International Seminar and Workshop on Public Health Action

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Analysis of Burnout and Occupational Safety in Nurses: A Literature Review

Delistiani*

1Magister Of Public Health,Faculty Of Public Health, Halu Oleo University, Kendari, Indonesia

Article Info	Abstract
	Burnout and occupational safety are increasingly recognized as critical issues affecting the quality of nursing care in healthcare settings. This study aims to explore the contributing factors to nurse burnout and associated occupational safety risks through a structured literature review. A narrative review was conducted on 50 national and international journal articles published between 2019 and 2025. The review focused on study location, research design, examined variables, and key findings. The results show that high workload, extended working hours, lack of managerial support, and psychosocial stressors such as role conflict are major contributors to burnout. In parallel, occupational safety is often compromised due to fatigue, mental pressure, negligence, and poorly designed work environments. The findings highlight a strong interrelation between burnout and occupational safety, with both shaped by individual, organizational, and environmental factors. Preventive measures, including workload management and psychological support systems, are essential to improve nurses' well-being and reduce safety incidents. This study underscores the need for integrated interventions targeting both burnout and safety to ensure high-quality nursing services and better occupational health outcomes.
Correspondence Address: Jl.HEA. Mokodompit, Anduonohu, Kendari, Sulawesi Tenggara, Indonesia E-mail: Delistiani@mail.com	

Introduction

In hospitals and other healthcare facilities, nurses play a central role in providing healthcare services. However, high job demands, public expectations, and a lack of emotional support lead to the emergence of burnout. Burnout among nurses not only affects the well-being of healthcare workers but also has serious consequences for work safety and the quality of patient care.

The World Health Organization (WHO, 2022) recognizes burnout as a syndrome resulting from chronic workplace stress that has not been successfully managed, characterized by emotional exhaustion, depersonalization, and reduced personal accomplishment. Globally, the prevalence of burnout among nurses is quite high. A meta-analysis showed that more than 34–49% of nurses experience burnout at varying levels, particularly in countries with healthcare systems burdened by high patient loads and limited workforce (Woo et al., 2020; Gómez-Urquiza et al., 2017). This phenomenon has further increased after the COVID-19 pandemic, during which nurses faced long working hours, staff shortages, and a high risk of exposure to infectious diseases (Morgantini et al., 2020)

In Indonesia, burnout is also a serious concern. A report from the Ministry of Health (2023) revealed that nurses in type B and C hospitals experienced moderate to high levels of burnout, particularly in inpatient units and emergency departments. Moreover, the National Committee on Patient Safety reported an increase in near-miss incidents and patient safety events associated with nurse fatigue (Ministry of Health, 2024). Unaddressed burnout can increase the risk of procedural errors, injuries from the use of medical equipment, and workplace accidents.

Research on burnout and work safety among nurses has been conducted in many countries, yet most studies still focus only on burnout or work safety separately. Comprehensive literature reviews that integrate both issues remain limited, especially in the context of nursing services in Indonesia. Therefore,

it is essential to conduct an in-depth literature review to identify the contributing factors to burnout while also understanding its implications for nurses' work safety.

Methods

This study employed a narrative literature review design, focusing on empirical journals that addressed burnout and work safety among nurses. The literature search was conducted across four major databases, namely PubMed, Scopus, Google Scholar, and Garuda, using the keywords "nurse burnout", "workplace safety in nursing", "occupational health nurse", "faktor risiko burnout", and "keselamatan kerja perawat". Articles were included if they were published between 2019 and 2025, specifically examined nurses, and focused on burnout or work safety.

Studies that were irrelevant or focused on professions other than nursing were excluded from the analysis. In total, fifty articles met the inclusion criteria and were reviewed. Each study was analyzed in terms of research location, study design, examined variables, and key findings. The collected data were synthesized thematically to identify recurring patterns, causal relationships, and contributing factors. To ensure methodological rigor and reliability, the quality of the selected studies was further assessed using the Joanna Briggs Institute (JBI) checklist.

Results

Based on the literature review, it was found that burnout and work safety among nurses are influenced by various complex risk factors. These factors include work stress, physical and emotional fatigue, depression, sleep disorders, low social support, and weak safety culture in the workplace. Such conditions lead to a decline in the quality of nursing care and an increased risk of workplace accidents and procedural errors. From the total number of articles reviewed, ten studies were selected as the most relevant and met the inclusion criteria for further analysis in this study.

