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Burnout Differences Between Critical Care and Inpatient Nurses: A Cross-sectional Study

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ABSTRACT

Background: Burnout is a common occupational risk among nurses, affecting well-being and patient care. However, limited evidence from low- and middle-income settings compares burnout across different clinical units. The extent of variation between Critical Care and Adult Inpatient Units remains unclear. This study therefore aimed to measure and compare burnout levels between nurses in these two settings and examine their implications for staff well-being and care quality.

Methods: A cross-sectional study was conducted and reported in accordance with the STROBE guidelines. A purposive sampling technique was used to recruit 97 nurses (21 from Critical Care Units and 76 from Adult Inpatient Units). Inclusion criteria were registered nurses with ≥6 months of experience in their assigned unit, while nurses on extended leave or undergoing training were excluded. The independent variable was the clinical unit type, and the dependent variable was burnout. Burnout was assessed using the validated Maslach Burnout Inventory (MBI), which measures emotional exhaustion, depersonalization, and reduced personal accomplishment. Data were collected through self-administered questionnaires under researcher supervision, and analyzed using descriptive statistics and the Mann–Whitney U test, with statistical significance set at $p < 0.05$.

Result: Nurses in Adult Inpatient Units experienced higher levels of burnout, with 42.1% reporting moderate burnout and 5.3% high burnout, whereas nurses in Critical Care Units reported primarily low burnout (85.7%) and no high burnout. Emotional exhaustion was the most prominent dimension, followed by depersonalization and reduced personal accomplishment. The difference in burnout levels between units was statistically significant ($U = 528.000$, $Z = -2.751$, $p = 0.006$).

Conclusion: Burnout is more pronounced among nurses in Adult Inpatient Units, which may compromise patient care quality, safety, and communication. Targeted interventions—including workload management, psychosocial support, and resilience training—are essential

to mitigate burnout, enhance staff well-being, and improve patient outcomes.

Keywords: Burnout; Nurses; Critical Care; Inpatient Units; Emotional Exhaustion; Patient

Implications for Research, Practice, or Policy

- Implementing structured workload management and psychosocial support programs in Adult Inpatient Units can reduce nurse burnout, particularly emotional exhaustion and depersonalization, and enhance overall staff well-being in local hospitals like Baptist Hospital, Kediri.
- Addressing burnout is essential for improving patient care quality, as reduced burnout can enhance communication, decision-making, and patient safety, ultimately lowering the risk of medical errors and healthcare-associated infections in both critical and general care units.
- Developing unit-specific policies, including resilience training and supportive work environments, can help retain skilled nurses, maintain staffing stability, and promote professional satisfaction, ensuring sustainable, high-quality care delivery in regional healthcare settings.

INTRODUCTION

Burnout has long been recognized as a critical occupational hazard among nurses, particularly those working in high-intensity environments such as intensive care units (ICUs) and inpatient wards. ICU nurses consistently report higher levels of emotional exhaustion, depersonalization, and diminished personal accomplishment due to the intense physical and emotional demands of caring for critically ill patients (Sikioti et al., 2023; Wudarczyk et al., 2025; Quesada-Puga et al., 2024). Several studies indicate that ICU work is characterized by heavy workloads, high-stress clinical situations, moral distress, and frequent exposure to death, all of which significantly contribute to burnout (Hartog, 2019; Ślusarz et al., 2022; Jirkovská & Dolák, 2025). Alarm fatigue, a growing concern in technologically dense ICU settings, further exacerbates stress and increases the risk of burnout (Qi et al., 2025).

In contrast, inpatient nurses, although not always exposed to the acute clinical instability seen in ICUs, also experience substantial burnout influenced by large patient volumes, the need to balance expectations from patients and families, and inconsistent staffing levels (Quigley et al., 2023). In pediatric inpatient settings, inadequate communication and limited involvement in quality improvement activities have also been identified as contributors to burnout (Quigley et al., 2023). Comparative studies demonstrate that burnout exists across hospital settings but may manifest differently depending on workload intensity, specialty demands, and organizational support (Gniewek et al., 2023; Sudrajat et al., 2021).

Burnout among nurses has significant consequences for patient safety and care outcomes. High levels of burnout are linked to increased medical errors, reduced vigilance, lower job satisfaction, and compromised patient safety culture (Braithwaite, 2008; Mathew et al., 2025). In critical care environments, burnout has been shown to compromise teamwork, elevate the likelihood of near-miss events, and reduce the overall quality of care delivered (Yousif & Al-Fayyadh, 2024).

