

ASSOCIATION BETWEEN WORKLOAD AND WORK STRESS AMONG NURSES WORKING IN INPATIENT WARDS

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ABSTRACT

Nurses play a vital role in delivering continuous patient care, making them vulnerable to high job demands and occupational stress. Factors such as excessive workload, nurse–patient imbalance, responsibility for patient safety, and the need to maintain high-quality care may contribute to increased work stress. This study aimed to examine the association between workload and work stress among nurses working in the inpatient wards of RSI Sakinah Mojokerto. A correlational study with a cross-sectional design was conducted involving 87 nurses selected through purposive sampling. Workload and work stress were assessed using the NASA-Task Load Index (NASA-TLX) and the Expanded Nursing Stress Scale (ENSS), respectively. Data were analyzed using Spearman’s rho ($\alpha = 0.05$). Most participants experienced moderate workload (79.3%) and moderate work stress (75.9%). Statistical analysis demonstrated a significant positive correlation between workload and work stress ($r = 0.354$, $p = 0.001$), indicating that higher workload was associated with greater work stress. Effective workload management may help reduce nurses’ occupational stress and improve nursing care quality.

Keywords: *Inpatient Ward, Nurses, Workload, Work Stress*

INTRODUCTION

Nurses are the largest group of healthcare professionals and play an essential role in ensuring the continuity and quality of patient care. In inpatient wards, nurses are responsible for providing comprehensive nursing care, monitoring patients' conditions, administering treatments, educating patients and their families, and maintaining patient safety for 24 hours a day. These responsibilities require high levels of physical, cognitive, and emotional performance (Cesilia 2024). When work demands exceed nurses' available resources, workload increases and may contribute to work-related stress, which can ultimately affect both nurses' well-being and the quality of healthcare services (Aisyah et al. 2023).

Workload among inpatient nurses is influenced by several factors, including the complexity of patient care, documentation requirements, staffing adequacy, shift work, and the imbalance between the number of nurses and hospitalized patients. Hospitals with high Bed Occupancy Rate (BOR) often experience increased nursing workload because the number of patients exceeds the available workforce (Pratama and Rosa 2025). This condition requires nurses to perform multiple responsibilities simultaneously under time pressure, thereby increasing the likelihood of physical and psychological fatigue as well as occupational stress (Jundillah, Wardani, and Trisnowati 2024).

Work stress is defined as a psychological and physiological response that occurs when employees perceive that job demands exceed their ability to cope with them (Hizkia, Timur, and Nurbaya 2023). In nursing practice, prolonged work stress may impair concentration, decision-making, emotional stability, and job performance. Excessive stress has also been associated with medication errors, decreased patient safety, reduced quality of

nursing care, absenteeism, and lower job satisfaction among nurses (Nico Mudayana , Tri Sumarni 2025).

Previous studies consistently demonstrate that workload is associated with work stress among nurses. (Hizkia et al. 2023) reported that excessive workload increased emotional strain and severe work stress among nurses. Similarly, (Alpian, Zulfikar, and Wahyuni 2024) found that more than half of emergency nurses experienced high work stress, largely due to an imbalance between patient volume and the number of available nurses. (Alipurman and Sastrawan 2022) also observed that nurses with heavier workloads were more likely to experience higher levels of work stress. Furthermore, data from the Indonesian National Nurses Association (PPNI) indicate that more than half of hospital nurses experience occupational stress related to heavy workload and insufficient staffing (Umam 2020).

Evidence synthesized from ten previous studies further supports the relationship between workload and work stress among nurses. Overall, nurses were more likely to experience moderate-to-high workloads, accompanied by moderate-to-high levels of work stress. These findings suggest that excessive job demands, limited time, and inadequate staffing increase nurses' vulnerability to occupational stress (Korompis, Kawatu, and Nelwan 2025). Consequently, effective workload management, including appropriate staffing allocation, balanced shift scheduling, and organizational support, has been recommended to reduce work stress and improve nursing performance (Yulistia et al. 2025).