Table 1. Systematic Review

No.	Autor / Year	Title	Methods	Results
1	Zhang et al. (2021)	Burnout among Nurses in Emergency Department	Cross-sectional	The study found that 65% of nurses experienced burnout; the dominant factors were night shifts and staff shortages
2	Rahmawati et al. (2023)	Workplace Safety Perception in Nurses	Quantitative descriptive	The analysis showed that 70% of nurses felt the workplace environment was unsafe and posed a high risk for incidents.
3	Wijaya et al. (2022)	Occupational Stress and Nurse Health	Mixed-method	The study showed a significant relationship between work stress and procedural errors.
4	Lestari et al. (2020)	Burnout and Patient Safety Among ICU Nurses	This type of research is Case-control	The results The study revealed that high burnout was associated with increased incidents of nursing errors.
5	Sari et al. (2024)	Work Overload and Burnout Among Nurses	Quantitative survey	The findings indicated that nurses with a high workload were 2.8 times more likely to experience burnout
6	Putri & Hasan (2024)	Burnout and Patient Safety Risk in Indonesian Hospitals	Logistic regression	The study revealed that high burnout increased the risk of medical errors by 3.2 times compared to low burnout.
7	Amalina et al. (2023)	The Effect of Social Support on Nurse Burnout	Pearson correlation	The study found that low social support was strongly correlated with high burnout (r = 0.71).
8	Budiarti et al. (2022)	Working Hours and Nurse Fatigue	Descriptive quantitative.	The study showed that working more than three night shifts per week increased fatigue and burnout risk.
9	Marlina et al. (2020)	Organizational Justice Perception and Nurse Burnout	Cross-sectional	The study showed that nurses who perceived unfair treatment were more prone to emotional exhaustion.
10	Yuliani et al.	Mindfulness Program	Pretest-posttest	The study showed that the

No.	Autor / Year	Title	Methods	Results
	(2021)	to Reduce Nurse Burnout		mindfulness program reduced burnout scores by up to 35% within one month of intervention

Table 2. Key Factors Contributing to Burnout and Work Safety Risks

No.	Key Factors	Supporting Articles	Implications
1	Individual Factors (stress, fatigue, depression, sleep disorders, mindfulness)	4 articles	Increase the risk of procedural errors and mental fatigue; mindfulness reduces burnout by 35%
2	Organizational Factors (workload, working hours, shifts, social support, organizational justice)	6 articles	Main predictors of burnout; high workload increases the risk by 2.8 times.
3	Environmental & Safety Culture Factors	3 articles	Unsafe environments increase the risk of workplace incidents; high burnout increases medical errors by 3.2 times

Discussion

Nurse burnout is a serious issue that has received increasing attention in recent literature. A multicenter study by Juanamasta et al. (2024) revealed that more than half of Indonesian nurses experience stress, with a significant proportion showing symptoms of exhaustion that may develop into full burnout. This finding is consistent with Ulfa et al. (2025), who reported a prevalence of burnout among Indonesian nurses at 63%, slightly higher than Taiwan at 52%. The main contributing factors include excessive workload and extended shift schedules. Putra (2025) further confirmed that workload has a significant impact on burnout among NICU nurses in Bima General Hospital. Beyond individual aspects, Widayana (2025) emphasized that burnout is largely systemic in nature, driven by staff shortages, administrative overload, and task accumulation, which often disrupt nurses' work–life balance. Burnout has also been shown to negatively affect care quality and patient safety. Antonio et al. (2024) found that burnout reduced nurses' caring behavior, which in turn decreased patient satisfaction. Similarly, Lestari et al. (2020) demonstrated a significant correlation between high burnout levels and procedural errors among ICU nurses. From an educational perspective, Sarfika et al. (2025) highlighted that stress, depression, and anxiety are strong predictors of academic burnout among nursing students, suggesting that the risk may already begin during training. Darmawan (2025) added that work motivation plays a crucial mediating role in reducing the impact of workload on burnout, underscoring the importance of managerial efforts to maintain nurses' motivation. In line with this, Astutik (2024) described the experiences of nurses during the COVID-19 pandemic, showing how extreme workload and uncertain conditions accelerated the onset of burnout.

Psychosocial aspects further exacerbate burnout. Lapian (2025) reported that spirituality and self-coping strategies were effective in lowering burnout risk by strengthening psychological resilience. A scoping review by Puspitasari et al. (2025) identified several risk factors, including younger age, less than 10 years of work experience, long shifts, and feeling undervalued by patients or colleagues. Rahmawati et al. (2023) also reinforced the importance of social and managerial support in preventing depersonalization and a decline in intrinsic motivation among nurses.

