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DIFFERENCES IN BURNOUT AMONG NURSES WORKING IN OUTPATIENT, INPATIENT, AND EMERGENCY DEPARTMENT UNITS AT IMANUEL WAY HALIM HOSPITAL

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ABSTRACT
Burnout among nurses varies across hospital units, with emotional exhaustion particularly higher in the emergency department due to acute workload. This study compared burnout rates among nurses in the outpatient, inpatient, and emergency departments of Imanuel Way Halim Hospital. Using a comparative cross-sectional design, 115 nurses were selected proportionally from a population of 161 through stratified random sampling. Burnout was measured using the Maslach Burnout Inventory-Human Services Survey (MBI-HSS; 22 items, three dimensions), analyzed using the Kruskal-Wallis test and post-hoc Bonferroni test after normality testing. Results showed a significant difference only in emotional exhaustion ($H = 7.559$, $p = 0.023$), with the highest score in ED nurses (mean = 41.00) versus inpatient (34.01) and outpatient (35.89); post-hoc analysis confirmed the inpatient-ER difference ($p = 0.006$). Depersonalization and personal accomplishment did not differ ($p > 0.05$). The conclusion emphasizes specific interventions for emotional exhaustion in the ED through staffing adjustments and psychosocial support, addressing unit-specific risks in Indonesian type B hospitals.

Keywords: Burnout, Emotional Exhaustion, Emergency Department, Maslach Burnout Inventory, Nursing

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INTRODUCTION
Burnout is a significant occupational health problem among nurses, characterized by three main dimensions: emotional exhaustion, depersonalization, and decreased personal accomplishment (Maslach et al., 2001; Maslach & Jackson, 1981). This condition not only affects the physical and psychological well-being of nurses but also directly impacts the quality of healthcare services, patient safety, increased medical errors, and nursing staff turnover intentions (Galanis et al., 2021; Adriaenssens et al., 2023). In hospital settings, nurses face high workloads and intensive patient contact, making them vulnerable to burnout, especially in clinical units with demanding, complex care (Ge et al., 2023; Juanamasta et al., 2024).

International and national studies show a relatively high prevalence of nurse burnout, with variations in burnout levels influenced by individual characteristics, work environment, and clinical unit type (Galanis et al., 2021; Wienanda et al., 2024). Units with high work pressure, large patient loads, and demands for rapid decision-making, such as Emergency Departments (EDs), tend to have higher emotional exhaustion scores than inpatient and outpatient units (Ge et al., 2023; Sarafis et al., 2022). Organizational factors such as nurse-patient ratios, shift work systems, and managerial support are also key determinants of burnout (Galanis et al., 2023; Yestiana et al., 2019).

Although the literature confirms differences in burnout levels across clinical service units, comparative studies specifically comparing nurse burnout across units within a single hospital are limited, particularly in type B hospitals in Indonesia (Hariani et al., 2023; Indryan & Suhana, 2022). Several previous studies have not applied proportional sampling techniques across units or used standardized instruments comprehensively to measure all dimensions of burnout (Wienanda et al., 2024; Juanamasta et al., 2024). These limitations result in a lack of empirical evidence that can inform policy planning and managerial interventions tailored to the specific characteristics of nursing service units (Hariani et al., 2023; Galanis et al., 2023).

This study aims to analyze and compare the levels of nurse burnout in the Outpatient, Inpatient, and Emergency Department Units of Imanuel Way Halim Hospital. The urgency of this research arises from the need for contextual evidence to support unit-based nursing human resource management interventions, considering the impact of burnout on service quality and healthcare worker shortages (Maslach et al., 2001; Ge et al., 2023). The novelty of this study lies in the comprehensive use of the Maslach Burnout Inventory-Human Services Survey (MBI-HSS) with proportional sampling across units in a type B hospital, thus generating relevant and contextual empirical evidence for planning unit-specific managerial interventions (Galanis et al., 2021; Wienanda et al., 2024).

METHOD

Types and Design of Research

This research is an observational analytical study with a cross-sectional comparative design aimed at comparing burnout scores between hospital units at a specific point in time. This approach was chosen because it is suitable for identifying differences in burnout among nurses in the Outpatient Unit, Inpatient Unit, and Emergency Department (ER) without variable manipulation, as recommended for comparative studies in the health sector (Creswell & Creswell, 2023; Sugiyono, 2021). The study was conducted at Imanuel Way Halim Hospital, Bandar Lampung, from August to December 2025, taking into account field feasibility based on a preliminary assessment (Maslach & Jackson, 1981; Sudaryono, 2022).

