

Analysis of work fatigue risk factors among nurses in inpatient rooms: A study in Hospital X and Hospital Y in Kendari City, Southeast Sulawesi Province, Indonesia

Almaghfirah Ferisya, Syawal Kamiluddin Saptaputra * and Mubarak

Department of Public Health, Public Health Faculty, Halu Oleo University, Indonesia.

International Journal of Science and Research Archive, 2025, 14(01), 501-505

Publication history: Received on 03 December 2024; revised on 11 January 2025; accepted on 13 January 2025

Article DOI: <https://doi.org/10.30574/ijrsra.2025.14.1.0073>

Abstract

Background: Nurses make up the largest percentage of health workers and play an important role in providing health services, so nurses are at high risk of fatigue. Fatigue can cause nurses to make mistakes in work procedures so that it will have a negative impact on patients. This study aims to analyze the risk factors of nurses' work fatigue in the Inpatient Room of Hospital X and Hospital Y in Kendari City, Southeast Sulawesi Province, Indonesia.

Methods: The type of research used is analytic which is observational using cross sectional research design with univariate, bivariate and multivariate tests. The population in this study were all nurses in the Inpatient Room of Hospital X and Hospital Y with sampling techniques using total sampling so that the sample amounted to 131 nurses. Data analysis using chi-square test and logistic regression.

Results: The results showed that there was an effect of work stress (0.00), workload (0.04), work shift (0.00), tenure (0.00) on nurses' work fatigue in the Inpatient Room of Hospital X and Hospital Y and there was no effect of length of service (0.69) on nurses' work fatigue in the Inpatient Room of Hospital X and Hospital Y.

Conclusion: The conclusion of this study is that there is an effect of work stress, workload, work shifts and tenure on job fatigue in nurses. Work stress variable is the most influential variable on nurses' work fatigue with an Exp(B) value of 14.647.

Keywords: Tenure; Workload; Work Fatigue; Work Stress

1. Introduction

Nurses are the largest percentage of health workers and play an important role in providing health services [1]. Nurses as health workers are the frontline who have a lot of time with patients and have a large population compared to other health teams so that nurses are at high risk of experiencing fatigue [2]. Work fatigue is a symptom associated with decreased work efficiency, skill, boredom, and increased anxiety. Fatigue can affect labor health and can reduce productivity [3]. Fatigue can cause nurses to make mistakes in work procedures [4].

Data from the International Labor Organization in 2019 shows that around 32% of the world's workers experience fatigue due to work [5]. The ILO in 2021 shows that almost every year as many as two million workers die from work accidents caused by fatigue. The Indonesian Ministry of Manpower and Transmigration 2021 stated that 27.8% of work accidents were caused by fatigue factors [6]. Work fatigue is commonly found in the nursing profession. It was found that the prevalence of fatigue that occurred in nurses abroad was 91.9% [2]. According to the Ministry of Health of the Republic of Indonesia in 2016, the number of nurses reached 296,876 people. Of this number, 89% of nurses experience

*Corresponding author: Syawal Kamiluddin Saptaputra

fatigue. The Indonesian National Nurses Association in 2018 revealed that Indonesian nurses often experience work fatigue [7].

Hospital X is part of the health resources in Southeast Sulawesi Province with its main task of serving TNI personnel, civil servants and their families in the area of Korem 143 / HO. But in its development, it was given a policy to serve the general public. The profile data of Hospital X shows that in 2021, the number of patients reached 2,760. In 2022, the number of patients increased to 3,349 and in 2023 the number of patients was 3,170. The large number of patients will be a workload for nurses and potentially cause fatigue.

Hospital Y is strategically located in the eastern part of Kendari City and is easily accessible by transportation from all parts of Kendari City. The main task of Hospital Y is to provide complete health services for members of the National Police and the general public. The profile data of Hospital Y shows that in 2021, the number of patients reached 4,225. In 2022 the number of patients increased to 5,777 and in 2023 the number of patients continued to increase reaching 6,584. The increase in the number of patients will be a workload for nurses and potentially cause fatigue.

