



Research Article

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BURNOUT IN NURSING: A CROSS-SECTIONAL STUDY IN INDONESIA AND TAIWAN

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Abstract

Objectives: Burnout among nursing professionals has garnered significant international attention in recent years, largely due to its profound implications for nurse well-being, patient satisfaction, and the overall effectiveness of healthcare systems. This phenomenon underscores the urgent necessity for implementing comprehensive strategies to mitigate burnout and promote the well-being of nursing staff. This study examines the prevalence of Burnout Syndrome among nurses in Indonesia and Taiwan using a cross-sectional study approach.

Materials and Methods: The research employs a quantitative method, utilising a questionnaire to collect data and SEM-PLS software to conduct validity tests. The study encompasses 1.327 respondents from Indonesia and 312 respondents from Taiwan. The survey identifies three variables to measure burnout syndrome in nurses: depersonalisation, emotional exhaustion, and personal achievement.

Results: The findings indicate that high levels of depersonalisation, significant emotional exhaustion, and relatively low personal achievement all contribute to the Burnout Syndrome experienced by nurses in both countries. The R-squared value for Indonesia is 36.8%, while Taiwan's is 46.1%. This suggests that the interpretation of the Burnout Syndrome can be categorised as moderate.

Conclusion: The research indicates that the regression model, including independent variables such as depersonalisation, emotional exhaustion, and personal achievement, can explain most of the variations in Burnout Syndrome in nurses in both countries, although not optimally. The study concludes that the results related to Burnout Syndrome in nurses in Indonesia and Taiwan can impact the quality of patient services.

Keywords: Burnout syndrome, nurse, health.

Introduction

Burnout in nursing has gained international recognition in recent years due to its substantial impact on nurses' well-being, patient satisfaction, and the overall performance of healthcare systems.¹ Nursing is a vital component of the healthcare system in Indonesia and Taiwan, providing essential health services to individuals with diverse needs.² The challenges that nurses encounter while fulfilling their duties should not be overlooked. Fatigue in the nursing profession presents a significant challenge. Fatigue is a multifaceted issue that can substantially impact the well-being of individual nurses and the standard of patient care.³ Burnout in nursing pertains to the physical, emotional, and psychological strain experienced by nurses due to demanding job requirements, substantial workloads, and various factors within their professional environment.⁴

Indonesia and Taiwan, countries with developing healthcare systems influenced by various cultural, economic, and social factors, encounter specific challenges in preserving nurses well-being and addressing burnout within the nursing profession.⁵ The provision of health services in Indonesia faces systemic challenges, including limited resources, high workloads, and significant accessibility barriers, particularly in rural areas.⁶ Despite boasting a robust healthcare system and solid infrastructure, Taiwan faces challenges stemming from demographic shifts, rising job demands, and mental health concerns in the workplace.⁷

In Indonesian healthcare, the nurse-to-patient ratio is 1:4 for inpatient units and 1:20 for outpatient units.⁸ Taiwan's healthcare system includes legislation that mandates minimum hospital nurse-to-patient ratios.⁹ Additionally, it is customary for families to accompany and remain with patients during their hospital stay. However, enforcing the minimum ratio of 1 nurse to 8 patients only came into effect in 2009, and this requirement is applicable solely during daytime shifts. This analysis highlights the significant nurse workload disparities between the two countries. In Indonesia, nurses typically adhere to a 12-hour workday schedule, five days a week, resulting in extensive working hours.¹⁰ In comparison, nurses in Taiwan typically work fewer hours, averaging around ten hours per day, five days a week.⁷ The prevalence of nurse burnout represents a significant issue that warrants attention and intervention within the healthcare sector. According to recent studies, the prevalence rate of nurse burnout in Indonesia is 63%, whereas in Taiwan, it is slightly lower at 52%.⁷ High levels of burnout in nurses can lead to an excessive workload and detrimentally affect their physical and emotional well-being, as well as the standard of patient care.¹¹ Fatigue in nursing is critical due to its detrimental consequences. Nurses who suffer from burnout often exhibit reduced performance and increased error rates and are more susceptible to experiencing severe burnout. Burnout, characterised by severe exhaustion, can have profound effects, including reduced quality of healthcare, increased nurse turnover rates, and adverse impacts on the healthcare system.¹²

It is essential to delve into the factors contributing to nurse burnout and compare the situations in Indonesia and Taiwan. This can offer valuable insights for enhancing human resource management policies and practices in the health sector of both countries. By comparing Indonesia and Taiwan, we can better understand the cultural disparities, healthcare systems, and other influences on nurse burnout. This study seeks to assess the level of burnout among nurses in both countries using a cross-sectional study approach. Drawing comparisons between the two nations will help us pinpoint both differences and similarities in the factors affecting nurse burnout. The results of this study will serve as the foundation for developing improved policies, human resource management strategies, and mental health interventions in the nursing field.