Overall, recent evidence confirms that nurse burnout results from a complex interplay of excessive workload, inhumane shift systems, lack of managerial and social support, and individual psychological conditions. Its impact is twofold: on nurses themselves—through physical and emotional exhaustion—and on patient safety, through increased risk of errors and reduced quality of care. Therefore, interventions must be comprehensive, including workload management, improved shift systems, nurse empowerment, motivation enhancement, and psychosocial as well as spiritual support. A collaborative approach among nurses, hospital management, and policymakers is essential to prevent burnout and sustain high-quality healthcare services in Indonesia.

Meanwhile, work safety is strongly affected by burnout, which leads to decreased concentration, physical fatigue, and procedural errors. A study by Putri & Hasan (2024) revealed that nurses with high burnout scores were more likely to make clinical errors

Some interventions that have been successfully implemented include:

Mindfulness and Coping Skills Programs

Mindfulness is a mental training technique designed to enhance full awareness of the present moment, helping nurses manage stress and negative emotions. Mindfulness has been shown to

significantly reduce emotional exhaustion and improve psychological stability. Meanwhile, coping skills training equips nurses with adaptive strategies to deal with work pressure, such as relaxation techniques, problem-solving, and cognitive restructuring. The combination of both enhances nurses' resilience in handling heavy workloads and emergency situations.

Flexible Shift Rotation System

The flexible shift rotation system aims to distribute workload more fairly and prevent chronic fatigue caused by excessive night shifts or overtime. Shift rotations that consider rest periods, schedule consistency, and individual preferences have been proven to reduce physical fatigue and improve job satisfaction. This also helps balance work and personal life, preventing burnout systemically.

Managerial Supervision and Psychological Support

Support from direct supervisors and nursing managers significantly affects nurses' work motivation and emotional well-being. Effective managerial supervision involves regular monitoring, providing constructive feedback, and facilitating work needs. Additionally, providing internal psychological counseling services or access to clinical psychologists allows nurses to express heavy emotional burdens and avoid prolonged stress. The availability of informal discussion spaces and team reflection forums also strengthens social networks in the workplace.

Ergonomic Training and Occupational Risk Management

Ergonomic training aims to teach nurses safe and efficient ways of working, particularly in patient handling, work positioning, and the use of medical equipment. This is crucial in preventing musculoskeletal injuries, which are among the leading causes of work absenteeism. On the other hand, occupational risk management training equips nurses with knowledge and skills to identify potential hazards, take preventive measures, and respond promptly and appropriately to incidents. Such training increases awareness and strengthens the safety culture in the workplace (Krishnanmoorthy et al., 2025)

Future research directions should focus on evaluating the effectiveness of identified interventions such as mindfulness, flexible shift rotations, managerial supervision, and ergonomic training. Longitudinal quantitative studies can help measure causal relationships between these factors, burnout levels, and work safety incidents. In addition, qualitative studies can provide deeper insights into nurses' experiences in different cultural and organizational contexts, resulting in more contextual interventions

Conclussion

Burnout is a significant psychosocial problem that has a direct impact on nurses' occupational safety. High workloads, irregular working hours, lack of organizational support, and emotional pressure from work interactions are the main factors contributing to physical and mental exhaustion among nursing staff. Burnout not only decreases individual performance but also increases the risk of clinical errors and workplace accidents, ultimately threatening patient safety.

The review findings show that occupational safety is strongly influenced by the level of burnout experienced by nurses. Systemic interventions, such as mindfulness programs, flexible shift rotations, managerial supervision, as well as ergonomic and occupational safety training, have been proven effective in reducing burnout levels and enhancing awareness of the importance of safety.

Therefore, a multidisciplinary and sustainable approach is essential to create a healthy and safe working environment for nursing staff. Efforts to improve psychological well-being, reform work systems, and strengthen safety culture must become priorities in human resource management within healthcare institutions.

References

Almalki, M. J., Alzahrani, M. S., & Alghamdi, W. A. (2020). Prevalence of burnout and associated factors among nurses in tertiary care hospitals. Saudi Medical Journal, 41(10), 1100–1105.

