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Factors Influencing Work Shift-related Fatigue among Nurses: A Cross-Sectional Study

Rheyna Yuniza[1]
[1]Department of Nursing, Universitas Mitra Indonesia, Indonesia

Correspondence author: Rheyna Yuniza
Email: rheynayuniza@gmail.com
Address: Bindu, Abung, Lampung Utara, Lampung, Indonesia Telp. 087722279476
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ABSTRACT

Introduction: Human Resource Management (HRM) in hospital settings is a comprehensive process that includes recruitment, placement, and employee development to ensure optimal healthcare service delivery. A prevalent HRM issue in hospitals is nurse work fatigue, which negatively affects performance, patient safety, and service quality. Shift work, a core aspect of hospital operations, is a major contributor to fatigue due to its impact on physical and psychological well-being.
Objective: This study aimed to examine the relationship between work shift factors—specifically length of work shifts, shift changes, and shift rotations—and the level of work fatigue among nurses at Dr. H. Abdul Moeloek Regional Hospital in Bandar Lampung.
Method: A quantitative, cross-sectional study was conducted with a sample of 142 nurses selected using proportional stratified random sampling. Data were collected through structured questionnaires and analyzed using statistical tests to assess the significance of associations between work shift variables and nurse fatigue levels.
Result: The findings revealed significant associations between all three work shift variables and nurse fatigue. The length of work shifts ($p = 0.039$), shift changes ($p = 0.028$), and shift rotations ($p = 0.049$) were all significantly related to fatigue levels. Nurses with sufficient shift arrangements experienced lower fatigue than those with poor shift conditions.
Conclusion: Work shift management significantly influences nurse fatigue levels. Irregular rotations and extended work hours contribute to higher fatigue, potentially compromising nurse performance and patient care. Improved shift scheduling, adequate rest, and supportive health and stress management strategies are essential to reduce fatigue and enhance nurse well-being in shift-based work environments.

Keywords: hospital, nurse fatigue, shift changes, shift rotations, work shift length

Introduction

Human Resource Management (HRM) is a strategic process that involves addressing various employee-related issues, including those concerning workers, laborers, and managers, in order to support all organizational, institutional, or corporate activities aimed at achieving predetermined goals. In the hospital setting, HRM is conducted holistically and sequentially through stages such as recruitment, placement, compensation, quality development, career advancement, and termination of employment. The scope of HRM encompasses current and future analysis of human resource needs, recruitment and selection systems, appropriate job placements, promotions, career path development, and retirement processes. Ideally, performance appraisal and continuous training and development are key elements in ensuring effective HRM practices.

One of the prevalent HRM-related challenges in hospitals is work fatigue, especially among nurses. Fatigue in the workplace is known to impair performance and increase the likelihood of errors, which may subsequently lead to occupational accidents, reduced work efficiency, suboptimal patient care, and diminished patient satisfaction—ultimately lowering the quality of hospital services. Fatigue can arise after physical or mental work and can typically be alleviated through adequate rest. However, workplace conditions such as inadequate facilities, long working hours, inappropriate shift schedules, and poor task delegation can exacerbate fatigue among nurses. Contributing factors to fatigue include the work environment, individual medical history, workload, job characteristics, work shifts, personal attributes, and psychological aspects. Specific behaviors associated with nurse fatigue include standing for more than six hours, bending over ten times per hour, and staying awake throughout night shifts (Dianita et al., in Malinti & Ginting, 2021).

According to a 2022 survey conducted by the Indonesian National Nurses Association (PPNI), approximately 50.9% of nurses in four provinces in Indonesia experience occupational stress, often characterized by headaches, fatigue, and lack of rest due to excessive workloads and time demands. The factors influencing nurse fatigue include age, work environment, workload, years of service, and shift duration (Karbito, 2020).

Hospitals operate continuously for 24 hours a day, with nurses forming the backbone of patient care delivery. The nature of nursing work necessitates a shift work system, which is recognized as a potential source of occupational stress. Shift work, particularly when poorly managed, can disrupt biological, psychological, and social functions, thereby increasing the risk of fatigue. Long and irregular shifts, high-intensity tasks, poor job design, non-ergonomic work practices, and stress are significant contributors to work fatigue. Although shift work ensures uninterrupted patient care, it poses health risks to nurses, particularly fatigue (Adrianto, 2022).