Materials and Methods

Study Design

This study employs a cross-sectional research design, which enables the collection of data at a single point in time, facilitating a comparative analysis of nurse burnout in Indonesia and Taiwan. The data collection period for the Indonesian cohort spans from January to October 2023, while for Taiwan, it occurs between August and September 2023. By utilising a quantitative research approach, this investigation enables the precise measurement of burnout-related variables, thereby allowing for robust statistical analysis.

This research has received Ethical Approval from the Ethics Committee of Universitas 'Aisyiyah Yogyakarta No. 2536/KEP-UNISA/I/2023, valid from 25 January 2023 to 26 January 2024, and Taipei Medical University (TMU-Joint Institutional Review Board) No. N202306070 was valid from August 2, 2023, to August 1, 2024. Before the commencement of data collection, all participants received a thorough explanation of the study's objectives, potential risks, and associated benefits to ensure informed participation. Written informed consent was obtained from all individuals, thereby affirming the voluntary nature of their involvement. To maintain data confidentiality, participant responses were anonymised, and all collected data were securely stored to prevent unauthorised access. The study adhered to the ethical principles outlined in the Declaration of Helsinki and the Indonesian national research ethics guidelines. By adhering to these rigorous methodological and ethical standards, we endeavour to ensure that the research's findings are valid and reproducible, while maintaining an unwavering commitment to integrity in research practices.

Participants and Sampling Size

The study population consists of licensed nurses actively employed in healthcare settings, particularly hospitals, in Indonesia and Taiwan. The inclusion criteria for participation were set as follows: (1) full-time employment status and (2) a minimum of one year of professional experience in the nursing field. Conversely,

the exclusion criteria encompassed (1) part-time nurses or those in trainee positions, (2) nurses on leave during the data collection period, and (3) individuals who declined to participate in the study. These criteria were meticulously established to ensure the relevance of participants and enhance the reliability of the data.

A stratified random sampling method was utilised to ensure representation from various healthcare settings, experience levels, and geographic regions. A flowchart outlining the recruitment process is provided in the appendix. This flowchart delineates the total number of nurses approached, which comprised 1.800 in Indonesia and 500 in Taiwan. It further indicates the number of participants who consented to participate in the study, with 1.500 in Indonesia and 400 in Taiwan. After applying exclusion criteria, the final sample consisted of 1.327 participants from Indonesia and 312 from Taiwan. This structured representation enhances the transparency and rigour of the reporting process. The difference in sample sizes reflects the varied nursing population sizes in the two countries. Power analysis conducted with G*Power software indicated that a minimum sample of 300 per group would be sufficient to identify a medium effect size ($f^2 = 0.15$) with 80% power at a 5% significance level, thereby deeming the sample sizes adequate. The larger sample from Indonesia enhances the robustness of the findings and promotes greater generalizability. To mitigate selection bias, stratified sampling was employed to ensure proportional representation across essential nursing demographics. To address response bias, measures were taken to anonymise participant responses and guarantee data confidentiality. Additionally, measurement bias was minimised through the utilization of a pre-tested and validated instrument that was adapted to align with the specific cultural context of the study.

Data Collection Instruments

Burnout was assessed utilizing a validated survey instrument designed to capture four primary dimensions: Depersonalization (DP), Emotional Exhaustion (EE), Personal Accomplishment (PA), and Overall Burnout Syndrome. The instrument underwent cultural adaptation for relevance in Indonesia and China, with translations provided in Bahasa Indonesia and Mandarin Chinese. To ensure semantic consistency, back-translation procedures were meticulously applied. The validation metrics, including Cronbach's alpha ($\alpha > 0.7$ across all subscales) and confirmatory factor analysis, which demonstrated acceptable factor loadings (exceeding 0.6), corroborated the instrument's reliability and construct validity within both populations.

