The Effect of Workload, Occupational Stress, and Work Motivation on Nurse Performance in The Surgical Inpatient Unit at Dr. Ramelan Hospital Surabaya

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Abstract.

This study aims to analyze the effect of workload, job stress, and work motivation on nurse performance in the surgical inpatient ward of RSPAL dr. Ramelan Surabaya in 2025. Nurses in surgical units face high job demands, physical and psychological pressure, and shift work systems that may affect the quality of nursing services. Excessive workload may increase job stress, while work motivation serves as an important driving factor in maintaining optimal performance. This research employed a quantitative approach with a cross-sectional design. The population consisted of all nurses working in the surgical inpatient ward, with samples selected through random sampling. Data were collected using structured questionnaires measuring workload, job stress, work motivation, and nurse performance. Multiple linear regression analysis was applied to determine both partial and simultaneous effects among variables. The results indicate that workload and job stress significantly influence nurse performance, while work motivation has a positive effect in improving performance. Simultaneously, these three variables contribute to changes in nurse performance. The study concludes that hospital management should optimize workload distribution, reduce job stress, and enhance motivation through organizational support and professional development programs.

Keywords: *Job stress; nurse performance; workload and work motivation.*

I. INTRODUCTION

Hospitals, as healthcare service institutions, bear a significant responsibility in delivering services that are safe, high-quality, and oriented toward patient safety. Within the hospital service system, nurses are the healthcare professionals who have the highest intensity of interaction with patients; therefore, their performance serves as an important indicator in assessing the quality of care. Nurses' performance is influenced by various factors, both individual and organizational in nature, such as workload, job stress, and work motivation[1] Individual performance within an organization is influenced by ability, motivation, as well as the pressures or job demands encountered. Therefore, understanding the factors that affect nurses' performance is crucial in efforts to improve the quality of hospital services.Workload is one of the main factors that influence the performance of healthcare professionals [2] It is stated that excessive workload can cause both physical and psychological strain, which may lead to a decline in work performance. In the context of nursing services, workload is not only related to the number of patients but also to the complexity of cases, documentation demands, and responsibilities for interprofessional coordination. If the workload is not balanced with the available workforce capacity, the risk of fatigue and a decline in the quality of care will increase. Job stress is also an important factor that can affect nurses' performance. Job stress arises when job demands exceed an individual's ability to cope with them[3] Through the Job Demand–Resources Model, Demerouti et al. explain that job demands such as time pressure, task load, and job complexity can drain an individual's energy and reduce performance if they are not balanced with adequate resources.

In nursing services, job stress can lead to decreased concentration, accuracy, and clinical decision-making, which ultimately has the potential to affect patient safety.Work motivation serves as a driving factor that can enhance individual performance [4] It is explained that Psychological Capital, which consists of self-efficacy, hope, optimism, and resilience, has a positive contribution to employee performance[5] In a dynamic and high-pressure hospital environment, work motivation becomes an important psychological

resource for maintaining emotional stability and consistent nursing performance. Individuals with high work motivation tend to be more resilient under pressure and continue to demonstrate optimal work quality.RSPAL dr. Ramelan Surabaya, as one of the referral hospitals with intensive surgical services, faces complex operational challenges. The number of surgical inpatients each month averages around 1,000 to 1,500 patients, resulting in an annual total of approximately 14,000 to 17,000 surgical procedures. This high patient volume reflects a very intensive level of service delivery and has the potential to significantly increase nurses' workload. Nurses are not only responsible for carrying out clinical procedures, but also for documenting nursing care, maintaining sterility, preparing surgical instruments, coordinating promptly with physicians, and providing education to patients' families [7]. During 2025, the Bed Occupancy Rate (BOR) of the surgical inpatient wards at RSPAL dr. Ramelan Surabaya ranged between 90 to 100%, indicating that nearly the entire bed capacity was consistently occupied.

The high BOR reflects an intensive level of service delivery and a substantial monitoring burden for postoperative patients who require special attention. This condition has the potential to increase work pressure and nurses' stress levels, particularly during patient surges or emergency cases that demand rapid response and precise clinical action [8]. Interestingly, despite the very high service volume and operational workload, the results of patient satisfaction surveys indicate that satisfaction levels remain within the "satisfied" category. This phenomenon raises an important academic question: how are nurses able to maintain service performance under conditions of high workload and pressure? Does work motivation serve as a protective factor that helps sustain the quality of care even when job demands increase? These questions are relevant to investigate in order to understand the dynamics between workload, job stress, work motivation, and nurses' performance [9]. Based on the above description, this study aims to analyze the influence of workload, job stress, and work motivation on nurses' performance in the surgical inpatient wards of RSPAL dr. Ramelan Surabaya. This research is expected to provide a theoretical contribution to the development of human resource management studies in the healthcare sector, as well as to offer practical recommendations for hospital management in managing the balance between job demands and nurses' psychological resources in order to sustain service quality continuously.

II. METHODS

This study employed a quantitative approach with a cross-sectional design, in which data were collected at a single point in time without any intervention in the variables under investigation. The quantitative approach was selected because this study aims to objectively examine the relationships and effects of workload, job stress, and work motivation on nurse performance through statistical analysis.The cross-sectional design enables the researcher to describe the actual conditions of nurses in the surgical inpatient ward at the time the study was conducted and to analyze the relationships among variables simultaneously. The independent variables in this study were workload, job stress, and work motivation, while the dependent variable was nurse performance. The measurement of performance was based on the dimensions of task performance, contextual performance, and counterproductive work behavior, as well as indicators of work effectiveness and efficiency as proposed by Sarıköse and Göktepe [2].The study was conducted in the surgical inpatient ward of RSPAL dr. Ramelan Surabaya, which includes several care units, namely Galang 1, Galang 2, Halmahera 1, Bunaken 1, Cempah 1, Bacan 3rd Floor, and Pavilion 1. The study population consisted of all nurses assigned to the surgical inpatient ward during the period of December 2025. The sample was determined using a random sampling technique to provide equal opportunities for each nurse to be selected as a research respondent.