Hospital X and Hospital Y operate 24 hours a day with 3 work shifts: morning (07.00-14.00), afternoon (14.00-21.00) and night (21.00-07.00). Night work shifts with longer hours have the potential to cause fatigue in nurses. Based on an initial survey in the form of interviews conducted with 13 nurses at Hospital X and 12 nurses at Hospital Y, there were 10 nurses who experienced fatigue with symptoms such as headaches, aches, difficulty concentrating, drowsiness, chaotic thoughts, and unfit conditions.

2. Method

This study uses a cross-sectional research design using the chi square test and logistic regression. The population in this study were all nurses working in the inpatient room of Hospital X and Hospital Y, totaling 131 people. The sample in this study amounted to 131 with the sampling technique is total sampling.

3. Results

3.1. Bivariate analysis of the relationship between work stress, workload, work shifts, tenure and length of service with work fatigue in nurses

Table 1 Bivariate analysis of the relationship between work stress, workload, work shifts, tenure and length of service with work fatigue in nurses in the inpatient rooms of Hospital X and Hospital Y.

Variable	Work Fatigue				Total		<i>p</i> -value
	Severe		Mild				
	n	%	n	%	N	%	
Work stress							0.000
Severe	76	85.4	13	14.6	89	100	
Mild	6	14.3	36	85.7	42	100	
Total	82	62.2	49	37.4	131	100	
Workload							0.000
Severe	70	79.5	18	20.5	88	100	
Mild	12	27.9	31	72.1	43	100	
Total	82	62.6	49	37.4	131	100	
Work shift							0.000
Not Suitable	46	95,8	2	4.2	48	100	
Suitable	36	43,4	47	56.6	83	100	
Total	82	37,4	49	62.6	131	100	

Tenure							0,000
New	51	86,4	8	13,6	59	100	
Old	31	43,1	41	56,9	72	100	
Total	82	62,6	49	37,4	131	100	
Length of service							0,690
Qualified	33	64,7	18	35,5	51	100	
Not Qualified	49	61,3	31	38,8	80	100	
Total	82	62,6	49	37,4	131	100	

Source: Primary data, December 2024

3.2. Multivariate analysis results

Table 2 Multivariate analysis results

No	Variable	Wald	Sig.	Exp(B)
1	Work stress	15.038	.000	14.647
2	Workload	3.934	.047	3.772
3	Work shift	9.552	.002	0.50
4	Tenure	7.917	.005	.153

Source: Primary Data December 2024

4. Discussion

Stress is a dynamic state of an individual who is faced with opportunities, constraints or demands. From the perspective of the average person, stress can be described as a feeling of tension, anxiety or worry, and all feelings are manifestations of experience [8]. Stress can trigger anxiety and tension that can drain energy and cause fatigue [9]. Based on the logistic regression test, the p value of the work stress variable = 0.000 < 0.05 so that work stress affects nurses' work fatigue. Work stress is also the most dominant variable affecting nurses' work fatigue with an Exp(B) value of 14.647. This is because the monotonous work atmosphere makes nurses feel bored and makes nurses sensitive and irritable, triggering stress. Nurses who experience stress will feel headaches/dizziness and feel stiff neck, shoulder or back muscles, triggering fatigue. In addition, certain conditions can also make nurses experience stress such as feeling tense when dealing with patients and feeling anxious if there are problems at work. This situation makes it difficult for nurses to concentrate while working so that nurses experience fatigue.