Despite the growing evidence regarding workload and work stress among nurses, limited studies have specifically examined this relationship in the inpatient wards of Sakinah Islamic Hospital, Mojokerto. Based on a preliminary survey conducted on March 9, 2026, all participating nurses in one inpatient ward experienced high workload based on the NASA-Task Load Index (NASA-TLX), while all respondents reported moderate work stress according to the Expanded Nursing Stress Scale (ENSS). Hospital records also indicated that several inpatient wards had a Bed Occupancy Rate exceeding 90%, which is above the Indonesian Ministry of Health's recommended standard of 60–85%. These findings indicate the need for further investigation to better understand the relationship between workload and work stress in this hospital setting.

Therefore, this study aimed to analyze the association between workload and work stress among nurses working in the inpatient wards of Sakinah Islamic Hospital, Mojokerto. The findings are expected to provide empirical evidence for hospital managers in developing effective workload management strategies, optimizing nurse staffing, and implementing interventions to reduce occupational stress. In addition, this study contributes to the existing body of nursing management literature by providing context-specific evidence from an Indonesian Islamic hospital, thereby enriching the understanding of workload and work stress among inpatient nurses.

Based on the identified research gap, this study was conducted to investigate the association between workload and work stress among nurses working in the inpatient wards of Sakinah Islamic Hospital, Mojokerto. Specifically, the study aimed to identify nurses' workload levels, assess their work stress levels, and examine the association between these two variables. This study contributes to the nursing management literature by providing empirical evidence on the relationship between workload and work stress in an Indonesian hospital setting. The findings are expected to support hospital administrators in developing

effective workload management strategies, assist nurses in recognizing and managing work-related stress, and provide evidence-based references for nursing education and future research.

METHOD

This study employed a quantitative correlational design with a cross-sectional approach to examine the association between workload and work stress among nurses working in the inpatient wards of Sakinah Islamic Hospital, Mojokerto. The study population consisted of all nurses working in the inpatient wards who met the predetermined inclusion criteria. Participants were recruited using a purposive sampling technique, resulting in a total sample of 87 nurses (Yulistia et al. 2025).

Data were collected using two standardized self-administered questionnaires. Workload was assessed using the National Aeronautics and Space Administration Task Load Index (NASA-TLX), which measures six dimensions: Mental Demand, Physical Demand, Temporal Demand, Performance, Effort, and Frustration Level (Hidayat et al. 2021). Work stress was measured using the Expanded Nursing Stress Scale (ENSS), which evaluates nurses' perceived work stress in various workplace situations (Harsono et al. 2024). Both instruments had demonstrated acceptable validity and reliability before being used in this study (Sugiyono 2023). Data collection was conducted after obtaining permission from Sakinah Islamic Hospital, Mojokerto. Before participating, all respondents received an explanation of the study objectives and procedures and provided written informed consent.

The questionnaires were then completed independently during the study period. The collected data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 17.0 (Nursalam 2020). Descriptive (univariate) analysis was performed to summarize respondents' demographic characteristics, workload levels, and work stress levels using frequencies, percentages, means, and standard deviations where appropriate. Data normality was assessed using the Kolmogorov–Smirnov test. Because the data were not normally distributed, the association between workload and work stress was analyzed using Spearman's rho correlation test with a significance level of $p < 0.05$. This study was approved by the Health Research Ethics Committee of Universitas Bina Sehat PPNI Mojokerto (Approval No.180/KEP/UBS-PPNI/IV/2026). Ethical principles, including informed consent, confidentiality, anonymity, and beneficence, were strictly observed throughout the study. All participant information was kept confidential and used exclusively for research purposes.

