

The Influence of Patient Numbers, Working Hours, and Length of Service on Hospital Nurses' Fatigue Levels in the Inpatient Unit

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Abstract: *Workload and working hours are critical factors in evaluating workforce effectiveness, particularly in healthcare settings. Nurse fatigue can adversely affect performance and professionalism, as reflected in decreased concentration, alertness, and overall work efficiency in hospital environments. This study aims to examine the relationship between burnout levels and the number of patients handled, working hours, and length of employment among nurses. A quantitative approach was employed using an analytical survey with a cross-sectional design. Data were collected using the Maslach Burnout Inventory-General Survey and analyzed through Spearman correlation tests. The findings indicate that all respondents experienced burnout symptoms with varying levels of severity. Further analysis reveals a significant negative relationship between burnout levels and both age and length of employment. At the dimensional level, emotional exhaustion and depersonalization are negatively associated with length of employment, while depersonalization also shows a negative correlation with age. These findings suggest that work experience and individual maturity play an important role in mitigating burnout. Therefore, adaptive workload management and more balanced working hour arrangements are essential to maintain the performance and professionalism of healthcare workers.*

INTRODUCTION

According to Maslach et al. (1986), burnout syndrome is characterized by emotional exhaustion, depersonalization, and a diminished sense of personal accomplishment, typically arising from prolonged occupational stress. The World Health Organization (WHO) similarly defines burnout as a state of exhaustion, cynicism, and reduced professional efficacy resulting from chronic, poorly managed workplace stress. Burnout (BO) has gained increasing attention due to its harmful consequences on employee productivity, customer satisfaction, and organizational reputation. Moreover, BO has been associated with various physical impacts such as

musculoskeletal disorders as well as psychological issues, including depression, and organizational problems such as increased absenteeism.

Antonio et al. (2024) reported that 83% of Indonesian healthcare professionals experience moderate to severe burnout, significantly affecting their psychological productivity and quality of work life. During the COVID 19 pandemic, frontline healthcare workers were also shown to be twice as likely to experience burnout. In hospital settings, healthcare professionals must make critical clinical decisions and often serve as the frontline of patient care. Given the essential role nurses play in delivering and, in many cases, coordinating patient care, burnout may adversely influence multiple aspects of patient outcomes.

In the era of globalization, business entities strive to dominate global markets by delivering superior services, producing high quality products, and leveraging strong competitiveness or market opportunities. High quality service delivery is inherently tied to human resources, whose performance and achievements determine organizational success. Mentorship is recognized as a key strategy for supporting the development of nurse leaders, enhancing nurse retention, and fostering workforce diversity. Nursing mentorship strengthens the nursing workforce, thereby improving patient care and clinical outcomes. Broad implementation of nurse mentoring programs has demonstrated positive results in reducing turnover and improving job satisfaction.

RESEARCH METHODS

Research Type and Design

This study employed an analytical cross-sectional survey design using a structured questionnaire as the primary data collection instrument.

Research Location and Period

The study was conducted in the inpatient wards of a private hospital in Jakarta. The data collection period lasted for eight weeks, spanning from October to December 2025.

Population and Sample

The population in this study consisted of all nurses working in the inpatient wards. Samples were selected using a purposive sampling technique and included nurses working morning, afternoon, and night shifts. The inclusion criteria were as follows:

1. Nurses assigned to shift work in the inpatient wards
2. Willingness to participate as respondents

A total of 37 nurses met the criteria and were included in the study. All participants were female and worked in the VIP Ward, Class 1–3 Wards, and the Critical Care Unit.

Measurement Techniques

Data collection was conducted by distributing questionnaires to nurses who met the inclusion criteria. Burnout levels were assessed using the Maslach Burnout Inventory–General Survey (MBI-GS). Additional data on age, length of employment, average patient load, and average working hours per week were also obtained. Statistical analysis was performed using the Spearman correlation test to examine the relationships between the measured variables.

RESULTS AND DISCUSSION

Among the 37 female nurses working in a private hospital in Jakarta, the median age was 28 years (range: 22–50), with a median tenure of 5 years (range: 0.17–25) and a median weekly

working time of approximately 45 hours (range: 10–60). Regarding the patient load, an outlier was identified in which one nurse reported caring for 78 patients per day, while approximately 30% of respondents reported the total number of patients in their ward rather than the number under their direct care. Due to these inconsistencies, the patient-load variable was excluded from further analysis. Results from the MBI-GS indicated that 8% of the participants exhibited high levels of occupational exhaustion, depersonalization, and low personal accomplishment, consistent with a high degree of burnout. In the subscale analysis, 54.1% of respondents demonstrated a high level of exhaustion, 32.4% showed a high level of depersonalization or loss of empathy, and 32.4% exhibited a low personal sense of accomplishment.

