Comparison Of Factors That Influence The Stress Level Of Nurses In The ICU And ER At RSUD Toto Kabila

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Abstract
Work stress among nurses is a critical issue that may reduce the quality of nursing care, particulary in high-intensity units such as the Intensive Care Unit (ICU) and Emergency Departement (ED). This Study aimed to compare nurses work stress levels in the ICU and ED and to analyze the influencing factors, including workload, social support and length of employment. This study employed a descriptive analytic design with a cross-sectional approach. The sample consisted of 48 nurses, including 20 ICU nurses and 28 ED nurses, selected using total sampling. Data were collacted using structured questionnaires and analyzed using Spearman Rank Correlation and Mann-Whitney U tests with a significance level of p<0.05. The results showed significant differences in work stress levels (p=0.003) and workload (p=0.004) between ICU and ED nurses. Workload had a strong positive correlation with work stress in ICU nurses (r=0.642; p=0.001) and ED nurses (r=0.711; p=0.000). Social support showed a significant negative correlation with work stress among ICU nurses (r= -0.402; p=0.045)., but not among ED nurses. Length of employment was not significantly associated with work stress in both units. Workload is the dominant factor affecting nurses work stress, particularly in the Emergency Department. Optimizing workload management and strengthening social support are essential to reduce nurses work stress.

Keywords: Comparison of ICU and ED; ER; ICU; Length of Work for Nurses; Social Support; Workload; Work Stress.

INTRODUCTION

Work stress among nurses is a serious issue in healthcare services because it can affect nurses' physical and psychological health and reduce the quality of nursing care. Nurses are required to provide fast, accurate, and safe services under working conditions that are often highly stressful, especially in units with high emergency levels such as the Intensive Care Unit (ICU) and Emergency Room (ER). This situation makes nurses one of the healthcare worker groups most vulnerable to job stress (Parmawanti & Nugraheni, 2025).

High workload is one of the main factors causing job stress among nurses. Workloads that are disproportionate to staffing levels, the complexity of nursing procedures, and tight time demands can increase nurses' psychological pressure. In addition to workload, social support from supervisors, coworkers, and the organizational environment plays an important role in helping nurses cope with work pressure. Adequate social support can function as a protective factor that reduces job stress levels, whereas low support can worsen nurses' stress conditions (Raharja, 2024).

Another factor influencing job stress is length of service. Nurses with longer work experience tend to have better adaptation skills and coping mechanisms for dealing with work pressure. However, some studies show that length of service is not always significantly related to job stress levels, especially in units with high workloads and dynamic working conditions such as the ICU and ER. Differences in job characteristics between these two units may lead to differences in the dominant factors affecting nurses' work stress (Maijefri et al., 2021).

RSUD Toto Kabila is one of the referral hospitals in Bone Bolango Regency with a relatively high number of patient visits, particularly in the ER. The high number of patients, the variety of emergency cases, and limited resources have the potential to increase nurses' workload and job stress. Meanwhile, the ICU has different service characteristics, with high levels of accuracy and intensity of patient monitoring but a relatively smaller number of patients. These conditions indicate the possibility of differences in stress levels and influencing factors between ICU and ER nurses.

Based on the above description, this study aims to compare the job stress levels of nurses in the ICU and ER at RSUD Toto Kabila and to analyze factors affecting nurses' job stress, including workload, social support, and length of service.

RESEARCH METHODS

Research Design

This study is a quantitative research with a descriptive-analytic design and a cross-sectional approach. It was conducted to analyze and compare the levels of job stress among nurses in the ICU and ER of RSUD Toto Kabila.

Population and Sample

The population in this study consisted of all nurses working in the ICU and ER of RSUD Toto Kabila. The sampling technique used was total sampling, with a total sample of 48 nurses, comprising 20 ICU nurses and 28 ER nurses.

Research Instruments

The research instrument used was a structured questionnaire consisting of four sections: a respondent characteristics questionnaire, a job stress questionnaire, a workload questionnaire, and a social support questionnaire. All instruments have been widely used in previous studies and were adapted to the research context.

Data Collection Procedure

Data collection was carried out by distributing questionnaires to respondents after obtaining permission from the hospital. Respondents were given an explanation of the study objectives and asked to sign an informed consent form. The questionnaires were completed independently by the respondents.

Data Analysis

The collected data were analyzed using univariate and bivariate analyses. Univariate analysis was used to describe respondent characteristics and the distribution of research variables. Bivariate analysis was used to examine the relationship between workload, social support, and length of service with job stress using the Spearman Rank Correlation test. The comparison of job stress levels and workload between ICU and ER nurses was analyzed using the Mann–Whitney U test with a significance level of $p < 0.05$.

Research Ethics

This study received permission from RSUD Toto Kabila. All respondents participated voluntarily and were assured of the confidentiality and anonymity of the research data.

RESULTS AND DISCUSSION

Results
Respondent Characteristics

Table 1. Characteristics of Nurse Respondents in the ICU and Emergency Room of Toto Kabila Regional Hospital

No	Characteristics	Category	Frequency (n)	Percentage (%)
1	Gender	Male	15	31.3%
		Female	33	68.7%
2	Level of Education	D3 Nursing	28	58.3%
		Ners (S1)	18	37.5%
		Profession (S2)	2	4.2%
3	Age	21–25 years	10	20.8%
		26–30 years	15	31.2%
		31–35 years	13	27.1%
		> 35 years	10	20.9%
4	Length of service	< 5 years	25	52.1%
		> 5 years	23	47.9%

This study involved 48 nurses, consisting of 20 ICU nurses and 28 emergency room nurses at Toto Kabila Regional Hospital. Respondents were predominantly female and in the young adult age range. The majority of nurses had a Diploma 3 (D3) in Nursing and more than five years of work experience.