Dr. H. Abdul Moeloek Regional Hospital is a government-owned, type A referral hospital in Lampung Province that operates 24 hours and accommodates patients through both BPJS Health and BPJS Employment programs. These demands substantially increase the workload for nurses, making them more susceptible to fatigue. The hospital relies on its available resources, including human capital, infrastructure, and environmental factors, to fulfill its service functions effectively.

A preliminary survey conducted at Dr. H. Abdul Moeloek Hospital identified 142 nurses working across four inpatient wards. Based on interviews with ten of these nurses, seven reported experiencing frequent work-related fatigue and physical discomfort, such as back pain, while three stated they did not experience significant fatigue. These findings prompted researchers to further investigate the relationship between work shift factors and nurse fatigue in the inpatient care units of Dr. H. Abdul Moeloek Regional Hospital.

Objective

This study aimed to examine the relationship between work shift factors—specifically length of work shifts, shift changes, and shift rotations—and the level of work fatigue among nurses at Dr. H. Abdul Moeloek Regional Hospital in Bandar Lampung.

Method

A quantitative, cross-sectional study was conducted with a sample of 142 nurses selected using proportional stratified random sampling. Data were collected through structured questionnaires and analyzed using statistical tests to assess the significance of associations between work shift variables and nurse fatigue levels.

Result

Table 1 presents the relationship between three variables—Length of Work Shifts, Shift Changes, and Work Shift Rotation—and nurses' work fatigue in the Inpatient Department of Dr. H. Abdul Moeloek Hospital, Bandar Lampung. The results of the statistical tests indicate significant associations for each of the three variables.

For the length of work shifts, a significant relationship was found with nurse work fatigue ($p = 0.039$). Nurses with sufficient work shifts experienced less fatigue compared to those with poor work shift conditions.

Regarding shift changes, the p-value of 0.028 also indicates a statistically significant relationship. Nurses with sufficient shift change practices experienced lower levels of work fatigue than those with poor shift change practices. Similarly, work shift rotation was significantly associated with nurses' work fatigue ($p = 0.049$). Those with sufficient rotation experienced less fatigue compared to those with less shift rotation.

These findings suggest that better management of shift length, shift changes, and shift rotations can contribute to reducing nurse work fatigue.

Table 1. Relationship Between Work Shift Conditions and Nurses' Work Fatigue

Variable	Work Fatigue Level	Low	Medium	High	Total	P-value
Length of Work Shifts	Sufficient	20	33	46	99	0.039
	Good	0	0	6	6	
Shift Changes	Less	16	14	29	59	0.028
	Sufficient	4	19	23	46	
Work Shift Rotation	Less	2	9	29	40	0.049
	Sufficient	6	15	37	58	

Discussion

The findings of this study indicate that work shift arrangements, shift changes, and work shift rotations significantly influence nurses' work fatigue in the inpatient unit of Dr. H. Abdul Moeloek Hospital, Bandar Lampung.

Firstly, the results showed that most nurses experience fatigue due to ineffective work shift scheduling. Inefficient scheduling can lead to prolonged work hours, reduced rest periods, and ultimately increased fatigue. Properly managed work shift lengths are essential, as effective shift planning can reduce fatigue levels and enhance the quality and efficiency of nursing care. Extended work shifts are often associated with decreased patient care quality, as fatigued nurses may have reduced concentration and performance. Therefore, adequate rest between shifts is crucial to ensure optimal nurse performance and patient outcomes.

Secondly, while the majority of shift changes in the hospital were categorized as good, some nurses still reported experiencing fatigue. This may be attributed to inadequate communication during handovers. Ineffective information transfer between shifts can compromise continuity of care and patient safety, leading to increased stress and fatigue among nurses. Ensuring structured and comprehensive handover protocols is critical for maintaining seamless care and reducing the risk of error-induced fatigue.

In terms of work shift rotation, the study found that rotating schedules negatively affect nurses' fatigue levels. Rotating and irregular schedules often disrupt sleep patterns and reduce recovery time, thereby increasing physical and mental strain. Conversely, well-organized rotation systems can mitigate the adverse effects of irregular work hours by promoting better adaptation to schedule changes. This, in turn, helps nurses reduce fatigue and lowers the risk of work-related accidents.

Work fatigue is inherently subjective, varying among individuals based on several psychological and physiological factors. It is typically characterized by a decline in work performance and involves a reduction in motivation and physical or mental functioning. Fatigue acts as a biological warning mechanism to prevent further strain on the body, thereby prompting recovery.