Efforts to mitigate burnout must incorporate both individual-based and organizational-level strategies. Effective coping strategies such as active coping, planning, and resilience skills have been associated with reduced emotional exhaustion (Wudarczyk et al., 2025). Mindfulness-based interventions (MBIs) demonstrated promising results in reducing stress among ICU nurses globally (Alharbi & McKenna, 2025). Organizational support—including adequate staffing, managerial support, peer support groups, and fostering a positive practice environment is also crucial for preventing burnout (Ayed et al., 2024; Kamath et al., 2025). Perceived organizational support has been identified as an important protective factor against depersonalization and disengagement among ICU nurses (Kamath et al., 2025).

Given the complex and variable nature of burnout across ICU and inpatient settings, it is essential to compare burnout levels between these two nursing populations. Such comparisons will help identify setting-specific stressors, inform tailored interventions, and ultimately enhance both nurse well-being and patient care outcomes.

METHODS

Study Design

This study employed a cross-sectional design to allow comparison of burnout levels between nurses in critical care units and inpatient wards at a Baptist Hospital in Kediri, East Java. A cross-sectional approach was selected because it enables simultaneous assessment of exposure (work setting) and outcome (burnout) within a defined time frame. Reporting followed the Strengthening the Reporting of Observational Studies in Epidemiology (STROBE) guidelines to ensure methodological transparency and completeness.

Participants

Participants were recruited using purposive sampling to include nurses working in relevant clinical settings. Inclusion criteria were nurses assigned to intensive care areas (ICU, ICCU, and Perinatal High-Risk Units) or adult inpatient wards who were actively on duty and willing to participate. Nurses on leave or declining participation were excluded. A total of 97 nurses met these criteria (21 from critical care units and 76 from inpatient wards).

Instrument

Burnout was measured using the Maslach Burnout Inventory (MBI), adapted from Maslach and Jackson, (1981), which consists of 22 items across three subscales: emotional exhaustion (9 items), depersonalization (5 items), and reduced personal accomplishment (8 items). Responses were rated on a four-point Likert scale. Positive items were scored from 1 (Always) to 4 (Never), while negative items were reverse-coded (1 = Never to 4 = Always). Total scores were categorized as low (22–40), moderate (41–55), and high burnout (≥56).

Data collection was conducted onsite in the nursing administration room of each unit. Recruitment was performed in person during scheduled briefing shifts (morning and afternoon), where the researcher approached eligible nurses, explained the study, and distributed sealed envelopes containing the questionnaire and consent form. The researcher and one research assistant, both trained in research ethics and questionnaire administration, oversaw data collection and were available to clarify respondent queries without influencing responses. Completed questionnaires were placed anonymously by respondents into a locked drop-box to ensure confidentiality and prevent identification by unit managers or colleagues. The assistant maintained oversight of collection procedures to ensure consistency across units.

The MBI is a standardized instrument; therefore, additional psychometric testing was not repeated in this study. Burnout was measured using the Maslach Burnout Inventory (MBI), which has demonstrated good psychometric properties, with reported Cronbach's α of approximately 0.90 for emotional exhaustion and 0.76 for depersonalization and personal accomplishment in the original validation studies (Iwanicki and Schwab, 1981).

The Indonesian version of the Maslach Burnout Inventory (MBI) was administered to hospital nurses. The results of the validity and reliability testing demonstrated that the instrument was valid and reliable, as indicated by item–total correlation coefficients exceeding the minimum acceptable threshold and Cronbach's alpha values greater than 0.70. (Andarini, 2018).

Data Collection

Data were collected between May and July 2024 at a Baptist Hospital in Kediri City, East Java, Indonesia. Recruitment was conducted face-to-face during scheduled shift briefings (morning and afternoon) in each unit. The primary researcher and a trained research assistant approached eligible nurses, explained the study purpose, screened inclusion criteria, and distributed sealed questionnaire packets.

The research assistant, who had prior experience in survey administration and was briefed on research ethics and standardized procedures, helped coordinate distribution without influencing responses. Data collection was supervised directly by the primary researcher to ensure consistency across units. Participants completed the self-administered questionnaire during working hours in a designated private area within their unit to minimize disruption and allow independent completion.

To protect anonymity, questionnaires were returned without names or identifiers and deposited by participants into a locked drop-box accessible only to the research team. This procedure ensured confidentiality and prevented unit managers or colleagues from identifying responses.