FINDING AND DISCUSSION

RESEARCH RESULT

Table 1 Characteristics of Respondents (n = 87)

No	Characteristics	Frequency (f)	Percentage (%)
1.	Age		
	21-30 years	23	26,4%
	31-40 years	50	57,5%
	> 40 years	14	16,1%
	Total		100%

2.	Gender		
	Male	39	44,8%
	Female	48	55,2%
	Total		100%
3.	Position		
	Nurse	72	82,8%
	Staff Nurse	15	17,2%
	Total		100%
4.	Length of Employment		
	< 5 years	5	5,7%
	5-10 years	54	62,1%
	> 10 years	28	32,2%
	Total		100%
5.	Work Unit		
	Inpatient Ward	87	100%
	Emergency Department	0	0%
	Others		
	Total		100%
6.	Educational Level		
	Diploma in Nursing (D3)	3	3,4%
	Bachelor of Nursing (S1)	84	96,6%
	Master's Degree in Nursing (S2)	0	0
	Total		100%
7.	Employment Status		
	Permanent Employee	87	100%
	Contract Employee	0	0
	Total		100%

Source: *Primary Data, 2026*

The characteristics of the respondents are presented in Table 1. A total of 87 nurses from the inpatient wards of Sakinah Islamic Hospital, Mojokerto, were included in the study. Respondents aged 31–40 years constituted the largest age group (57.5%), followed by those aged 21–30 years (26.4%) and over 40 years (16.1%). Female nurses accounted for 55.2% of the respondents, while male nurses represented 44.8%. Most respondents were registered nurses (82.8%) with 5–10 years of employment (62.1%). Regarding educational background, 96.6% held a Bachelor of Nursing degree, and all respondents were permanent employees assigned to the inpatient wards.

Table 2 Distribution of Workload

No	Workload Level	Frequency (f)	Percentage (%)
1.	Low	2	2,3%
2.	Moderate	69	79,3%
3.	High	16	18,4%
	Total		100%

Source: Primary Data, 2026

The distribution of nurses' workload levels is shown in Table 2. Among the respondents, 69 nurses (79.3%) were classified as having a moderate workload, 16 nurses (18.4%) had a high workload, and 2 nurses (2.3%) had a low workload.

Table 3 Distribution of Work Stress

No	Work Stress Level	Frequency (f)	Percentage (%)
1.	Low	2	2,3%
2.	Moderate	66	75,9%
3.	High	19	21,8%
	Total		100%

Source: Primary Data, 2026

The distribution of work stress levels is presented in Table 3. Most respondents experienced moderate work stress (75.9%), while 21.8% experienced high work stress and 2.3% experienced low work stress.

Table 4 Cross-tabulation of Workload and Work Stress

Workload	Work Stress Level						Total	
	Low		Moderate		High			
	f	%	f	%	f	%	f	%
Low	1	50,0%	1	50,0%	0	0,0%	2	100%
Moderate	1	1,4%	61	88,4%	7	10,1%	69	100%
High	0	0,0%	4	25,0%	12	75,0%	16	100%
Total	2	2,3%	66	75,9%	19	21,8%	87	100%

Source: Primary Data, 2026

The cross-tabulation between workload and work stress is presented in Table 4. Among respondents with a low workload, one respondent (50.0%) had low work stress and one respondent (50.0%) had moderate work stress. Of the 69 respondents with a moderate workload, 61 (88.4%) experienced moderate work stress, seven (10.1%) experienced high work stress, and one (1.4%) experienced low work stress. Among respondents with a high workload, 12 (75.0%) experienced high work stress, whereas four (25.0%) experienced moderate work stress.

Table 5 Correlation Between Workload and Work Stress

			Workload	Work Stress
Spearman's Rho	Workload	Correlation Coefficient	1,000	,354
		Sig. (2-tailed)	.	,001
		N	87	87
	Work Stress	Correlation Coefficient	,354	1,000
		Sig. (2-tailed)	,001	.
		N	87	87

Source: Primary Data 2026

The results of the Spearman's rho correlation analysis are shown in Table 5. The analysis produced a correlation coefficient of 0.354 with a significance value of 0.001 based on 87 respondents. These values indicate the statistical results of the association analysis performed between workload and work stress.