Data Analysis

Data analysis using appropriate statistical analysis techniques through SmartPLS software version 3.2.9. The study examines the correlation between the leading indicators of nurse burnout and the factors that influence it. Furthermore, path analysis in the SEM framework will enable the assessment of the direct and indirect influences of independent variables on dependent variables, such as DP, EE, and PA. The use of Burnout Syndrome indicators as the primary dependent variables in the SEM model will provide a comprehensive

understanding of the complexity and interaction of these indicators. This study measured the structural model (Inner Model) by examining the R-squared value. The R-squared value is the coefficient of determination on the dependent variable. According to Chin (1998), the R-squared values are 0.67 (strong), 0.33 (moderate), and 0.19 (weak).¹³ Hypothesis testing follows the inner model test results, which include R-squared values, parameter coefficients, and t-statistics. A hypothesis is either accepted or rejected based on the t-statistics and p-values. Specifically, suppose the t-statistic exceeds 1.64 at a 0.05 significance level (one-tailed), and the beta coefficient is positive. In that case, H₀ will be rejected if the p-value is less than 0.05, indicating a statistically significant influence. Conversely, if the p-value is greater than 0.05, H₀ is accepted, suggesting no influence. This analysis examines the impact of workload, social support, and work environment on nurse burnout, offering valuable insights for developing more effective interventions and human resource management policies in both countries.

Hypothesis

H1: Depersonalization (X1) positively and significantly affects Nursing Fatigue (Y).

H2: Emotional Exhaustion (X2) positively and significantly affects Nursing Fatigue (Y).

H3: Personal Accomplishment (X3) positively and significantly affects Nursing Fatigue (Y).

Results

Demographic Respondents

Table 1 indicates that most respondents were female nurses, with 69.02% from Indonesia and 93.91% from Taiwan. The predominant age group for nurses in both countries was 36-45 years, representing 34.99% in Indonesia and 35.90% in Taiwan. Notably, there were no nurses over 65 in Taiwan, while 0.15% of nurses in Indonesia remained active in this age bracket. Regarding educational qualifications, Indonesia had a higher proportion of diplomas (50.38%) and master's graduates (0.60%). In contrast, Taiwan had a larger share of Bachelor of Nursing (46.15%) graduates, with no master's degree holders in practice. Furthermore, 52.78% of nurses in Indonesia and 74.04% in Taiwan had over five years of work experience, with permanent employment significantly higher in Taiwan at 94.23%, compared to 63.07% in Indonesia. Notably, no nurses were occupying professional or managerial positions in Taiwan.

Table 1 indicates that external factors, such as length of service, employment status, and job position, may significantly impact nurse burnout syndrome in Indonesia and Taiwan more than internal factors like age and education. The complexities of work environments, high job demands, and a lack of adequate support from

employers contribute to this phenomenon. For example, nurses with extensive experience may face heightened stress due to the cumulative challenges of their roles. Additionally, those with unstable employment or in lower positions may be at higher risk for burnout due to increased workloads and job insecurity. While age and education can influence stress management, the external pressures of a challenging workplace appear to be more decisive. To effectively address burnout among nurses, it is essential to enhance work conditions, provide sufficient support, and recognise the importance of experience and education in managing stress.

Table 1. Respondents demographic profile

Characteristic		Indonesia (n = 1327)		Taiwan (n = 312)	
		Frequency	Percentage (%)	Frequency	Percentage (%)
Gender	Male	411	30.98	19	6.09
	Female	916	69.02	293	93.91
Age	17-25	35	2.64	48	15.38
	26-35	382	28.79	110	35.26
	36-45	464	34.99	112	35.90
	46-55	346	26.11	34	10.90
	56-65	98	7.39	8	2.56
	> 65	2	0.15	0	0
	Education Level	Diploma in Nursing	668	50.38	132
Bachelor of Nursing		17	1.28	144	46.15
Ners		634	47.80	36	11.54
Master of Nursing		8	0.60	0	0
Length of Work	< 1 Year	100	7.54	19	6.09
	1-2 Years	189	14.26	29	9.29
	3-4 Years	337	25.42	33	10.58
	> 5 Years	701	52.78	231	74.04
Type of work	Regular employees	837	63.07	294	94.23
	Temporary Employees	490	36.93	18	5.77
Position	Professional Nurse	1264	95.30	24	100
	Managerial	8	0.60	0	0
	Both (Professional nurse and Managerial)	55	4.14	0	0

