhammadiyah Bantul General Hospital, confirmed that rotating shifts significantly contributed to higher fatigue levels.⁽¹⁸⁾ Nursehan & Evelin (2021) further supported this by showing that nurses at Adventist Hospital Bandar Lampung who worked in shift patterns were more prone to fatigue than those in regular work schedules.⁽¹⁹⁾

From a physiological standpoint, these findings can be explained by the disruption of the body's circadian rhythms. Muecke's (2016) emphasized that rotating and night shifts lead to decreased sleep quality, chronic fatigue, and impaired cognitive performance. Over time, such disruption undermines recovery processes, weakens concentration, and increases the likelihood of clinical errors. Nurses working shifts not only face physical exhaustion but also psychological strain due to misaligned biological clocks, leading to reduced alertness and decreased performance during critical tasks.⁽²⁰⁾

Critically, the consistency of results across various studies highlights that the impact of shift work is not merely an isolated phenomenon in one hospital but a systemic issue in healthcare settings. While some individual

factors such as age, coping strategies, and resilience may moderate the effects, the broader evidence indicates that the structural demand of rotating shifts poses a substantial risk regardless of personal characteristics. The implications of these findings are significant for hospital management. To minimize fatigue, hospitals should consider designing schedules that reduce the frequency of night shifts, ensure adequate recovery time between shifts, and distribute workload equitably among staff. Providing support systems such as rest facilities, counseling, and wellness programs may also mitigate the negative effects of irregular work hours. Addressing the risks of shift work is crucial not only for nurse well-being but also for maintaining patient safety and quality of care.

In addition to shift patterns, this study also explored the contribution of the work environment as a factor influencing nurse burnout. The results revealed a highly significant association between the work environment and levels of fatigue, underscoring its crucial role in determining the well-being of nurses. The most striking finding was that 100% of nurses who perceived their work environment as unsupportive experienced moderate burnout, while none reported mild burnout. This outcome demonstrates that an unsupportive workplace condition has an extremely destructive impact, leaving nurses highly vulnerable to sustained fatigue.

This finding is consistent with previous studies that emphasized the role of work environment in shaping fatigue. Putri et al. (2024) reported a significant association between environmental conditions and work fatigue among non-medical staff at Hasanah Graha Afiah General Hospital.⁽²¹⁾ Similarly, Apriliani (2021) found that healthcare workers at Sungai Ulin Community Health Center experienced higher fatigue in poor environments,⁽²²⁾ while Ananda's (2023) identified the same relationship among production staff at PT Medifarma.⁽²³⁾ Dian & Kurniawidjaja's (2023) demonstrated that environmental factors also play a crucial role in community health centers, highlighting the consistency of this pattern across various health and non-health contexts.⁽²⁴⁾

A more detailed examination of the present study strengthens this interpretation. Among the 64 nurses who rated their environment as unsupportive, every single one reported moderate burnout. In contrast, in supportive environments, although a high proportion (71.6%) still experienced moderate fatigue, 28.4% of nurses reported only mild fatigue, reflecting a clear protective effect of supportive workplace conditions. The stark difference between the two groups (100% versus 71.6%) highlights that while a supportive environment does not completely eliminate fatigue; likely due to the inherent demands of nursing it does mitigate its severity and provides greater resilience against burnout.

The concept of "unsupportive environment" is multidimensional. Physically, it may include inadequate infrastructure, poor lighting, uncomfortable temperatures, excessive noise, or non-ergonomic layouts. Psychologically and socially, it can manifest through strained interpersonal relationships, rigid organizational policies, limited autonomy in clinical decision-making, excessive administrative tasks, or a lack of recognition for professional contributions. These factors not only increase stress but also erode motivation, leading to higher susceptibility to fatigue.

The literature supports these mechanisms by Sari & Erlina (2021) emphasized that a positive environment enhances performance, with motivation acting as a mediating factor.⁽²⁵⁾ Munardi (2021)⁽²⁶⁾ further demonstrated that supportive environments positively influence employee productivity, confirming that organizational climate is as important as physical infrastructure in determining well-being and performance. Taken together, these results indicate that improving the work environment should be a strategic priority for hospital management. Investment in adequate facilities, ergonomic design, and safe working conditions must be complemented by supportive organizational policies that promote communication, recognition, and empowerment of nurses. Such efforts not only protect staff well-being but also enhance the overall quality of care and patient safety. Importantly, while supportive environments reduce fatigue, the persistence of moderate burnout even in positive settings shows that systemic demands of the profession cannot be ignored. This means interventions must be comprehensive, combining structural improvements with workload management and psychosocial support.