DISCUSSION

The present study found a statistically significant positive association between workload and work stress among nurses working in the inpatient wards of Sakinah Islamic Hospital, Mojokerto ($r = 0.354$, $p = 0.001$). Although the strength of the correlation was weak, the findings indicate that nurses with higher workloads tended to experience higher levels of work stress. The predominance of moderate workload (79.3%) and moderate work stress (75.9%) suggests that most respondents were able to perform their professional responsibilities despite considerable job demands. Nevertheless, the presence of nurses with high workload and high work stress highlights the potential impact of excessive job demands on nurses' occupational well-being. In inpatient settings, nurses are responsible for continuous patient monitoring, nursing interventions, documentation, communication with multidisciplinary teams, and patient education, all of which may increase both physical and psychological demands.

The findings of this study are consistent with previous research demonstrating that workload is an important factor associated with nurses' work stress. (Hizkia et al. 2023) reported that excessive workload increased the likelihood of occupational stress by creating emotional and physical strain among nurses. Similarly, (Alpian et al. 2024) found that nurses with heavy workloads experienced higher levels of work stress, particularly in hospital units with high patient demands. (Alipurman and Sastrawan 2022) also observed that increasing workload was associated with increased work stress among hospital nurses. Furthermore, the findings support the synthesis reported by (Korompis et al. 2025), which concluded that excessive workload, inadequate staffing, and high patient-to-nurse ratios contribute substantially to occupational stress. The positive correlation identified in the present study is also consistent with the Job Demand–Resources model, which explains that increasing job demands without adequate organizational resources may lead to psychological strain and reduced employee well-being.

Several limitations should be considered when interpreting the findings of this study. First, the cross-sectional design only assessed workload and work stress at one point in time; therefore, causal relationships cannot be established. Second, the study was

conducted in a single hospital with a relatively limited sample size, which may reduce the generalizability of the findings to other healthcare settings. Third, workload and work stress were measured using self-administered questionnaires, making the results susceptible to response bias and differences in respondents' subjective perceptions. Finally, other variables that may influence work stress, such as organizational support, leadership style, work environment, coping strategies, and job satisfaction, were not included in the analysis.

The findings have important implications for nursing management and future research. Hospital administrators should regularly evaluate nurses' workload, maintain an appropriate nurse-to-patient ratio, implement equitable shift scheduling, and provide organizational support to reduce occupational stress among nurses. Stress management programs, psychological support services, and continuing professional development may also help improve nurses' well-being and maintain the quality of patient care. Future studies are recommended to include multiple hospitals with larger samples and to employ longitudinal or prospective study designs to better understand the temporal relationship between workload and work stress. In addition, future research should examine other factors that may influence nurses' work stress, including organizational climate, resilience, leadership, and workplace support.

CONCLUSION

This study demonstrated a statistically significant positive association between workload and work stress among nurses working in the inpatient wards of Sakinah Islamic Hospital, Mojokerto. Although the correlation was weak ($r = 0.354$, $p = 0.001$), the findings indicate that nurses with higher workloads tended to experience higher levels of work stress. Most respondents reported moderate levels of both workload and work stress, suggesting that occupational demands remain an important factor influencing nurses' well-being in inpatient settings.

These findings highlight the importance of effective workload management in reducing work-related stress and maintaining the quality of nursing care. Hospital administrators are encouraged to implement appropriate nurse-to-patient staffing ratios, balanced work schedules, and organizational support programs to promote nurses' occupational well-being. Future studies should involve larger and more diverse samples from multiple hospitals and employ longitudinal or prospective study designs to better understand the causal relationship between workload and work stress. In addition, future research should examine other factors that may influence nurses' work stress, such as organizational support, leadership, work environment, resilience, and coping strategies.