Table 1. Distribution of Burnout Subscale Scores Among Nurses

Subscale	Category	Total (n)	Percentage (%)
Exhaustion	High Degree	20	54.1%
	Moderate Degree	11	29.7%
	Low Degree	6	16.2%
Depersonalization	High Degree	12	32.4%
	Moderate Degree	13	35.1%
	Low Degree	12	32.4%
Personal Accomplishment	High Degree	14	37.8%
	Moderate Degree	14	37.8%
	Low Degree	9	24.3%

Analysis using the burnout scoring method developed by Kalimo et al. revealed that all participants demonstrated some indication of burnout. A total of 20 participants (54.05%) met the criteria for burnout syndrome, while the remaining 45.94% exhibited partial burnout symptoms. A significant negative correlation was found between burnout scores and age ($p < 0.005$), as well as between burnout scores and tenure ($p < 0.05$).

Table 2. Correlation Between Burnout Scores and Demographic/Work Variables

Variable	r	p-value
Age	-0.47	0.003
Working Hours per Week	0.21	0.221
Tenure	-0.41	0.012

The correlation for each subscale was calculated in relation to the participants' age, tenure, and weekly working hours. The results indicate a negative correlation between age and tenure with both exhaustion and depersonalization. Significant correlations ($p < 0.05$) were found between exhaustion and tenure, as well as between depersonalization and tenure. A similar significant negative correlation was also observed between depersonalization and age. If you want, I can also help refine the entire results section for consistency and academic tone.

Table 3. Correlation Between Age, Working Hours, Tenure, and Burnout Subscales

Variable	Exhaustion (r)	Exhaustion (p)	Depersonalization (r)	Depersonalization (p)	Personal Accomplishment (r)	Personal Accomplishment (p)
Age	-0.28	0.092	-0.50	0.002	0.09	0.585
Working hours	0.31	0.066	0.18	0.290	-0.06	0.744
Tenure	-0.44	0.006	-0.49	0.002	0.13	0.437

Discussion

This study aimed to evaluate how age, working hours, and tenure influence the burnout levels of nurses working at X General Hospital, Jakarta. The findings demonstrate a significant relationship between age and tenure with nurses' burnout levels. The negative correlations indicate that lower age and shorter tenure are associated with higher levels of burnout. This suggests that the longer nurses work within a particular environment, the more effectively they develop the capacity to manage work related stressors. Meanwhile, working hours per week did not show a significant relationship with burnout levels.

These results support existing evidence that burnout among nurses is multidimensional and shaped by a combination of individual, organizational, and contextual factors (Maslach et al., 2001; Montgomery et al., 2015). Burnout is influenced by emotional resilience, social support, leadership quality, team climate, workload, role clarity, and opportunities for recovery such as adequate sleep and rest (Dyrbye et al., 2020). Thus, age, working hours, and tenure likely interact with broader systemic factors, which may explain the variability in burnout levels across different settings.

Age and Burnout Level

Experienced nurses particularly those who have worked in the same environment for an extended period tend to develop resilience and problem-solving skills that enhance their ability to cope with work stressors. Research conducted in Texas found that older nurses experience lower burnout than younger nurses, emphasizing that emotional and stress regulation improves with age, even though the specific mechanisms behind this improvement remain difficult to fully explain (Beier et al., 2023). A study at X Hospital in Palembang reported similar findings, noting that younger nurses often experience burnout during the initial adaptation period, which constitutes a major stressor (Yunita Liana, 2020).

Contrary to these studies, research by Indianawati et al. (2022) revealed a positive correlation between age and burnout, indicating that older nurses reported higher burnout levels. The authors suggested that older nurses may exhibit stronger perfectionistic tendencies, which could elevate burnout risk. These conflicting findings imply that beyond age related differences in adaptability and emotional regulation, other age associated factors may shape burnout outcomes. For instance, older nurses may hold supervisory responsibilities, manage more complex cases, or experience age-related physical limitations each of which may influence burnout differently depending on the work context.

Several studies also highlight that differences in burnout across age groups can be understood through variations in emotional labor and generational work values. Emotional labor defined as the requirement to regulate or display socially appropriate emotions in the workplace has been strongly linked to burnout in nurses. Surface acting has been shown to elevate burnout risk, whereas deep acting and authentic emotional expression help buffer against it (Lee & Chelladurai, 2020). Other studies suggest that older nurses tend to experience lower burnout due to more effective emotion

regulation skills and deeper emotional engagement with their work (Neriman & Velittin, 2024). In Indonesia, emotional labor has similarly been associated with emotional exhaustion and burnout among nurses (Oktaviani et al., 2023).