Workload is a process and activity of a worker in completing his duties in a predetermined period of time. Workload is a variety of tasks that are physically and psychologically demanding and are under the responsibility of workers [10]. Severe workload will affect nurse fatigue, where if the work to be completed is so much it requires quite a lot of time and energy to complete it, thus making someone feel work fatigue [11]. Based on the logistic regression test, the p value of the workload variable = 0.047 < 0.05 so that workload affects nurse fatigue. This is because nurses have to observe patients and have direct contact with patients during working hours and provide intensive medication to patients. The disproportionate number of nurses with patients can also be a workload for nurses because they have to handle a ratio of patients that does not match the nurses. Nurses also face patients with various characteristics because nurses have responsibilities in patient care and patient rescue actions. Facing stubborn patients such as refusing to be given medical treatment or not taking medication is a heavy workload for nurses that will cause job burnout.

Shift work is rotational work with the nature of work or permanent [12]. Generally, nurse scheduling in Indonesia is classified in a scheduling system or shift, namely morning shift, afternoon shift and night shift. However, for some nurses, the demands to work at night, holidays and weekends often cause stress and frustration which results in fatigue in nurses. Workers with night shifts will disrupt the body's circadian rhythm which will cause fatigue [13]. Based on the logistic regression test, the p value of the work shift variable = 0.002 < 0.05 so that work shifts affect nurses' fatigue. This is because the implementation of working hours per shift is not in accordance with the ability of nurses, where nurses with night shift schedules work for 11 hours which exceeds the rules of working hours according to Law No.13

of 2003. Working hours that exceed 8 hours make nurses exhausted. Shift workers who work at night outside normal working hours at night are very contrary to the body's natural biological clock [14]. The division of teams and the working time of nurses with a shift system also has an impact on the nurses themselves such as the discomfort of nurses with their team members. This discomfort will make communication between nurses not go well so that it will become one of the obstacles to nurses' work and make nurses tired.

Tenure is one of the factors that can affect fatigue, this is because the length of work will affect the mechanisms in the body [15]. Workers with a new tenure are not yet accustomed to the existing situation and work so they are at risk of experiencing fatigue, while workers with a longer tenure will be more motivated and familiar with the work so that productivity also increases [16]. Based on the logistic regression test, the p value of the work period variable = 0.005 < 0.05, so that the work period affects nurses' work fatigue. This is because nurses with a new working period are not yet accustomed to the existing workload so that the risk of experiencing job fatigue is greater. The working period is closely related to the adaptability of a worker to the work environment and his work. The adaptation process can have a negative effect, namely the limit of excessive endurance due to the pressure obtained in the work process. This causes fatigue which leads to a decrease in psychological and physiological functions [17]. A person with a new working period must adjust and adapt to work in the workplace so that it drains a lot of energy and causes fatigue [18]. If nurses experience fatigue, human error can occur or nurses make mistakes at work.

The length of work has been regulated in the regulations of the Republic of Indonesia Law Number 13 of 2003 concerning manpower article 77 which states that working time for work is 8 hours/day and 40 hours/week for 5 working days in 1 week. If someone works more than 8 hours per day, it will drain energy, causing fatigue [19]. Based on the results of statistical tests with chi-square on the variable length of work obtained a p value = 0.690 which value $p > \alpha$ (0.05) means that there is no relationship between length of work with fatigue in nurses. This is because the distribution of respondents based on the assessment of length of work for the eligible category is more, namely 80 people (61.1%) compared to the unqualified category of 51 people (38.9%). Nurses who work for 8 hours per day are in accordance with the regulations of the Law of the Republic of Indonesia Number 13 of 2003 concerning labor article 77. In other words, the length of work of nurses at Hospital X and Hospital Y is still within the tolerance limit so that it does not have the potential to cause severe fatigue.

5. Conclusion

There is an effect of work stress, workload, work shift, tenure on work fatigue in nurses in the inpatient room of Hospital X and Hospital Y. Work stress is the most dominant variable affecting nurses' work burnout. While the variable that does not affect the nurses' job fatigue is the length of work.

Suggestion

The hospital needs to carry out stress management strategies to minimize the occurrence of work fatigue due to stress in nurses in hospital inpatient rooms such as holding recreational activities and giving awards to nurses with good performance.