Data Analysis

Data were analyzed using SPSS version 26. Descriptive statistics (mean, standard deviation, frequency, and percentage) summarized participant characteristics and burnout scores. Normality was assessed using the Shapiro–Wilk test, which indicated non-normal distribution; therefore, the Mann–Whitney U test was selected to compare burnout levels between nurses in critical care units and inpatient wards. Statistical significance was set at $p < 0.05$. Effect size estimates were calculated to complement p-values and provide information on the magnitude of group differences, and 95% confidence intervals were reported where applicable to enhance interpretability.

Ethical Consideration

This study received ethical approval from the Ethics Committee of Baptist Hospital Health College (Approval No. 006/1/IV/EC/KEPK-2/STIKES RSBK/2024). All participants were informed about the purpose of the study, and written informed consent was obtained prior to data collection. Confidentiality, anonymity, and voluntary participation were ensured throughout the research process. No additional ethical approvals were required

RESULTS

A total of 97 nurses participated in this study, with 21 nurses working in the Critical Area and 76 in the Adult Inpatient Unit. Most participants were female (81.4%) and aged 26–45 years (70.1%). Regarding education, 52.6%

were registered nurses, and the majority held functional nurse positions (93.8%).

The overall burnout levels differed between the two units. In the Critical Area, most nurses reported low burnout (85.7%), with 14.3% reporting moderate burnout and none reporting high burnout. Conversely, in the Adult Inpatient Unit, only 52.6% of nurses reported low burnout, 42.1% reported moderate burnout, and 5.3% reported high burnout.

A Mann-Whitney U test was conducted to compare burnout levels between the two groups. The results showed a statistically significant difference in burnout levels (U = 528.000, Z = -2.751, p = 0.006), indicating that nurses in the Adult Inpatient Unit experienced higher levels of burnout compared to those in the Critical Area (**Table 1**).

Other demographic and professional characteristics, including age, gender, education, work experience, and position—did not show statistically significant differences between the two groups (all $p > 0.05$). This suggests that the observed difference in burnout is likely related to the unit type rather than demographic factors.

In summary, nurses working in the Adult Inpatient Unit are at greater risk of burnout compared to their counterparts in the Critical Area, highlighting the need for targeted interventions to support staff well-being in these settings.

Table 1. Distribution of Participant Characteristics by Work Unit (n = 97)

Variable	Category	Critical Area (n, %)	Adult Inpatient Unit (n, %)	Total (n, %)	Z	Asymp. Sig. (2-tailed)
Age (years)	17–25	6 (28.6%)	13 (17.1%)	19 (19.6%)	-0.964	0.335
	26–45	13 (61.9%)	55 (72.4%)	68 (70.1%)		
	46–65	2 (9.5%)	8 (10.5%)	10 (10.3%)		
Gender	Male	3 (14.3%)	15 (19.7%)	18 (18.6%)	-0.566	0.572
	Female	18 (85.7%)	61 (80.3%)	79 (81.4%)		
Education	Nurse Diploma	9 (42.9%)	37 (48.7%)	46 (47.4%)	-0.471	0.638
	Register Nurse	12 (57.1%)	39 (51.3%)	51 (52.6%)		
Work Experience	0–1 year	4 (19.0%)	8 (10.5%)	12 (12.4%)	-1.808	0.071
	>1–3 years	4 (19.0%)	14 (18.4%)	18 (18.6%)		
	>3–5 years	6 (28.6%)	9 (11.8%)	15 (15.5%)		
	>5 years	7 (33.3%)	45 (59.2%)	52 (53.6%)		
Position	Nurse Manager	1 (4.8%)	5 (6.6%)	6 (6.2%)	-0.304	0.761
	Functional Nurse	20 (95.2%)	71 (93.4%)	91 (93.8%)		
Burnout Level	High	0 (0.0%)	4 (5.3%)	4 (4.1%)	-2.751	0.006
	Moderate	3 (14.3%)	32 (42.1%)	35 (36.1%)		
	Low	18 (85.7%)	40 (52.6%)	58 (59.8%)		

Note. *Critical Area includes intensive care units (ICU, ICCU, Perinatal Critical Units), while Adult Inpatient Unit refers to the general adult inpatient wards. Percentages are calculated within each work unit.*

The burnout assessment among nurses revealed patterns across three main dimensions: emotional exhaustion, depersonalization, and reduced personal accomplishment. Overall, emotional exhaustion was a prominent concern, particularly in high-intensity units, indicating that nurses often experience a sense of drained emotional energy due to their workload. This suggests that the demanding nature of nursing tasks, combined with the high responsibility of

patient care, contributes significantly to occupational fatigue.