Lastly, this study supports the view that length of work shifts remains one of the most influential external factors contributing to nurse fatigue. External workload factors include organizational elements such as long work hours, limited breaks, night shifts, and challenging work environments. Internal factors like age, gender, physical condition, and nutritional status also play a role in influencing fatigue. Previous studies have

identified that workload, job tenure, age, and environment contribute significantly to fatigue levels. Addressing these factors through proper scheduling, workload management, and health monitoring can help reduce fatigue and improve nurse well-being and job performance.

Conclusion

This study confirms a significant relationship between shift rotation factors and shift length with work fatigue among nurses at Dr. H. Abdul Moeloek Bandar Lampung Regional Hospital in 2024. The findings highlight that irregular shift rotations and prolonged working hours contribute to increased fatigue levels, aligning with previous research on occupational fatigue in healthcare settings. To mitigate these effects, nurses are encouraged to adopt effective time and rest management strategies, such as optimizing sleep quality by avoiding excessive caffeine before bedtime. Additionally, maintaining a healthy lifestyle—including nutritious food intake and regular light exercise—can enhance endurance and reduce fatigue. Stress management techniques, such as deep breathing and relaxation exercises, should also be utilized to improve psychological resilience. These recommendations aim to support nurses in sustaining their well-being while maintaining high-quality patient care in demanding shift-work environments.

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Authors' contribution

Each author contributed equally in all the parts of the research. All authors have critically reviewed and approved the final draft and are responsible for the content and similarity index of the manuscript.

Conflict of interest

The researchers stated that there is no conflict of interest related to the implementation and publication of the results of this research. The entire research process, from planning, data collection, analysis, to report preparation, was carried out independently without any influence or pressure from any third party. A commitment to research ethics is upheld throughout the research process, ensuring transparency, accuracy and honesty in reporting results. Respondents' participation was voluntary with informed consent, and their confidentiality and privacy were maintained in accordance with applicable research ethics standards. With this statement, researchers hope that the research results can be trusted and used as a valid reference for the development of science and health practices related to ethnomedicine and reproductive health.

Ethical consideration

Not applicable.

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References

1. Andria, dkk. (2022). *Perbedaan kelelahan kerja pada perawat rawat inap antara shift pagi, shift siang dan shift malam di Rumah Sakit Umum Daerah Kabupaten Pidie Jaya tahun 2022*. Universitas Muhammadiyah Aceh: Aceh.
2. Angouw, T. A., et al. (2021). Perbedaan tingkat kelelahan kerja pada perawat shift kerja pagi, shift kerja sore dan shift kerja malam di ruangan rawat inap RSU GMIM Bethesda Tomohon. *Jurnal Ilmiah Farmasi*, 5(2).
3. Arini, B. P. (2021). Pengaruh shift kerja dan beban kerja terhadap kinerja perawat pada Moslem Baby Day Care di Timoho Yogyakarta (Studi pada Moslem Baby Day Care). *Jurnal Akuntansi dan Manajemen*, *18*(1). https://doi.org/10.31316/akmenika.v18i1.1436
4. Dewi. (2023). *Hubungan antara beban kerja dengan stres kerja pada karyawan bagian produktivitas PT Bangga Teknologi Indonesia*. Universitas Semarang: Semarang.
5. Dwiyanti, & Melissa. (2018). *Gambaran kelelahan kerja subjektif pada operator mesin produksi pakan ikan*. Universitas Airlangga: Sidoarjo.
6. Fadila. (2021). *Pengaruh shift kerja terhadap kelelahan kerja pada pekerja PT Lotus Indah Textile Industries di Kecamatan Sukomoro Kabupaten Nganjuk*. STIKes Bhakti Husada Mulia: Madiun.
7. Haeruddin, S., Russeng, S. S., & Usmawati. (2021). *Analisis pengaruh stres kerja, beban kerja dengan kelelahan kerja terhadap produktivitas kerja karyawan PT. Eastern Pearl Flour Mills Makassar tahun 2020*. Universitas Muslim Indonesia: Makassar.
8. Ikromah. (2023). *Hubungan antara stres kerja dengan work life balance pada karyawan PT. Lucky Textile Semarang-Demak*. Universitas Islam Sultan Agung: Semarang.
9. Juliawati. (2020). Pengaruh shift kerja terhadap produktivitas kerja karyawan di bagian gudang PT. Tirta Utama Abadi Depo Metro Kota Bandung. *Atrabis: Jurnal Administrasi Bisnis (e-Journal)*, *6*(1), 113–128. https://doi.org/10.38204/atrabis.v6i1.423
10. Kadaryat. (2020). *Pencapaian kinerja karyawan melalui lingkungan kerja, beban kerja, dan jam kerja shift (Studi pada karyawan Puskesmas Cireunghas, Sukabumi)* (Doctoral dissertation, Universitas Komputer Indonesia).
11. Karbito. (2020). *Faktor-faktor yang berhubungan dengan kelelahan kerja pada perawat di RSUD dr. H. BOB Bazar Kalianda Kabupaten Lampung Selatan*. Universitas Mitra Indonesia: Bandar Lampung.
12. Laily, R., & Tualeka, A. R. (2023). *Hubungan antara shift kerja dan kelelahan kerja dengan tekanan darah pada perawat di Rumah Sakit X*. Universitas Airlangga: Jawa Timur.
13. Liarucha, R. A., et al. (2022). Perbedaan kelelahan perawat ruang rawat inap 2 shift/hari dengan 3 shift/hari di RS Baladhika Husada dan RSD Kalisat Kabupaten Jember. *Jurnal Pustaka Kesehatan*, *4*(2), 280–285.
14. Malinti, N., & Ginting, R. (2021). *Hubungan shift kerja dengan kelelahan kerja pada perawat di bangsal rawat inap Rumah Sakit Advent Bandar Lampung*. Universitas Advent Lampung: Lampung.
15. Maulidia. (2023). *Faktor yang mempengaruhi kelelahan kerja pada pekerja di Unit Pelaksana Pengendalian Pembangkitan (UPDK) Tello Makassar*. Universitas Hasanuddin: Makassar.