In addition to the work environment and shift patterns, this study also evaluated the effect of coworker support on nurse burnout as a crucial form of social support in the hospital setting. The results showed that coworker support was significantly associated with lower levels of burnout, confirming the important role of interpersonal relationships in reducing fatigue. The odds ratio of 0.12 indicated that nurses who perceived strong coworker support had an 88% lower risk of experiencing work burnout compared to those with inadequate support. This finding aligns with the results of Sembiring & Syafrizaldi (2022) who also demonstrated that higher levels of social support significantly reduce the risk of burnout among healthcare workers.⁽²⁷⁾

The protective role of coworker support can be explained by its buffering effect against occupational stress. Social support helps reduce stress by providing emotional reassurance, practical assistance, and a sense of belonging, thereby preventing the escalation of stress into burnout. In a demanding environment such as hospital care, where workloads are high and patient conditions often critical, coworkers serve as the closest and most immediate source of social resources. This interaction not only reduces emotional exhaustion but also fosters a sense of teamwork and resilience in handling stressful tasks.⁽²⁸⁾

Interestingly, a paradoxical pattern emerged in this study. Among nurses with good coworker support, the proportion of moderate burnout was actually higher (93.8%) compared to those with less support (64.3%). Several explanations may account for this unexpected result. One possibility is that nurses who receive strong coworker support may feel more comfortable acknowledging and reporting their symptoms of fatigue, leading to higher self-reported rates of burnout despite the protective influence of support. Another explanation could be the presence of unmeasured confounding variables, such as workload intensity, leadership style, or organizational culture, which might overshadow the benefits of peer support in some contexts.

Nevertheless, the broader evidence consistently supports the positive impact of social support on well-being. Coworker support reduces the sense of isolation, provides encouragement during stressful situations, and facilitates shared coping strategies. This aligns with theoretical frameworks such as the Job Demands-Resources Model, which explains that social resources (such as coworker support) help balance high job demands, thereby reducing the likelihood of burnout. The implications of these findings are clear: strengthening coworker support

systems should be prioritized as part of hospital strategies to combat nurse fatigue. This could involve fostering teamwork through regular team-building activities, providing mentorship programs for less experienced nurses, and creating communication channels that encourage collaboration rather than competition. Additionally, management should recognize and reinforce a culture of solidarity among nurses, ensuring that peer support becomes an integral part of the organizational climate. By doing so, hospitals can create an environment in which nurses feel supported not only by the institution but also by their colleagues, which in turn may enhance resilience and reduce burnout.

Multivariate analysis was conducted to determine which independent variables had the strongest relationship with nurse fatigue after controlling for other factors. Multiple logistic regression was applied, with OR used to interpret the magnitude of association. In general, a higher OR value indicates a stronger influence on the dependent variable. After removing the unstable variable, model 2 showed clearer findings. Shift work and coworker support remained as significant predictors of nurse fatigue. Shift work was the strongest risk factor, nurses who worked in rotating shifts had more than eight times the risk of experiencing burnout compared to non-shift nurses. On the other hand, coworker support acted as a strong protective factor, showing that adequate support from colleagues substantially reduced the likelihood of burnout. The interaction test between shift work and coworker support revealed a significant result, indicating that the effect of shift work on burnout can be modified by the level of coworker support available. This highlights that while shift work greatly increases the risk of fatigue, strong coworker support can mitigate some of its negative impacts.

These findings provide empirical support for the Job Demands–Resources Model proposed by Demerouti (2014), which explains that burnout arises when job demands, such as intensive and irregular work schedules, exceed the job resources available, such as social and organizational support.⁽²⁹⁾ The study also aligns with Social Support Theory as proposed by Allen (2015), which posits that social support plays a moderating role between stressors and strain, thereby reducing the negative effects of high job demands.⁽²⁸⁾

Furthermore, although the work environment variable could not be retained in the final model due to estimation issues, its importance should not be dismissed. This study's descriptive and bivariate findings, along with Dimkatni (2020) emphasize that the work environment remains a critical factor in shaping nurse well-being and fatigue levels.⁽¹¹⁾ This is consistent with the Regulation of the Minister of Health of the Republic of Indonesia Number 26 of 2019 concerning Nursing, which underscores the necessity of maintaining a supportive and conducive environment for professional nursing practice. From a practical perspective, the multivariate findings suggest that interventions should be prioritized in two key areas: reforming shift systems to reduce excessive strain on nurses, and strengthening coworker support networks to buffer the negative impacts of demanding schedules. At the same time, continued improvements in the work environment remain essential, even if their effects could not be quantified precisely in this model. Together, these strategies provide a comprehensive approach to reducing nurse fatigue and improving the quality of patient care.

CONCLUSION

This study concludes that shift work and coworker support are the key determinants of nurse fatigue in the inpatient wards of Royal Prima General Hospital Medan. Nurses working in rotating shifts were more likely to experience higher levels of fatigue, while strong coworker support served as a protective factor that reduced the risk of burnout. In contrast, the length of service was not found to be a significant factor.

These findings highlight the importance of optimizing work schedules and strengthening supportive peer relationships as strategic steps to reduce nurse fatigue. Hospital management should prioritize creating healthier shift patterns and fostering a supportive work environment to safeguard nurse well-being and improve the quality and safety of patient care.

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