Depersonalization tendencies were also observed, reflecting a professional coping mechanism where nurses distance themselves emotionally from patients. While this may serve as a protective strategy against emotional overload, it can negatively affect nurse-patient interactions and the overall quality of care if persistent.

In terms of personal accomplishment, most nurses reported varying degrees of satisfaction with their professional efficacy and contributions to patient well-being. Although many maintain a sense of competence and capability in managing patient needs, a subset expressed challenges in feeling consistently energized or influential, suggesting opportunities for interventions that enhance professional growth and motivation.

These findings highlight the importance of targeted organizational support, including workload management, psychosocial support programs, and interventions that foster engagement and resilience. Tailored strategies can help mitigate the risk of burnout, promote emotional well-being, and support nurses in maintaining both professional effectiveness and personal fulfillment (**Table 2**).

Table 2. Frequency Distribution of Burnout Questionnaire Responses in Critical Care (n=21) and Adult Inpatient Units (n=76)

No	Question	Never n (%)	Sometimes n (%)	Often n (%)	Always n (%)
Emotional Exhaustion					
1	I feel my emotions are drained because of my job	18 (18.6%)	69 (71.1%)	10 (10.3%)	0 (0%)
2	I feel very tired at the end of my shift	6 (6.2%)	68 (70.1%)	20 (20.6%)	3 (3.1%)
3	I feel tired when waking up because I imagine how heavy the workload will be	31 (32.0%)	50 (51.5%)	16 (16.5%)	0 (0%)
4	I feel that people working in the hospital trouble me	55 (56.7%)	36 (37.1%)	5 (5.2%)	1 (1.0%)
5	I feel frustrated with my job as a nurse	57 (58.8%)	34 (35.1%)	3 (3.1%)	3 (3.1%)
6	I feel tired of my job	33 (34.0%)	54 (55.7%)	7 (7.2%)	3 (3.1%)
7	I feel people working in the hospital put too much pressure on me	47 (48.5%)	42 (43.3%)	6 (6.2%)	2 (2.1%)
8	I feel I have been working too hard as a nurse	28 (28.9%)	56 (57.7%)	10 (10.3%)	3 (3.1%)
9	I feel I am at the end of my rope because my workload is extremely heavy	59 (60.8%)	32 (33.0%)	6 (6.2%)	0 (0%)
Depersonalization					
10	I treat patients as objects who do not need to be understood personally	73 (75.3%)	16 (16.5%)	7 (7.2%)	1 (1.0%)
11	Since becoming a nurse, I do not involve my feelings much	36 (37.1%)	50 (51.5%)	9 (9.3%)	2 (2.1%)
12	I am worried that this job will make me emotionally exhausted	65 (67.0%)	25 (25.8%)	6 (6.2%)	1 (1.0%)

No	Question	Never n (%)	Sometimes n (%)	Often n (%)	Always n (%)
13	I do not really care about patients (I just focus on completing my tasks)	73 (75.3%)	18 (18.6%)	5 (5.2%)	1 (1.0%)
14	I feel patients blame me or exaggerate their complaints	57 (58.8%)	31 (32.0%)	8 (8.2%)	1 (1.0%)
Reduced Personal Accomplishment					
15	I can easily understand patients' feelings	6 (6.2%)	45 (46.4%)	41 (42.3%)	5 (5.2%)
16	I can solve patients' problems effectively	4 (4.1%)	60 (61.9%)	31 (32.0%)	2 (2.1%)
17	I feel I can bring a positive impact on others through my profession	7 (7.2%)	56 (57.7%)	31 (32.0%)	3 (3.1%)
18	I feel very energetic when performing nursing practice	5 (5.2%)	58 (59.8%)	32 (33.0%)	2 (2.1%)
19	I can easily create a relaxed atmosphere	7 (7.2%)	51 (52.6%)	36 (37.1%)	3 (3.1%)
20	I feel happy working as a nurse	28 (28.9%)	48 (49.5%)	21 (21.6%)	0 (0%)
21	I feel I complete my tasks according to objectives (SOP)	29 (29.9%)	49 (50.5%)	18 (18.6%)	1 (1.0%)
22	I feel very calm when handling patients' emotional problems	10 (10.3%)	57 (58.8%)	29 (29.9%)	1 (1.0%)

DISCUSSION

The findings of this study highlight the differential impact of burnout among nurses working in Critical Areas versus Adult Inpatient Units. Overall, burnout levels were significantly higher among nurses in Adult Inpatient Units, with 42.1% reporting moderate burnout and 5.3% high burnout, compared to only 14.3% moderate burnout and no high burnout in Critical Areas. These results are consistent with existing literature indicating that unit type and work environment play a crucial role in determining burnout risk, independent of demographic or professional characteristics (Epp, 2012; Olaleye et al., 2022).