Data Analysis Instruments and Techniques

Burnout was measured using the 22-item Maslach Burnout Inventory-Human Services Survey (MBI-HSS) covering three dimensions: emotional exhaustion (9 items), depersonalization (5 items), and personal accomplishment (8 items) with a Likert scale of 0-6 according to the original guidelines. The Indonesian version through a forward-backward adaptation process showed good validity (item-total correlation > r-table = 0.27 in the pilot n = 35) and adequate reliability (Cronbach α: EE = 0.845; DP = 0.732; PA = 0.858), making this instrument reliable for the local nursing population (Maslach & Jackson, 1981; Aguayo et al., 2011; Emzir, 2021). Data analysis included normality tests (Kolmogorov-Smirnov for $n>50$, Shapiro-Wilk for $n\leq50$), comparisons between units using the nonparametric Kruskal-Wallis test followed by post-hoc Mann-Whitney U with Bonferroni correction ($\alpha=0.017$), and processing using IBM SPSS version 26 to ensure replicability (Sugiyono, 2021; Creswell & Creswell, 2023).

Population and Sample

Table1.Proportional Sample Allocation by Unit and Subunit

Unit/Subunit	Population (Nh)	Sample Allocation (nh)
Outpatient Department	40	28 (Subtotal)
- Dialysis Unit	11	8
- Polyclinic	24	17
- Aesthetic Clinic	3	2
- MCU Room	2	1
Inpatient Department	98	70 (Subtotal)
- Onycha	15	11

- Tulip	7	5
- Rose	20	14
- Narwastu	9	6
- Perinatology	14	10
- Orchid	15	11
- Lavender	18	13
Emergency Department	23	17
Total	**161**	**115**

The study population consisted of all active nurses working in the three units (N = 161). The final analyzed sample was n = 115, obtained through an initial calculation using the Slovin formula (e = 0.05) followed by adjustment for non-response. Participant flow was as follows: 137/161 nurses returned the questionnaire (85.1%), 5 respondents were excluded based on exclusion criteria, and from the 132 eligible respondents, 115 were randomly selected for analysis using proportional random sampling (subunit allocation was calculated and rounded using the largest remainder method). The final allocation reflected the composition of the population (Outpatient Unit = 28; Inpatient Unit = 70; Emergency Department = 17). Random selection was performed using a random number generator in Microsoft Excel for each subunit, resulting in a stratified-proportional random sampling technique that represented each unit.

Research Procedures

Data collection was conducted through the distribution of the MBI-HSS questionnaire and demographic sheet via Google Forms through the unit's WhatsApp group after electronic informed consent, with mandatory items to avoid incomplete data. The researcher explained the purpose, minimal risks, and right of withdrawal before completion, supported by documented procedures for an audit trail (Maslach et al., 2001; Sugiyono, 2021). Ethical approval was obtained from the Health Research Ethics Committee of the Faculty of Medicine, University of Lampung and hospital management (No. 2007/SDM/RSIM/XI/2025), with data anonymized using respondent codes and limited access by the research team (Emzir, 2021; Sudaryono, 2022).

RESULTS

Sample Description

The sample consisted of 115 nurses distributed across three units: Inpatient Unit (n = 70; 60.9%), Outpatient Unit (n = 28; 24.3%), and Emergency Unit (n = 17; 14.8%).

Table 2. Baseline Characteristics of Study Participants

Variable	Category / Group	Frequency (n)	Percentage (%)
Age (mean ± SD = 35.18 ± 7.3	< 35 years	53	46.1
	≥ 35 years	62	53.9
Sex	Female	98	85.2
	Male	17	14.8
Education Level	Diploma III	57	49.6
	Bachelor's Degree	51	49.6
	Master's Degree	1	0.9
Marital Status	Single	23	20.0
	Married	91	79.1
	Divorced	1	0.9
Work Unit	Outpatient Unit	28	24.3
	Inpatient Unit	70	60.9
	Emergency Unit	17	14.8

Burnout Scores (Descriptive)

Descriptive MBI–HSS scores for each burnout dimension by work unit are presented in Table 3. For the Emotional Exhaustion (EE) dimension, the mean (±SD) scores were: Outpatient Unit 35.89 ± 13.53 (n = 28; min–max 0–54), Inpatient Unit 34.01 ± 10.60 (n = 70; min–max 0–51), and Emergency Unit 41.00 ± 12.38 (n = 17; min–max 12–54). For the Depersonalization (DP) dimension, the mean (±SD) scores were: Outpatient Unit 6.11 ± 3.58, Inpatient Unit 5.96 ± 2.53, and Emergency Unit 7.24 ± 3.56. For the Personal Accomplishment (PA) dimension, the mean (±SD) scores were: Outpatient Unit 28.61 ± 7.71, Inpatient Unit 25.54 ± 7.93, and Emergency Unit 28.47 ± 8.46.