Additionally, generational differences in work values also shape burnout patterns. Younger generations, such as Generation Y and Generation Z, often place greater emphasis on work–life balance, personal fulfillment, and organizational support compared with older generations (Jong et al., 2023; Rosa et al., 2024). When workplace demands fail to align with these expectations, younger nurses may be more vulnerable to burnout. These generational differences in emotional dynamics and work values may help explain why findings on age related burnout vary across populations and contexts. Importantly, emotional and stress regulation skills can be enhanced through targeted training. Studies have shown that stress regulation training significantly improves the psychological well-being of nurses (Pahlevani et al., 2015), suggesting that interventions aimed at strengthening emotional resilience could help mitigate burnout across all age groups.

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Working Hours and Burnout Level

Longer working hours place workers in stressful environments for extended periods. In this study, a positive although statistically insignificant correlation was observed between working hours and burnout levels. A study in Taiwan using the Copenhagen Burnout Inventory examined burnout among healthcare workers (including nurses) and identified working hours as a key contributing factor. Using 40 hours per week as a baseline, the study found that the odds ratio of burnout doubled among those working more than 60 hours per week, tripled for those exceeding 74 hours, and quadrupled for those working more than 84 hours per week. These findings suggest a clear relationship between prolonged working hours and increased burnout risk. In the present study, data were collected from nurses working between 10 and 60 hours per week. Compared to the Taiwan study, the dataset here includes fewer participants working more than 60 hours per week, which limits the ability to detect similar proportional increases in burnout. It is plausible that, with a larger sample of nurses working beyond 60 hours per week, the results would mirror the Taiwanese findings. The Taiwan study also reported that sleep duration mediates the relationship between working hours and burnout, indicating that extended work hours often translate into insufficient rest (Lin et al., 2021).

A study conducted in the United Kingdom and Ireland also examined the relationship between working hours and burnout among nurses. Working hours were categorized into less than 8 hours, 8–12 hours, and more than 12 hours per day. The study found that nurses working longer than 8 hours per day were significantly more likely to experience burnout. Furthermore, the authors emphasized that having autonomy or choice over one’s schedule reduces burnout risk, suggesting that perceived control over work hours is an important protective factor (Dall’Ora et al., 2023).

Given the limited sample size in the present study, especially among nurses working extended hours, the ability to detect strong associations between working hours and burnout may be constrained. Therefore, the results should be interpreted with caution and considered less generalizable compared with the larger studies mentioned above.

Tenure and Burnout

This study found that longer working tenure is associated with lower burnout levels among nurses. A longer tenure allows nurses to adapt to their work environment, become more familiar with workplace systems, leadership styles, and communication patterns, and develop coping strategies to manage work-related stress.

These findings are consistent with research conducted at X Hospital in Jakarta, which reported that senior nurses experienced lower burnout because they had already adapted to their work environment and work patterns. Meanwhile, newer nurses required guidance from senior staff to adjust effectively (Pujiarti & Idealistiana, 2023). However, research by Julia et al. in Sidoarjo found results opposite to the current study. They reported that nurses with tenure exceeding five years were more prone to burnout than those with shorter tenure. The authors attributed this to increased responsibilities, heavier workloads, and cumulative fatigue over the years (Julia et al., 2025). Other studies have shown no significant relationship between tenure and burnout (Aulia & Rita, 2021), including findings from a hospital-based study in Manado (Kawalod & Mandias, 2023). These inconsistent results across multiple studies suggest that tenure alone may not be a reliable predictor of burnout.

The conflicting findings indicate that the relationship between tenure and burnout is influenced by several moderating or mediating factors, including leadership and management quality, team dynamics and social support, job role and unit type, career plateau, and organizational change such as frequent policy shifts, new technologies, or structural reorganizations (Cummings et al., 2020; Dall'Ora et al., 2015; Chen et al., 2024; Mills et al., 2018). Therefore, tenure should be considered within the broader context of organizational and interpersonal factors that shape nurses' work experiences.

CONCLUSION

All participants in this study exhibited symptoms of burnout, with more than half demonstrating indications consistent with burnout syndrome. Age and tenure were significantly correlated with burnout levels, indicating that younger and less experienced nurses are more vulnerable to experiencing burnout. These nurses appear to be more susceptible to workplace stressors that manifest as depersonalization or reduced empathy, as well as emotional exhaustion. Healthcare management should therefore prioritize providing stress-management resources and psychological support for newly hired nurses. This support may take the form of structured training programs, stress-regulation courses, or formal mentoring initiatives to help build resilience and reduce burnout risk. Further research is needed to expand on these findings and to explore additional factors that may influence burnout and turnover rates among nurses in private hospital settings. A deeper understanding of these factors will better inform interventions aimed at improving nurse well-being, enhancing job satisfaction, and fostering a greater sense of professional accomplishment.

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