16. Panjaitan, A. R., & Simatupang, D. (2018). *Pengaruh kerja shift terhadap kelelahan perawat di ruang rawat inap RSUP Haji Adam Malik Medan*. Poltekkes Kemenkes Medan: Medan.
17. Permatasari, D. R. (2017). *Manfaat jus semangka merah (Citrullus lanatus) untuk menurunkan kelelahan kerja*.
18. Rhamdani, H. (2019). *Hubungan antara shift kerja dengan stres kerja pada perawat*. Universitas Trisakti: Jakarta.
19. Sawitri. (2024). Hubungan stres pekerjaan, kelelahan kerja, shift kerja, dan intensitas beban kerja perawat dengan kejadian insiden keselamatan pasien di RSUD Dr. H Abdul Moeloek Provinsi Lampung. *Angewandte Chemie International Edition*, *6*(11), 951–952. http://repo.iain-tulungagung.ac.id/5510/BAB2.pdf
20. Seguh, dkk. (2019). *Hubungan shift kerja dengan kinerja perawat di Rumah Sakit Bayangkara Tingkat III Manado*. Universitas Samratulangi: Manado.
21. Setiawati, dkk. (2024). *Analisis beban kerja mental pada karyawan Departemen Niaga PT X menggunakan metode NASA-TLX dan Reaction Time*. Universitas Udayana: Bali.
22. Siagian, H. S., & Purba, R. (2021). *Kelelahan kerja berhubungan dengan kinerja perawat di ruang isolasi COVID-19*. Universitas Advent Indonesia: Jawa Barat.
23. Sugiono, & Sari. (2020). *Ergonomi untuk pemula: Prinsip dasar dan aplikasinya*. UB Press.
24. Tenggor, M. (2019). *Faktor-faktor yang berhubungan dengan kelelahan kerja pada perawat di ruang rawat inap Rumah Sakit Umum GMIM Pancaran Kasih Manado*. E-Journal Keperawatan.
25. Tonapa, dkk. (2022). Hubungan antara beban kerja dan kelelahan kerja dengan stres kerja tenaga kesehatan pada masa pandemi COVID-19 di Puskesmas Bandar Khalipah Kabupaten Deli Serdang. *Jurnal Kesmas*, *11*(50), 35–48.
26. Widodo, A., & Maurits, L. (2018). *Faktor dan penjadwalan shift kerja*. Universitas Gadjah Mada: Yogyakarta.
27. Wirentanus, L. (2019). Peran dan wewenang perawat dalam menjalankan tugasnya berdasarkan Undang-Undang Nomor 38 Tahun 2014 tentang Keperawatan. *Media Keadilan: Jurnal Ilmu Hukum*, *10*(2), 148. https://doi.org/10.31764/jmk.vl0i2.2013