Burnout among healthcare professionals, particularly in critical care settings, significantly affects patient care. Emotional exhaustion, a prominent dimension observed in this study, can lead to decreased quality and safety of care, including increased hospital-acquired infections and reduced patient safety (Hartog, 2019; Galletta et al., 2016). Nurses experiencing emotional exhaustion and cynicism may struggle with effective teamwork and communication, which are critical for maintaining high standards of patient care (Castle et al., 2025).

Furthermore, burnout impairs cognitive function and decision-making, potentially leading to suboptimal care and reduced motivation to engage with patients (Olaleye et al., 2022; Akhavan et al., 2022). High burnout levels have been linked to increased morbidity and mortality, emphasizing that the negative effects of burnout extend beyond healthcare providers to patient outcomes (Alotni & Elgazzar, 2020). Poor communication, decreased trust, and disrupted care continuity are also consequences of burnout, which can further compromise care quality, particularly in units with high patient turnover (Rushton & Pappas, 2020; Browning, 2019).

Critical care nurses are especially vulnerable due to the high-stress nature of their work, exposure to advanced technology, and responsibility for critically ill patients (Okan et al., 2025; Alharbi et al., 2020). This environment predisposes them to compassion fatigue and empathy fatigue, which may further negatively

impact patient care. While nurses in Critical Areas showed relatively low burnout in this study, these findings underscore the importance of ongoing monitoring and support even in high-intensity units.

Mitigation strategies are crucial to protect both staff well-being and patient care quality. Supportive work environments, systemic solutions to manage workload, improved team collaboration, and resilience training are effective interventions to buffer the negative effects of burnout (Epp, 2012; Rushton & Pappas, 2020; Okan et al., 2025). Specifically, targeted interventions for nurses in Adult Inpatient Units—such as workload management, professional development, and psychosocial support—may help reduce moderate to high burnout levels and improve care delivery.

In conclusion, burnout among nurses has profound implications for patient care, affecting quality, safety, communication, and overall outcomes. Addressing burnout through unit-specific interventions, resilience programs, and systemic organizational support is essential to ensure healthcare worker well-being and maintain high standards of patient care.

Practical Applications of the Findings

The observed differences in burnout levels between Critical Care and Adult Inpatient Units suggest that work setting is an important contextual factor in nurses' occupational well-being. These findings indicate that adult inpatient wards may require greater managerial attention to workload distribution, staffing adequacy, and emotional support mechanisms. Practically, hospital administrators may use this evidence to prioritize unit-specific monitoring of burnout and to tailor supportive strategies that address emotional exhaustion and disengagement, thereby supporting nurse well-being while maintaining consistent standards of patient care.

Limitations

This study has several limitations that should be considered when interpreting the findings. The cross-sectional design limits the ability to examine temporal relationships, and the use of purposive sampling within a single hospital may restrict the generalizability of the results to other settings. The relatively small and uneven sample size between units, particularly in critical care, may have influenced group comparisons. In addition, burnout was assessed using self-reported questionnaires, which may be subject to response bias despite measures taken to ensure anonymity.

CONCLUSION

This study aimed to compare burnout levels between nurses working in Critical Care and Adult Inpatient Units. The findings indicate that burnout is more pronounced among nurses in adult inpatient settings, with emotional exhaustion emerging as a key concern. By demonstrating that burnout varies by clinical unit despite similar demographic characteristics, this study highlights the relevance of work context in understanding nurses' occupational well-being. The results contribute to evidence supporting the need for unit-specific approaches to supporting nurse well-being and sustaining quality patient care..

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Contributors

Heru Suwardianto: Conceptualization, Methodology, Formal analysis, Writing – original draft.

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Abebaw Jember Ferede: Supervision, Validation, Writing – review & editing.

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Conflicts of interest

Not declared.

Appendix

The full instrument is presented in Appendix.

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