Research Variable Reliability

Table 2 reveals that both Indonesian and Taiwanese nurses experience moderate levels of Burnout Syndrome, with R-squared values of 36.8% for Indonesia and 46.1% for Taiwan. The regression analysis indicates a modest influence of the independent variable on the dependent variable. The inner model results presented in Figure 2 demonstrate positive path coefficients for all indicators except for the Burnout Syndrome indicator in Indonesia. The Depersonalization Indicator exhibits the highest statistical value at 19.687, while the Burnout Syndrome indicator has a low t-statistic of 1.140. Most indicators show a p-value of 0.001, except for the Personal Accomplishment variable (0.003) and the Burnout Syndrome variable (0.255). Hypothesis acceptance in this study is contingent upon p-values below 0.05 (Table 3). Hypothesis 1 supports the conclusion that depersonalization has a positive impact on burnout syndrome among Indonesian nurses. Likewise, Hypothesis 2 confirms that Emotional Exhaustion significantly affects Burnout Syndrome. Finally, Hypothesis 3 substantiates the positive influence of Personal Achievement on Burnout Syndrome within this demographic.

Table 2. R-Square Value on Burnout Syndrome using SEM-PLS

Variable	R-Square	Description
Burnout Syndrome (Taiwan)	0.461	Moderate
Burnout Syndrome (Indonesia)	0.368	Moderate

Description of R-Square value:

Strong : > 67%

Moderate : 33 – 67%

Low : 19 – 33%

Discussion

This study examines the levels of DP, EE, and PA among nurses in Indonesia and Taiwan to compare their experiences with burnout syndrome. Burnout syndrome is a complex psychological condition characterised by emotional exhaustion, depersonalisation, and personal achievement resulting from chronic occupational stress.¹⁴ The issue presents substantial implications for nurses' physical, psychological, and behavioural well-being, frequently resulting in reduced job satisfaction, decreased quality of care provided, and elevated turnover rates within the profession.¹⁵ Burnout syndrome includes a range of psychological problems that have a substantial impact on an individual's physical, psychological, and emotional well-being due to occupational stress.¹⁵ Prolonged burnout syndrome within the nursing profession may ultimately result in the decision to

resign from the role.¹⁵ Individuals experiencing burnout syndrome often exhibit heightened self-awareness regarding their work, including a strong inclination to contemplate leaving their current employment.¹⁵

Depersonalisation and Burnout Syndrome

The study provided empirical evidence that DP has a significant influence on burnout syndrome among nurses in both Indonesia and Taiwan. Various external factors intensify this issue, including excessive working hours, insecure employment, and entry-level job positions. These conditions significantly undermine nurses' sense of control over their work environment. For instance, nurses in unstable job situations may experience a profound emotional detachment from their patients.¹⁶ This disconnection often stems from job insecurity and a restricted ability to make independent decisions in their roles, ultimately affecting the quality of care they provide.

The findings of this study align with an expanding body of literature that highlights the detrimental impact of extended working hours on the prevalence of burnout syndrome among nursing professionals. A large-scale cross-sectional investigation by Lin et al. (2021) conducted in Taiwan revealed a pronounced dose-response relationship between weekly working hours and burnout among healthcare practitioners.¹⁷ Specifically, nurses who worked beyond 60 hours weekly exhibited a twofold increase in the likelihood of experiencing symptoms of burnout when contrasted with their counterparts working 40 hours. The odds increased by threefold for those engaged in over 74 hours and by fourfold for those exceeding 84 hours per week.¹⁷ Notably, the relationship was partially mediated by reduced sleep duration, which accounted for 7%–29% of the observed incidence of burnout. Thus, sleep deprivation is a pivotal pathway through which prolonged working hours adversely affect mental health.¹⁷

DP has a significant impact on nurses' mental health and patient outcomes. Research has shown that healthcare professionals experiencing DP exhibit a diminished capacity to deliver empathetic care, resulting in decreased patient satisfaction and erosion of trust in the healthcare system.¹⁸ Addressing DP requires a comprehensive strategy that incorporates several key components. First, improving working conditions is vital to create a more inviting and engaging environment for employees. This includes enhancing the physical workspace, managing workloads, and clarifying job responsibilities and expectations. Encouraging collaboration among colleagues helps foster strong relationships that can counter feelings of isolation and disconnection.¹⁹ Regular counselling sessions offer employees a safe space to express their feelings and seek guidance. These initiatives can reduce feelings of detachment and create a more nurturing and supportive work environment.