Table 3.Descriptive Burnout Scores by Work Unit

Burnout Dimension	Work Unit	n	Mean	Elementary School	Min	Max
Emotional Exhaustion	Outpatient	28	35.89	13.53	0	54
	Inpatient	70	34.01	10.60	0	51
	Emergency	17	41.00	12.38	12	54
Depersonalization	Outpatient	28	6.11	3.58	1	15
	Inpatient	70	5.96	2.53	0	11
	Emergency	17	7.24	3.56	1	15
Personal Accomplishment	Outpatient	28	28.67	7.71	11	44
	Inpatient	70	25.53	7.91	4	44
	Emergency	17	28.47	8.46	12	44

Comparative Analysis

Prior to conducting group comparisons, normality testing was performed for each work unit using the Kolmogorov–Smirnov test for samples > 50 and the Shapiro–Wilk test for samples ≤ 50, with $\alpha = 0.05$. The normality test for the Emotional Exhaustion dimension indicated that the scores of nurses in the Inpatient Unit were not normally distributed (Kolmogorov–Smirnov, $p < 0.001$), and the scores of nurses in the Outpatient Unit and Emergency Department were also not normally distributed (Shapiro–Wilk, $p = 0.022$ and $p = 0.025$, respectively).

Table 4. Normality Test Results

Burnout Dimension	Work Unit	n	Statistic D	p-value
Emotional Exhaustion	Outpatient	28	0.182	0.022
	Inpatient	70	0.152	< 0.001
	Emergency	17	0.215	0.0025
Depersonalization	Outpatient	28	0.298	< 0.001
	Inpatient	70	0.264	< 0.001
	Emergency	17	0.134	0.701
Personal Accomplishment	Outpatient	28	0.126	0.541
	Inpatient	70	0.120	0.014
	Emergency	17	0.172	0.237

The normality test indicated violations of the normality assumption for several MBI variables; therefore, the comparative analysis across installations was conducted using a non-parametric method (Kruskal–Wallis), followed by Mann–Whitney post-hoc tests with Bonferroni correction. All inferential results are presented in Table 5.

Table 5. Kruskal–Wallis Test Results

Dimension	n	df	Kruskal-Wallis	p-value
Emotional Exhaustion	115	2	7,559	0.023
Depersonalization	115	2	3,324	0.190
Personal Accomplishment	115	2	4,068	0.131

The Kruskal–Wallis analysis showed a statistically significant difference across installations for the Emotional Exhaustion dimension, H(2) = 7.559, p = 0.023; the effect size was calculated as ε^2 = 0.050 (small category). For the Depersonalization and Personal Accomplishment dimensions, no significant differences were observed (DP: H(2) = 3.324, p = 0.190; PA: H(2) = 4.068, p = 0.131).

Table2. Bonferroni-Adjusted Post-Hoc Test Results

Comparison	Mean Rank Diff.	p-value
Outpatient vs Inpatient	7.55	0.234
Outpatient vs Emergency Department	−5.34	0.715
Inpatient vs Emergency Department	−18.64	0.008

Post-hoc analysis (Mann–Whitney U, Bonferroni-adjusted α = .017) indicated a significant difference between the Inpatient and Emergency Department groups on the Emotional Exhaustion dimension (p = .006), whereas the other pairwise comparisons were not significant at the adjusted α = .017.

DISCUSSION

Summary of Main Findings

The bivariate analysis showed that only the Emotional Exhaustion (EE) dimension differed significantly across units (Kruskal–Wallis H = 7.559; p = 0.023), with the highest mean score observed among Emergency Department nurses (mean = 41.00) compared to Inpatient (mean = 34.01) and Outpatient nurses (mean = 35.89). The Bonferroni-adjusted post-hoc test identified a significant difference specifically between the Inpatient and Emergency Department groups (mean rank difference = −18.64; p = 0.006). The Depersonalization (DP) and Personal Accomplishment (PA) dimensions did not show significant differences across units (p = 0.190 and p = 0.131, respectively) (see Tables 4–5).

Interpretation and Linkage with Previous Studies

The finding that EE was higher among Emergency Department nurses is consistent with the literature describing the ED as a setting characterized by acute work demands, frequent exposure to critical cases, and rapid decision-making requirements that increase emotional burden(Dall'ora et al., 2020; Maslach & Leiter, 2016). Several systematic reviews and cross-country studies have also reported relatively higher prevalence of EE among ED nurses compared with nurses in other units(Galanis et al., 2023; Ge et al., 2023). Possible mechanisms underlying this pattern include a combination of high workload, less favorable nurse-to-patient ratios, exposure to trauma and conflict, and shift patterns that disrupt recovery, factors that have been identified as determinants of EE.