Table 2. Distribution of Workload and Occupational Stress in Nurses in the ICU and Emergency Room

Workload	ICU		UGD	
	(n)	(%)	(n)	(%)
Light	3	15%	1	3.60%
Moderate	12	60%	9	32.10%
Heavy	5	25%	18	64.30%
Work Stress	ICU		UGD	
	(n)	(%)	(n)	(%)
Low	12	60%	10	35.70%
High	8	40%	18	64.30%

The analysis showed that nurses in the ER predominantly had heavy workloads, while nurses in the ICU mostly experienced moderate workloads. The work stress levels of nurses in the ER were mostly in the high category, while nurses in the ICU predominantly had low work stress.

Table 3. Distribution of Social Support and Work Stress in Nurses in the ICU and ER

Category	ICU		UGD	
	(n)	(%)	(n)	(%)
Family	5	25%	6	21.40%
Spouse	2	10%	3	10.70%
Superior	7	35%	9	32.10%
Colleagues	6	30%	10	35.80%
Work Stress	ICU		UGD	
	(n)	(%)	(n)	(%)
Low	12	60%	10	35.70%
High	8	40%	18	64.30%

The analysis showed that the source of social support for nurses in the emergency room came from coworkers, while in the ICU, it came from superiors. The work stress levels of nurses in the emergency room were mostly in the high category, while those in the ICU were predominantly low.

Table 4. Distribution of Length of Service and Work Stress in Nurses in the ICU and Emergency Room

Category	ICU		UGD	
	(n)	(%)	(n)	(%)
< 5 Years	8	40%	17	60.70%
> 5 Years	12	60%	11	39.30%
Total	**20**	**100%**	**28**	**100%**
Work Stress	ICU		UGD	
	(n)	(%)	(n)	(%)
Low	12	60%	10	35.70%
High	8	40%	18	64.30%

The analysis showed that the majority of nurses in the emergency room had worked for less than five years, while those in the intensive care unit (ICU) were dominated by those with more than five years of experience. The work stress levels of nurses in the emergency room were mostly in the high category, while those in the ICU were predominantly low.

Table 5. Relationship of Independent Variables with Nurse Work Stress

Independent Variable	ICU		UGD	
	R	p	R	P
Workload	0.642	0.001	0.711	0. 000
Social Support	-0.402	0.045	-0.289	0.123
Length of service	-0.312	0.089	-0.198	0.212

Spearman's Rank Correlation test results indicate that workload has a strong positive relationship with job stress in ICU and ER nurses. Social support has a significant negative relationship

with job stress in ICU nurses, but does not show a significant relationship in ER nurses. Length of service has no significant relationship with job stress in either unit.

Table 6. Results of the Mann-Whitney Test: Comparison of Independent Variables with Nurse Job Stress

Variable	p-value	Conclusion
Stress Level	0.003	Significant (higher in ER)
Beban Workload	0.004	Significant (higher in ER)
Social Support	0.118	Not Significant
Length of service	0.067	Not Significant

The Mann-Whitney U test results showed significant differences in workload and job stress between nurses in the ICU and the ER. However, no significant differences were found in the variables of social support and length of service between ICU and ER nurses.

Discussion

The results indicate that the level of job stress among ER nurses is higher than that of ICU nurses. This difference can be explained by the characteristics of ER care, which is fast-paced and unpredictable, and the high number of patients with emergency conditions. These conditions require nurses to make clinical decisions quickly and accurately, increasing psychological distress and the risk of job stress.

Workload was shown to have a strong positive relationship with job stress among nurses in both units. The findings indicate that the higher the workload perceived by nurses, the higher the level of job stress they experience. These results align with the Demand–Control–Support Model proposed by Karasek and Theorell (1990), which states that high work demands without adequate control and resources can increase job stress. In the emergency department (ED), the heavy workload is influenced by the high number of patients, the wide variety of cases, and the limited time available to provide care, making nurses more susceptible to work stress than nurses in the intensive care unit (ICU).

Social support showed a significant negative relationship with work stress in ICU nurses, meaning that the higher the social support received, the lower the nurse's work stress levels. Social support from superiors and coworkers in the ICU plays a crucial role in helping nurses cope with work pressure, given that the ICU work environment tends to be more structured with relatively stable teams. However, social support did not show a significant relationship with work stress in ED nurses. This is likely due to the fast-paced and changing work dynamics of the ED, making available social support less effective in reducing nurses' work stress.

Length of service did not show a significant relationship with work stress in either ICU or ED nurses. This finding suggests that longer work experience does not necessarily guarantee lower levels of work stress. In high-workload units, both long-tenured and new nurses still face significant work stress. These results align with several previous studies, which found that length of service is not the primary factor determining nurses' work stress levels, but rather is influenced by working conditions and the demands faced.

Overall, these research findings confirm that workload is a dominant factor influencing nurses' work stress, particularly in the emergency department. Therefore, effective workload management and increased social support in the workplace are important strategies for reducing nurses' work stress levels and improving the quality of nursing care.

CONCLUSION

This study shows significant differences in the levels of job stress and workload between ICU and Emergency Department nurses at Toto Kabila Regional Hospital. Emergency department nurses experienced higher levels of job stress and workload than ICU nurses. Workload was shown to be the factor most strongly associated with job stress in both units. Social support acted as a protective factor against job stress in ICU nurses, but did not show a significant relationship in ER nurses. Length of service was not significantly associated with job stress in either ICU or ER nurses. Thus, workload is the dominant factor influencing nurse job stress, particularly in the ER.

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