Emotional Exhaustion and Burnout Syndrome

EE is recognised as the most significant dimension of burnout and considerably influences nurses in both countries. External factors, such as the length of service, employment status, and nursing position, play a more significant role in shaping the work experience than internal factors, like age and education. Nurses in lower-ranking positions or those in precarious jobs often confront overwhelming workloads.²⁰ Moreover, they frequently lack the necessary resources and managerial support to manage these demands effectively, resulting in increased emotional exhaustion.²¹ This challenging work environment can significantly impact their well-being and job satisfaction.

This study aligns with the study of Jordanian nurses' burnout.²² This highlighted the prevalence of EE among nurses working in challenging conditions. EE not only affects nurses' mental health but also significantly undermines their ability to provide high-quality patient care.²² This fatigue and disengagement can increase the risk of medical errors, thus compromising patient safety. Addressing this critical issue requires a comprehensive approach that includes systemic changes. Improving staff scheduling is essential to ensure that nurses have adequate rest and recovery time. Additionally, implementing fair and equitable workload distribution will help prevent the overburdening of individual nurses while fostering a supportive organisational culture prioritising employee well-being.²³ Furthermore, ensuring access to mental health resources is crucial for supporting nurses who encounter EE.²³ This will ultimately lead to increased job satisfaction and better patient care outcomes.

In alignment with these international data, a recent study conducted in Turkey by Gündüz and Öztürk (2024) examined burnout among intensive care unit nurses, revealing that an alarming 95.5% reported high mental workloads, which were robustly correlated with elevated levels of burnout.²⁴ This investigation further determined that emotional workload significantly predicted emotional exhaustion, personal accomplishment, and depersonalisation.²⁴ Although this research primarily focused on mental workload rather than shift duration, it underscores the substantial psychological demands confronting nurses in high-acuity environments. Thus, it reinforces the more general conclusion that excessive job demands—whether manifested through extended hours or high cognitive load—substantially increase burnout risk.²⁴ A study conducted in Turkey identified that nurses working in cardiac surgery departments were particularly susceptible to high levels of burnout.²⁵ This phenomenon can be attributed to the high-pressure nature of their work environments, coupled with inadequate rest periods. Furthermore, the study revealed that burnout harmed the nurses' perceived quality of work life.²⁵

In light of ongoing global nursing shortages and the intensified healthcare demands in the aftermath of the pandemic, these findings collectively underscore the pressing necessity for systematic reforms. Healthcare institutions must prioritise the implementation of policies that regulate shift lengths, guarantee adequate rest

periods, and address the intensity of workload to safeguard the mental health of nursing professionals while sustaining the quality of care delivered.

Personal Accomplishment and Burnout Syndrome

The study indicated that PA significantly influences burnout syndrome among nurses in Indonesia and Taiwan. Nurses with longer tenures or higher job titles report a stronger sense of personal accomplishment, mainly due to their accumulated experience, skills, and recognition.²⁶ Conversely, nurses who face limited opportunities for career advancement and receive insufficient acknowledgement for their contributions are more likely to experience feelings of inadequacy.²⁶ These conditions can heighten the risk of burnout, underscoring the need for a supportive work environment that fosters professional growth and acknowledges individual achievements.

Nurses working in environments with limited opportunities for career advancement often encounter considerable challenges. When pathways for professional growth, such as promotions, specialised training, or leadership roles, are lacking, they may feel stagnant in their current positions.²⁷ Moreover, a lack of acknowledgement for their contributions, whether through formal recognition, awards, or simple expressions of gratitude from management and colleagues, can further erode their sense of worth in the workplace.²⁷ An initial investigation revealed significant burnout rates among healthcare professionals, which were attributed to excessive workloads, inadequate administrative support, and an unbalanced work-life balance.²⁸ The findings underscored the imperative for systemic reforms within hospital management practices to mitigate these issues and enhance overall staff well-being. Consequently, these factors combined may lead to feelings of inadequacy and self-doubt, making it increasingly difficult for them to sustain high levels of motivation and job satisfaction in an already demanding profession.