Why were DP and PA not Statistically Significant?

Although the descriptive scores for DP and PA appeared higher or lower in some units, these differences did not reach statistical significance. This may be explained by several factors: (1) unequal group sizes, particularly in the Emergency Department (n = 17), which reduced the statistical power to detect small-to-moderate effects; (2) relatively high inter-individual variability in DP and PA scores; and (3) the possibility that the determinants of DP and PA are more complex (eg, social support, professional role, and organizational culture), and thus not fully captured by simple bivariate comparisons. As a result, there remains a possibility of clinically meaningful effects that were not statistically detected (type II error), a hypothesis that warrants further testing using larger samples or multivariate approaches.

Causal Relationships and Inferential Limitations

Because the study employed a cross-sectional design, the findings do not establish a causal relationship between work unit conditions and burnout levels; they only indicate associations at a single point in time. Therefore, policy recommendations (eg, changes in staffing ratios or scheduling)

should be considered as interventions that require further testing through interventional or pilot studies, or longitudinal analyses, before full-scale implementation.

Practical implications

Preventive and mitigating efforts targeting emotional exhaustion (EE) should be prioritized, particularly in the Emergency Department (ED), given the high emotional demands and acute workload in this unit that places staff at greater risk of fatigue. Interventions that may be considered include post-shift recovery programs (eg, structured recovery time and brief psychological support), routine debriefing mechanisms following critical incidents, as well as workload management practices such as task rotation and limiting consecutive shifts, measures that have been recommended in the literature on burnout prevention and workload management among nurses(Dall'ora et al., 2020; Galanis et al., 2023; Maslach & Leiter, 2016).

However, before large-scale policy changes are implemented, a gradual, evidence-based approach is safer: begin with pilot interventions in the Emergency Department (ED) accompanied by process evaluation (implementation process, adherence, contextual factors) and outcome evaluation (changes in EE scores, absenteeism, and patient safety incidents). Where possible, the evaluation design should employ a quasi-experimental or longitudinal approach, so that the effects of the intervention on EE can be assessed more robustly than with a simple cross-sectional design. This step is consistent with previous studies that emphasize the importance of structured evaluation to determine the effectiveness of burnout-reduction interventions(Galanis et al., 2023; Maslach et al., 2001).

In addition, the formulation and adjustment of policies should be grounded in comprehensive local evidence, including objective measurements of nurse-to-patient ratios and records of actual working hours (rather than subjective self-reports). These organizational variables function both as indicators of workload and as potential moderators of the relationship between unit conditions and burnout levels; their quantitative measurements would strengthen the basis for operational recommendations and enable multivariate analyzes to control for confounders. Therefore, the collection of objective organizational data as part of the pilot phase and ongoing evaluation is strongly recommended before policy implementation is scaled up(Galanis et al., 2023; Ge et al., 2023; Hariani et al., 2023).

Limitations

This study has several limitations that should be considered when interpreting the findings. First, the distribution of sample size across units was not fully balanced, with the number of respondents in the Emergency Department being relatively smaller than in the other units, which may have affected the statistical power. Second, the use of a cross-sectional design limits the ability of this study to draw causal inferences between unit characteristics and burnout levels. Third, the use of self-report questionnaires may allow the occurrence of response bias. In addition, this study did not incorporate multivariate analyzes controlling for objective organizational variables, such as nurse-to-patient ratios and actual working hours, which may influence the relationship between service units and burnout. Therefore, the findings of this study should be generalized cautiously and within the context of the study setting.

CONCLUSION

This study found that only the emotional exhaustion (EE) dimension differed significantly between service units (Kruskal-Wallis $H = 7.559$; $p = 0.023$), with the highest mean score in Emergency Department (ED) nurses compared to Inpatient (34.01) and Outpatient (35.89), and a significant difference specifically between Inpatient and ED in the Bonferroni post-hoc test ($p = 0.006$). The depersonalization and personal accomplishment dimensions did not show significant differences ($p = 0.190$ and $p = 0.131$). These findings reflect a greater emotional burden on ED nurses due to acute work demands in Indonesian type B hospitals.

However, the cross-sectional design limits causal inference and only demonstrates a single-point association. Furthermore, the unbalanced sample size (ED $n = 17$) potentially reduces statistical

power, and there is a lack of multivariate control for organizational variables such as nurse-to-patient ratio. Practical implications include prioritizing EE interventions in the ED through adjustments to staffing, recovery schedules, and gradual psychosocial support. Suggestions for future research include longitudinal or quasi-experimental studies with larger samples and objective measures of workload for validation and development of evidence-based interventions.

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