The hospital needs to increase the number of nurses in the inpatient room in order to balance the ratio of the number of nurses to the number of patients to overcome excessive workload and create pleasant working conditions so as to minimize the occurrence of fatigue.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest to be disclosed.

References

- [1] I. Laily and A. R. Tualeka, "Hubungan Antara Shift Kerja Dan Kelelahan Kerja Dengan Tekanan Darah Pada Perawat Di Rumah Sakit X," *J. Kesehat. Tambusai*, vol. 4, no. 3, pp. 1798–1805, 2023.
- [2] S. Sumantri, T. N. Utami, and D. A. Astuty, "Hubungan Beban Kerja dengan Kelelahan Kerja pada Perawat Instalasi Rawat Inap di Rumah Sakit Islam Malahayati Medan," *J. Kesehat. Komunitas*, vol. 10, no. 2, pp. 315–323, 2024, [Online]. Available: <https://jurnal.hip.ac.id/index.php/keskom/article/view/1907>.

- [3] H. R. Oksandi and A. Karbito, "Faktor-Faktor yang Berhubungan Dengan Kelelahan Kerja Pada Perawat Di RSUD dr.H.BOB Bazar Kalianda Kabupaten Lampung Selatan," *J. Ilmu Kesehat. Indones.*, vol. 1, no. 1, pp. 1–8, 2020, doi: 10.57084/jiksi.v1i1.330.
- [4] E. E. Sabaruddin and Z. Abdillah, "Hubungan Asupan Energi, Beban Kerja Fisik, Dan Faktor Lain Dengan Kelelahan Kerja Perawat," *J. Kesehat.*, vol. 10, no. 2, pp. 107–117, 2019, doi: 10.38165/jk.v10i2.15.
- [5] H. Laili and Susilawati, "Hubungan Kelelahan Kerja Dengan Stres Kerja Pada Perawat Di Rumah Sakit (Literature Riview)," *Indones. J. Innov. Multidisipliner Res.*, vol. 2, no. 4, pp. 51–60, 2024, doi: 10.38037/jsm.v17i1.419.
- [6] S. F. Imbara, D. L. Badriah, D. N. Iswarawanti, and Mamlukah, "Faktor-faktor yang berhubungan dengan kelelahan kerja pada operator dump truck mining dept saat shift malam di PT. X Cirebon 2023," *J. Heal. Res. Sci.*, vol. 3, no. 02, pp. 175–188, 2023, doi: 10.34305/jhrs.v3i02.940.
- [7] I. Ariska, H. Yasir, and F. A. Sabil, "Hubungan Kelelahan Kerja Dengan Motivasi Kerja Perawat Pelaksana Di RSUD Labuang Baji Makassar," *J. Ilm. Mhs. Penelit. Keperawatan*, vol. 3, no. 2, pp. 23–29, 2023.
- [8] D. Astuti, H. Luthfiana, N. H. Putri, N. S. Alieviandy, N. S. Sari, and N. A. Pratama, "Faktor-faktor yang Mempengaruhi Loyalitas Kerja: Lingkungan Kerja, Stress Kerja dan Insentif (Literature Review Manajemen Kinerja)," *J. Ilmu Manaj. Terap.*, vol. 4, no. 2, pp. 199–214, 2022.
- [9] [E. Rudyarti, "Pengaruh Stres Kerja Terhadap Kelelahan Kerja Pada Perawat Di Rumah Sakit X," *J. Ind. Hyg. Occup. Heal.*, vol. 5, no. 2, pp. 13–20, 2021, doi: 10.21111/jihoh.v5i2.4654.