Cross-Cultural Implications

A comparative analysis of nurses in Indonesia and Taiwan reveals a nuanced interplay of shared and unique factors that contribute to burnout syndrome. In both countries, critical external elements such as job status and working conditions significantly shape the various dimensions of burnout experienced by healthcare professionals. However, cultural and systemic differences between the two nations influence how these factors manifest in practice.²⁹ In Taiwan, the pressures of an ageing population and high patient volumes place considerable stress on nurses, resulting in overwhelming workloads and EE. Conversely, Indonesia grapples with its challenges, including inefficient resource allocation and workforce instability, which further intensify the difficulties faced by nurses on a daily basis. While burnout is a shared experience, the specific ways it arises and affects nursing professionals can vary significantly between these two countries.

Understanding the intricacies of cultural differences is crucial for developing effective, tailored interventions. In Taiwan, the increasing demands of an ageing population present formidable challenges for healthcare workers. By enhancing staffing levels and allocating additional resources to care facilities, we can help mitigate the emotional and physical burnout that nurses frequently encounter.³⁰ In Indonesia, the focus should be on enhancing job stability and offering comprehensive professional development opportunities. This shift can significantly improve the overall well-being of nurses, enabling them to excel in their roles. Furthermore, fostering collaborative partnerships among policymakers, healthcare organisations, and educational institutions is essential.³⁰ Such synergies will facilitate the effective implementation of impactful strategies to address burnout in these varied regions.

Implications for Practice and Policy

The findings of this study underscore the urgent need for comprehensive interventions to tackle burnout among nurses in Indonesia and Taiwan. Essential recommendations include enhancing working conditions by ensuring adequate staffing, equitable workload distribution, and safe working environments to mitigate stress and fatigue. Furthermore, fostering organisational support through access to mental health resources, mentorship programs, and professional development opportunities will cultivate a supportive workplace culture. Promoting work-life balance with flexible work policies, childcare support, and structured leave programs can aid nurses in effectively managing their personal and professional commitments. Strengthening emotional intelligence through targeted training programs will equip nurses with vital stress management skills, resilience-building strategies, and tools for delivering exceptional patient care. Lastly, recognising and rewarding achievements by acknowledging nurses' contributions through awards, promotions, and public recognition is crucial for enhancing morale and fostering a sense of personal accomplishment. These initiatives are imperative for creating a healthier work environment for nurses and improving the overall quality of care.

Several limitations of this study merit acknowledgement. First, while a stratified random sampling method was utilised to enhance representativeness, the research focused exclusively on licensed nurses working in hospital settings in Indonesia and Taiwan. This geographic and contextual limitation may restrict the generalizability of the findings to nurses in other healthcare environments or regions. Second, excluding part-time nurses, trainees, and those on leave may have introduced a selection bias, potentially omitting valuable perspectives from nurses with varying work patterns or employment statuses. Additionally, despite achieving relatively high response rates—with 1.327 participants in Indonesia and 312 in Taiwan—the voluntary nature of participation could lead to self-selection bias, as those who chose to engage may differ significantly from those who opted out. Finally, cultural and systemic differences between the healthcare systems of the two countries may have influenced the responses, and these contextual factors should be carefully considered when interpreting cross-national comparisons.

This study highlights the significant impact of depersonalisation (DP), emotional exhaustion (EE), and personal accomplishment (PA) on burnout syndrome among nurses in Indonesia and Taiwan, underscoring the need for targeted interventions that address these factors from both individual and organisational perspectives. By fostering a supportive work environment and prioritising the well-being of nurses, healthcare organisations can enhance job satisfaction, improve patient care, and reduce burnout rates. The research reveals that all three variables significantly correlate with burnout syndrome, with R-squared values of 0.368% for Indonesia and 46.1% for Taiwan, suggesting a moderate understanding of the phenomenon within these contexts. The differences in findings between the two countries further emphasise the influence of cultural and workplace factors on nurses' burnout experiences. While this study aims to deepen our understanding of these issues in the respective regions, it is essential to note that the survey was conducted over a limited timeframe, indicating a need for further research with a broader scope to thoroughly examine the factors influencing burnout syndrome in nursing.

Ethical Considerations: This research has received Ethical Approval from the Ethics Committee of Universitas 'Aisyiyah Yogyakarta No. 2536/KEP-UNISA/I/2023, valid from 25 January 2023 to 26 January 2024, and Taipei Medical University (TMU-Joint Institutional Review Board) No. N202306070 was valid from August 2, 2023, to August 1, 2024.

Conflict of Interest: The authors declare no conflict of interest.

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