REFERENCES

- Aisyah, Ratu Nur, Sarah Handayani, Prodi Ilmu, Kesehatan Masyarakat, Sekolah Pasca, Sarjana Universitas, and Article Info. 2023. "Faktor-Faktor Yang Mempengaruhi Stress Kerja Pada Perawat Akibat Beban Kerja Yang Tinggi : Literatur." 09(2):191–99. doi: 10.35329/jkesmas.v9i2.4733.
- Alipurman, Agusnawadi, and Sastrawan. 2022. "Relationship Of Workload With Work Stress Among Nurses During The Covid-19 Pandemic In East Lombok District." 06:41–45. doi: 10.20473/jvhs.V6.I1.2022.41-45.

- Alpian, Nur, Iwan Zulfikar, and Sri Wahyuni. 2024. "Hubungan Beban Kerja Terhadap Stres Kerja Pada Perawat Ruang IGD Rumah Sakit Umum Daerah DR Kanujoso Djatiwibowo Balikpapan." 10(1):143–49.
- Cesilia, Rosalina. 2024. "Pengaruh Beban Kerja Dan Kelelahan Kerja Terhadap Kinerja Perawat Rosalina." 4(10):909–22.
- Harsono, Hasto, Suryo Wibowo, Aria Kekalih, and Astrid Sulistomo. 2024. "Occupational & Environmental Medicine Journal of Indonesia Original Article Validity and Reliability of the Indonesian Version of Expanded Nursing Stress Scale (ENSS) as a Job-Stress Assessment Tool for Nurses." 2(1):1–8.
- Hidayat, T. Fariz, Sugiharto Pujangkoro, Departemen Teknik Industri, Fakultas Teknik, Universitas Sumatera Utara, Jl Almamater, and Kampus Usu. 2021. "Pengukuran Beban Kerja Perawat Menggunakan Metode NASA-TLX." 2(1):42–47.
- Hizkia, Riski, Ohoi Timur, and Sitti Nurbaya. 2023. "Hubungan Beban Kerja Dengan Stres Perawat." 3:15–20.
- Jundillah, Zhafarina Nastiti, Yuniar Wardani, and Heni Trisnowati. 2024. "The Influence of Workload and Work Environment on Job Stress in Nurses: Literature Review Zhafarina." 7(4):750–62.
- Korompis, Theresia Angelina, Paul Artur Tennov Kawatu, and Jeini Ester Nelwan. 2025. "Hubungan Antara Beban Kerja Dengan Stres Kerja Pada Perawat Diruang Rawat Inap Dirumah Sakit GMIM Pancaran Kasih Manado." 6:16906–13.
- Nico Mudayana , Tri Sumarni, Wasis Eko Kurniawan. 2025. "Hubungan Beban Kerja Dengan Stres Kerja Perawat Rawat Inap Rumah Sakit Siaga Medika Purbalingga." 2(10):4808–19.
- Nursalam. 2020. *Metodologi Penelitian Ilmu Keperawatan : Pendekatan Praktis*. Edisi 5. edited by P. P. Lestari. Jagakarsa, Jakarta Selatan: Novietha Indra Sallama, Salemba Medika.
- Pratama, Gustian Satria, and Elsy Maria Rosa. 2025. "Factors Affecting Nurse Workload In Providing Nursing Care In Inpatient Wards: A Literature Review." 35(2):490–503.
- Sugiyono. 2023. *Metode Penelitian Kuantitatif Kualitatif Dan R&D*. edisi kesa. edited by Sutopo. Bandung: Alfabeta, Cv Hotline.
- Umam, Roisul. 2020. "Persepsi Perilaku Caring Oleh Perawat Berhubungan Dengan Stres Kerja." 4(2019):187–94.

Yulistia, Mery, Tiara, Marlinda, and Arena Lestari. 2025. "Hubungan Beban Kerja Perawat Dengan Tingkat Stres Perawat Pelaksana Di Rs Candimas Medical Center." 14(1):80–89.