- [10] [S. A. T. Yustikasari and B. Santoso, "Pengaruh Beban Kerja, Stres Kerja, dan Lingkungan Kerja Terhadap Kinerja Perawat Bagian Rawat Inap di Rumah Sakit Tingkat III Brawijaya Surabaya," *Al-Kharaj J. Ekon. Keuang. Bisnis Syariah*, vol. 6, no. 2, pp. 661–671, 2024, doi: 10.47467/alkharaj.v6i1.3831.
- [11] D. M. Pakpahan, F. Suangga, and R. S. Utami, "Hubungan Karakteristik Perawat Dan Beban Kerja Dengan Kelelahan Kerja Perawat Di Ruang Rawat Inap RSUD Kota Tanjungpinang," *J. Rumpun Ilmu Kesehat.*, vol. 4, no. 1, pp. 10–27, 2024, doi: 10.55606/jrik.v4i1.2751.
- [12] W. Susanto, Supriyadi, E. Sukamto, and A. Parellangi, "Hubungan Shift Kerja Perawat Dengan Stres Kerja Pada Perawat Di Ruang Rawat Inap Rsd Dr. H. Soemarno Sosroatmodjo Kabupaten Bulungan," *Saintekes J. Sains, Teknol. Dan Kesehat.*, vol. 2, no. 3, pp. 349–354, 2023, doi: 10.55681/saintekes.v2i3.128.
- [13] V. Sesrianty and S. Marni, "Hubungan shift kerja dengan kelelahan kerja perawat di RSUD Adnaan WD Payakumbuh," *J. Cakrawala Ilm.*, vol. 1, no. 4, pp. 676–679, 2021.
- [14] W. K. P. Panghestu, Sujangi, H. Jayadi, B. Yulianto, and A. Prasetyo, "Pengaruh Shift Kerja Terhadap Kelelahan Kerja Perawat di RSUD Kota Madiun Tahun 2023," *J. Profesi Kesehat. Masy.*, vol. 5, no. 1, pp. 35–38, 2024.
- [15] N. F. Hijah, Y. Setyaningsih, and S. Jayanti, "Iklim Kerja, Postur Kerja, dan Masa Kerja Terhadap Kelelahan Kerja pada Pekerja Bengkel Las," *J. Penelit. dan Pengemb. Kesehat. Masy. Indones.*, vol. 2, no. 1, pp. 11–16, 2021, doi: 10.15294/jppkmi.v2i1.47282.
- [16] R. Mardikaningsih *et al.*, "Dampak Stres, Lingkungan Kerja dan Masa Kerja terhadap Produktivitas Pekerja Konstruksi," *J. Penelit. Rumpun Ilmu Tek.*, vol. 1, no. 4, pp. 38–52, 2022, doi: 10.55606/juprit.v1i4.616.
- [17] H. A. Maulani, S. Sukismanto, H. Yuningrum, and A. Nugroho, "Shift Kerja dan Masa Kerja Terhadap Kelelahan Kerja pada Pengemudi Angkutan Batu Bara," *J. Penelit. dan Pengemb. Kesehat. Masy. Indones.*, vol. 1, no. 1, pp. 48–53, 2020, doi: 10.15294/jppkmi.v1i1.41423.
- [18] S. M. Yamaula, A. Suwondo, and B. Widjasena, "Hubungan Antara Beban Kerja Fisik Dengan Kelelahan Kerja Pada Pekerja Industri Pengolahan Ikan Asin Di Ud. X," *J. Kesehat. Masy.*, vol. 9, no. 1, pp. 112–118, 2021, [Online]. Available: <https://ejournal.unsrat.ac.id/v3/index.php/ijphcm/article/view/28661>.
- [19] K. I. Sari and I. Paskarini, "Hubungan Antara Shift Kerja dan Durasi Kerja dengan Keluhan Kelelahan Pada Perawat di Rumah Sakit Daerah Balung Kabupaten Jember Tahun 2021," *Prev. J. Kesehat. Masy.*, vol. 14, no. 1, pp. 47–55, 2023, doi: 10.22487/preventif.v14i1.413.