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## The Relationship between Nursing Human Resource Management and Nurse Burnout Levels

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### Abstract

Burnout in nurses is a serious problem that impacts the well-being of nursing staff, service quality, and patient safety. High work demands, limited resources, and weak organizational management make nurses a profession vulnerable to burnout. This study aims to analyze the relationship between nursing human resource (HR) management and nurse burnout levels in hospitals. This study used a quantitative design with a cross-sectional approach. The sample consisted of 120 nurses selected using proportional stratified random sampling. Data were collected through a nursing HR management questionnaire and the Maslach Burnout Inventory (MBI) instrument. Data were analyzed univariately, bivariately using the Chi-Square test, and multivariately using ordinal logistic regression. The results showed that most respondents rated nursing HR management as good, but there were still nurses with moderate to high levels of burnout. Bivariate analysis showed a significant relationship between nursing HR management and nurse burnout levels ( $p < 0.05$ ). The results of the multivariate analysis revealed that nursing HR management was the dominant factor influencing nurse burnout after controlling for age and length of service. Nurses working in units with poor human resource management are at higher risk of burnout compared to nurses in units with good human resource management. This study concludes that strengthening nursing human resource management plays a significant role in reducing nurse burnout rates. Therefore, human resource management policies and strategies oriented toward nurse well-being are needed to improve the quality of nursing services and patient safety.

**Keywords:** Nursing Human Resource Management, Nurse Burnout, Workload, Nursing Leadership, Patient Safety.

### Introduction

Burnout is a psychosocial phenomenon that is increasingly recognized as a major problem in the nursing profession across various global healthcare systems. Conceptually, burnout is characterized by profound emotional

exhaustion, depersonalization of work, and a reduced sense of personal accomplishment (Maslach Burnout Inventory)—a standard instrument for measuring burnout in the clinical work context (Jackson, 1981; cited in Susan E. Jackson).

In nursing practice, nurses face high physical, emotional, and mental job demands, which are exacerbated by an imbalance between job demands and available resources. The Job Demands–Resources (JD-R) model explains that this imbalance triggers work stress and contributes significantly to burnout among nurses (Bakker et al.).

Nursing human resource (HRM) management in the hospital context plays a central role in creating a healthy work environment, managing workloads, and providing effective managerial support. Optimizing HRM practices, such as staff allocation, leadership training, employee well-being, and job design, can play a role in mitigating work stress and burnout, thereby supporting improved quality of nursing care (Systematic study on HRM strategies).

Empirical research demonstrates a significant relationship between HRM practices and burnout rates among nurses. For example, head nurse leadership has been shown to negatively influence nurse burnout rates through the mechanisms of job demands and job resources; the stronger the managerial support and available resources, the lower the burnout rates experienced by nurses (Hu et al.).

Factors contributing to burnout among nurses also involve managerial factors, such as staffing shortages, lack of management support, and excessive workload. A recent systematic review suggests that human resource management strategies, including appropriate resource allocation, leadership development, and humane work practices, play a role in reducing burnout and improving nurses' professional well-being (Systematic Study

on Nurses' Job Burnout and Human Resource Management Strategies).

Burnout has broad implications for the quality of healthcare services. The relationship between burnout and organizational outcomes such as patient safety, quality of care, organizational commitment, and nurse productivity has been documented in an international literature review (Systematic review on burnout outcomes). Furthermore, in a national context, the relationship between nursing factors such as quality of nursing work life, workload, and burnout has also been studied in the Indonesian nursing population, demonstrating a negative correlation between good working conditions and burnout (Nursing Study Program, 2024).

Various correlational studies in Indonesia have also revealed a relationship between workload and burnout among nurses, particularly in healthcare facilities with high workload pressures such as inpatient wards and COVID-19 units (Fatmawasi et al., 2024).

Similarly, literature research has highlighted the importance of holistic human resource management in the nursing context to address burnout. A national literature review article stated that the role of human resource management extends beyond workforce allocation to include emotional support, motivation, and job satisfaction, all of which are associated with a reduced risk of nurse burnout (Zhafira, 2025).

Overall, these findings confirm that nursing human resource management practices play a crucial role in determining nurse burnout levels through modulating work demands, providing adequate resources, and enhancing managerial support. These findings provide an important foundation for this study to evaluate the relationship between nursing human resource management and nurse burnout levels in healthcare facilities, allowing for policy recommendations to be

developed to improve the well-being of nursing staff and optimize the quality of healthcare services.

**Methods**

This study employed a quantitative design with a cross-sectional approach to examine the relationship between nursing human resource (HR) management and nurse burnout levels at a specific point in time. A cross-sectional design was chosen because it allows researchers to measure research variables simultaneously and obtain an overview of the relationships between variables within a population of nurses across work units efficiently and economically (Suryani & Mulyana, 2023; cross-sectional design).