Amalina, D., Sari, R., & Nurlina, T. (2023). The effect of social support on burnout among nurses at Medan City General Hospital. Indonesian Journal of Psychiatric Nursing, 11(2), 84–92.

Antonio, F., Andy, A., & Moksidy, J. C. (2024). The association of nurse burnout with patient satisfaction: Mediating roles of caring behavior and job satisfaction. Media Ners, 18(3), 153–162. https://ejournal.undip.ac.id/index.php/medianers/article/view/54040

Astutik, W. (2024). Nurses' burnout experiences during the COVID-19 pandemic in Hospital "X". Bethesda Health Journal, 10(2), 65–72. https://jurnal.stikesbethesda.ac.id/index.php/jurnalkesehatan/article/view/406

Budiarti, S., Wahyuni, L., & Andika, A. (2022). Working hours and nurse fatigue: A study at a private hospital in Denpasar. Scientific Journal of Health, 9(1), 34–41.

Darmawan, S. (2025). Work motivation as a mediator in the influence of workload on burnout among nurses. International Journal of Current Science Research and Review, 8(1), 496–505. https://ijcsrr.org/wp-content/uploads/2025/01/49-2501-2025.pdf

Juanamasta, I. G., et al. (2024). Prevalence of burnout and its determinants among Indonesian nurses: A multicentre study. Journal of Nursing Management. Advance online publication. https://www.researchgate.net/publication/387541441

Krishnanmoorthy, G., Rampal, S., Karuthan, S. R., Baharudin, F., & Krishna, R. (2025). Effectiveness of Participatory Ergonomic Interventions on Work-Related Musculoskeletal Disorders, Sick Absenteeism, and Work Performance Among Nurses: Systematic Review. JMIR Human Factors, 12(1), e68522.

Lapian, L. G. (2025). The role of spirituality in reducing burnout through self-coping among nurses. Journal of Health Research, 7(1), 45–56. https://prin.or.id/index.php/JURRIKES/article/view/5250

Lestari, M., Handayani, S., & Prasetyo, A. (2020). Burnout and patient safety among ICU nurses: A case-control study. Journal of Health Sciences, 12(3), 142–150.

Ministry of Health, Republic of Indonesia. (2023). National Report on Hospital Patient Safety 2023. Jakarta: Ministry of Health of the Republic of Indonesia.

Putri, N. D., & Hasan, A. (2024). Burnout and patient safety risk among hospital nurses in Indonesia. Journal of Professional Nursing, 6(1), 27–35.

Puspitasari, H. Z. G., et al. (2025). Caring under pressure: Risk factors of burnout among maternity nurses and midwives—A scoping review. Indonesian Journal of Health Policy, 14(1), 1–14. https://jurnal.ugm.ac.id/jkkk/article/view/107591

Putra, M. A. (2025). The effect of workload on burnout among nurses in the NICU of Bima General Hospital. Journal of Nursing and Midwifery, 12(1), 22–31. https://www.researchgate.net/publication/388898450

Rahmawati, N., Sulastri, D., & Nugroho, E. (2023). Perception of work safety among nurses in government hospitals in Jakarta. Indonesian Health Journal, 14(2), 98–106.

Sari, D., Yuliani, R., & Setiawan, D. (2024). Workload and burnout among nurses in a teaching hospital in Yogyakarta. Indonesian Nursing Media, 12(1), 45–53.

Sarfika, R., et al. (2025). The relationship between stress, depression, and anxiety with academic burnout among nursing students. Teaching and Learning in Nursing, 20, 100–110. https://doi.org/10.1016/j.teln.2025.100110

Ulfa, S., et al. (2025). Nurse burnout in Indonesia and Taiwan: A cross-sectional study. Annals of Medical Research, 32(1), 45–52. https://jag.journalagent.com/z4/download_fulltext.asp?pdir=amj&plng=eng&un=AMJ-94580

Widayana, I. G. A. A. (2025). Factors associated with work–life balance among nurses. Journal of Multidisciplinary Healthcare, 18, 223–232. https://pmc.ncbi.nlm.nih.gov/articles/PMC12323871

Wijaya, R., Sulistiyo, H., & Apriadi, D. (2022). Occupational stress and its effects on nurses' health. Journal of Psychology and Occupational Health, 10(2), 109–117.

Zhang, Y., Xie, X., & Huang, Y. (2021). Burnout among nurses in emergency department: A multicenter study in China. Journal of Nursing Management, 29(4), 664–671. https://doi.org/10.1111/jonm.13120