The study population consisted of all nurses working in hospitals or healthcare facilities during the study period. The sampling technique used was proportional stratified random sampling to ensure balanced representation from various work units (e.g., inpatient wards, emergency rooms, and intensive care units), as applied in similar studies on the relationship between managerial factors and nurse burnout. The sample size was determined based on a power analysis to achieve adequate statistical power (generally 0.80) and to represent the nurse population representatively. Stratified random sampling technique helps reduce sample bias and increases the external validity of research results.

The independent variable in this study was nursing human resource management, encompassing HR practices in work scheduling, competency development, managerial support, staff allocation, and leadership within the nursing unit. The dependent variable was nurse burnout, measured using an internationally validated instrument, the Maslach Burnout Inventory (MBI), which encompasses three dimensions: emotional

exhaustion, depersonalization, and reduced personal accomplishment.

Survey data were analyzed using descriptive and inferential statistics. 1) Descriptive statistics were used to describe respondent characteristics and score distributions for HR management and burnout variables. Inferential tests, such as Pearson correlation analysis or multiple linear regression, were used to examine the relationship between nursing human resource management and nurse burnout levels. Statistical tests were conducted at a significance level of  $p < 0.05$ . This approach is consistent with methods used in similar quantitative studies exploring the relationship between head nurse leadership and nurse burnout through surveys and statistical analysis (e.g., parallel mediation analysis). To ensure instrument validity, this study used instruments that have been previously tested in various studies of nurse burnout and organizational management. Reliability tests (e.g., Cronbach's alpha) were conducted to measure the internal consistency of each measurement scale.

**Results**

**1. Respondent Characteristics**

This study involved 120 nurses working in a hospital. Respondent characteristics are presented in Table 1.

Table 1. Distribution of Respondent Characteristics (n = 120)

| Characteristics | Category    | n  | %    |
|-----------------|-------------|----|------|
| Gender          | Female      | 84 | 70,0 |
|                 | Male        | 36 | 30,0 |
| Age             | < 30 years  | 38 | 31,7 |
|                 | 30–40 years | 56 | 46,6 |
| Year of Service | > 40 years  | 26 | 21,7 |
|                 | < 5 years   | 34 | 28,3 |
| Education       | 5–10 years  | 47 | 39,2 |
|                 | > 10 years  | 39 | 32,5 |
| Characteristics | D3 Nursing  | 51 | 42,5 |
|                 | S1/Nursing  | 69 | 57,5 |

The results showed that the majority of respondents were female nurses, aged 30–40, with 5–10 years of service experience, and a bachelor's degree in nursing. This

profile reflects the general structure of the hospital nursing workforce.

## 2. Univariate Analysis

### 2.1 Nursing Human Resource Management

The assessment of nursing human resource management included aspects of workforce planning, workload, leadership support, competency development, and reward systems.

Table 2. Distribution of Nursing Human Resource Management

| Nursing Human Resources Management | n   | %    |
|------------------------------------|-----|------|
| Good                               | 52  | 43,3 |
| Sufficient                         | 41  | 34,2 |
| Poor                               | 27  | 22,5 |
| Total                              | 120 | 100  |

The results of the study showed that the majority of nurses rated nursing human resource management as good, but more than one-fifth of respondents still rated it as poor, indicating gaps in human resource management.

### 2.2 Nurse Burnout Levels

Burnout is measured using three main dimensions: emotional exhaustion, depersonalization, and decreased personal accomplishment.

Table 3. Distribution of Nurse Burnout Levels

| Burnout Level | n   | %    |
|---------------|-----|------|
| Low           | 46  | 38,3 |
| Medium        | 49  | 40,8 |
| High          | 25  | 20,9 |
| Total         | 120 | 100  |

The results of the study showed that most nurses experienced moderate levels of burnout, while approximately one-fifth

experienced high levels of burnout, potentially impacting the quality of nursing care and patient safety.

## 3. Bivariate Analysis

Bivariate analysis was conducted to determine the relationship between nursing human resource management and nurse burnout levels using the Chi-Square test.

Table 4. Relationship between Nursing Human Resource Management and Nurse Burnout Levels

| Human Resource Management | Low Burnout | Moderate Burnout | High Burnout | Total | p-value |
|---------------------------|-------------|------------------|--------------|-------|---------|
| Good                      | 32 (61,5%)  | 16 (30,8%)       | 4 (7,7%)     | 52    | 0,001   |
| Sufficient                | 11 (26,8%)  | 21 (51,2%)       | 9 (22,0%)    | 41    |         |
| Poor                      | 3 (11,1%)   | 12 (44,4%)       | 12 (44,4%)   | 27    |         |
| Total                     | 46          | 49               | 25           | 120   |         |

The results of the study showed a Chi-Square test with a p-value of 0.001 ( $p < 0.05$ ), indicating a significant relationship between nursing human resource management and nurse burnout levels. Good human resource management tends to be associated with low burnout, while poor human resource management is associated with high burnout.

## 4. Multivariate Analysis

Multivariate analysis was conducted using ordinal logistic regression to determine the effect of nursing human resource management on burnout after controlling for confounding variables (age and length of service).

Table 5. Results of Ordinal Logistic Regression Analysis

| Variable                                      | OR   | 95% CI    | p-value |
|---|------|-----------|---------|
| Human Resource Management (Poor and Good)     | 4,25 | 1,98–9,12 | 0,000   |
| Human Resource Management (Adequate and Good) | 2,10 | 1,01–4,36 | 0,047   |
| Age (>40 years)                               | 1,42 | 0,71–2,84 | 0,315   |
| Service Length (>10 years)                    | 1,87 | 1,02–3,44 | 0,041   |

The results of the study showed that nurses working in units with poor nursing human resource management had a 4.25 times higher risk of burnout than nurses with good human resource management. Ten years of service (>10 years) also significantly increased burnout. Age did not show a statistically significant effect.

## Discussion

### 1. The Relationship Between Nursing Human Resource Management and Burnout Levels

The results of the study showed a significant relationship between nursing human resource management and nurse burnout levels. Nurses working in environments with good human resource practices tended to experience lower burnout, while ineffective human resource practices were associated with higher burnout. This finding is consistent with studies showing that organizational support, good leadership, and adequate work resources play a significant role in reducing nurse burnout levels (Chen & Xu, 2025).

In the Job Demands–Resources (JD-R) theory, burnout levels are influenced by the balance between job demands and job resources. When work demands are high and resources are low, nursing is prone to emotional exhaustion and depersonalization—two key dimensions of burnout (Bakker et al., 2014, JD-R Model).

Furthermore, a systematic review of research suggests that a positive nursing work environment, including career development opportunities, supervisor support, and good team relationships, contributes to increased work engagement and reduced burnout, which in turn supports the sustainability of quality healthcare (Chiminelli-Tomás et al., 2025).

### 2. Human Resource Management Factors Contributing to Burnout

Several nursing human resource management indicators have a direct impact on burnout levels:

- a. Leadership and managerial support: Strong head nurse leadership and support have been shown to reduce nurses' psychological burden and strengthen their sense of work meaning, thereby reducing burnout. This factor is supported by research showing that leadership quality and supervisors' social resources are negatively correlated with burnout (Bakker et al., 2019).
- b. Competency development and training: Nurses who have access to professional development tend to have a greater sense of competence and control over their work, contributing to reduced burnout symptoms and increased well-being at work (Chen & Xu, 2025).
- c. Workload balance: Poor workload management, such as high patient-to-nurse ratios or inflexible shift schedules, is associated with increased burnout. Workload studies even show that heavy workloads are directly related to high burnout in intensive care units (Wahyuni, 2025; Saputeri et al., 2025).

### 3. Impact of Burnout on Nurses and Organizations

Burnout not only impacts nurses individually, but also the healthcare organization as a whole. High levels of burnout are correlated with decreased job satisfaction, increased turnover intention, and reduced productivity and organizational commitment (Zheng et al., 2024).

Nurse burnout can also negatively impact the quality of care and patient safety, as well as reduce the quality of nurse-patient interactions—impacts found in international literature and previous

systematic reviews (Dall'Ora et al., 2020; van den Tooren et al., 2020).

#### 4. Psychosocial Mechanisms of Burnout

Burnout is not simply the result of understaffing or long working hours. Psychological dimensions such as perceived control over work, social support from coworkers and management, and work-life balance also contribute significantly to moderating the effects of work demands on burnout (Sukmayanti et al., 2024).

Resilience and coping strategies have also been shown to be important protective factors against burnout. A cross-national study found that nurses with high levels of resilience had a lower tendency to burnout, even when faced with high levels of work stress, such as during the COVID-19 pandemic (Girinathan et al., 2024).

#### 5. Managerial Implications

The findings of this study confirm that strategic human resource management interventions are crucial for addressing nurse burnout. Several managerial recommendations based on research evidence include: 1) strengthening nursing leadership, including training for head nurses in psychological support and equitable work planning; 2) improving the quality of workforce resources, such as through ongoing training, workload evaluation, and increased nurse involvement in operational decisions; and 3) creating an internal social and psychological support system through support groups, counseling, or ongoing work wellness programs. This approach not only reduces burnout but can also improve nursing workforce retention, service quality, and overall patient safety.

#### Conclusion

Good human resource management practices, including effective nursing

workforce planning, equitable workload allocation, strong leadership support, and competency development opportunities, have been shown to be associated with lower rates of nurse burnout. Conversely, suboptimal human resource management is associated with increased emotional exhaustion, depersonalization, and decreased personal accomplishment in nurses.

Univariate analysis results indicate that most nurses experience moderate levels of burnout, while bivariate and multivariate analyses confirm that nursing human resource management is the dominant factor influencing burnout levels, even after controlling for age and tenure. These findings indicate that organizational and managerial factors play a stronger role than individual characteristics in triggering or preventing nurse burnout. Therefore, strengthening nursing human resource management is a key strategy in burnout prevention. Implementing human resource policies that prioritize nurse well-being not only impacts the psychological health of nursing staff but also contributes to improving service quality, patient safety, and the overall sustainability of healthcare organizations.

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