This technique was chosen to minimize sampling bias and enhance the external validity of the study. The research was conducted in accordance with ethical research principles, including informed consent, confidentiality of respondent data, and the use of data solely for academic purposes. The research instrument consisted of a structured questionnaire developed based on the indicators of each variable. Workload was measured based on the concepts of physical, mental, emotional, and administrative workload as described by Tarwaka [10] and Sriwulandari [11], while also incorporating the dimensions of mental demand and temporal demand from the NASA-TLX concept (Hart & Staveland, 1988). Job stress was measured based on

stress-inducing factors such as excessive workload, time pressure, work conflict, and organizational demands, supported by the findings of Sarabandi et al. [4]. Meanwhile, work motivation was measured using the concept of Psychological Capital (PsyCap), which includes self-efficacy, hope, optimism, and resilience, as explained by Luthans et al. [7] and reinforced by Mualimin et al. [6].

All instruments underwent validity and reliability testing to ensure that the measurement tools were appropriate and consistent in assessing the research variables. Data analysis was conducted in several stages using statistical software. The analysis procedures included classical assumption tests consisting of normality, heteroscedasticity, and multicollinearity tests to ensure that the data met the requirements for multiple linear regression analysis. Subsequently, multiple linear regression analysis was performed to examine both the partial effects (t-test) and the simultaneous effects (F-test) of workload, job stress, and work motivation on nurse performance. The coefficient of determination (R^2) was used to determine the magnitude of the contribution of the independent variables to the dependent variable. The selection of multiple linear regression analysis was based on the study's objective to comprehensively identify the influence of more than one independent variable on a single dependent variable. The results of the analysis were then interpreted to provide an empirical overview of the most dominant factors influencing nurse performance in the surgical inpatient ward of RSPAL dr. Ramelan Surabaya.

III. RESULT AND DISCUSSION

1. The Effect of Workload on Nurse Performance

Table 1. Results of the Partial Hypothesis Testing (t-test)

Independent Variables	Coefisient B	t Count	Sig.	Direction of Influence	Information
Workload	−0,213	−3,042	0,003	Negative	Have a significant impact
Job Stres	−0,526	−5,010	0,000	Negative	Have a significant impact
Work Motivation	0,294	4,246	0,000	Positive	Have a significant impact

Source: Processed data analyzed using IBM-SPSS Statistics Version 26

Based on the results of the partial test (t-test), the workload variable had a significance value of 0.003, which is lower than 0.05, with a negative regression coefficient (−0.213). This indicates that workload has a negative and significant effect on nurse performance, meaning that the higher the perceived workload, the lower the nurse performance tends to be. The job stress variable also had a significance value of 0.000 with a negative regression coefficient (−0.526), indicating that job stress has a negative and significant effect on nurse performance. The higher the level of job stress, the greater the decline in nurse performance. Meanwhile, the work motivation variable showed a significance value of 0.000 with a positive regression coefficient (0.294), meaning that work motivation has a positive and significant effect on nurse performance. Thus, partially, workload and job stress function as inhibiting factors of performance, whereas work motivation serves as a driving factor in improving nurse performance. The regression analysis results indicate that workload has a negative and significant effect on nurse performance, with a regression coefficient value ($B = -0.213$), t-value of −3.042, and a significance level of 0.003 ($p < 0.05$). The negative coefficient suggests that every increase in workload is followed by a decrease in nurse performance. This finding supports the Job Demand Resources Model proposed by Demerouti et al.

[12], which explains that workload, as a job demand, can deplete employees' physical and mental energy, thereby negatively affecting performance when not balanced with adequate job resources. In the context of nurses working in surgical inpatient wards, high workload manifested in the form of intense concentration demands, extended working hours, time pressure, and administrative burden may reduce work efficiency, increase fatigue, and heighten the risk of errors. The findings of this study are consistent with the research conducted by Garosi, Mazloumi, and Najafi [9], who found that nurses in surgical units with high workloads experienced decreased work capacity and service quality. Similarly, Pourteimour et al. [3]

demonstrated that mental workload significantly contributes to decreased nurse performance through increased fatigue and reduced concentration. In addition, Ning et al. [13] reported that excessive workload is correlated with declining nurse performance, particularly in high-intensity service units. These findings are also aligned with studies conducted in Indonesia by Kurniadi [14] and Sriwulandari [11], which state that the imbalance between patient numbers and nursing staff, as well as high administrative demands, significantly affects the decline in nurse performance effectiveness.

2. The Effect of Job Stress on Nurse Performance

Table 2. Results of the Multiple Linear Regression Test

Independent Variables	B Coefficient	Std. Error	Beta	t	Sig.
(Constant)	40,989	7,417	–	5,527	0,000
Work Load	−0,213	0,070	−0,258	−3,042	0,003
Work Stress	−0,526	0,105	−0,429	−5,010	0,000
Work Motivation	0,294	0,069	0,371	4,246	0,000

Source: Processed data analyzed using IBM- SPSS Statistics Version 26

Therefore, this study reinforces that proportional workload management is a key factor in maintaining nurse performance and ensuring the quality of nursing care. Based on the results of the multiple linear regression analysis, a regression equation was obtained showing the relationship between workload, job stress, and work motivation on nurse performance:

Nurse Performance = 40.989 − 0.213 (X1) − 0.526 (X2) + 0.294 (X3) + e.

The constant value of 40.989 indicates that when workload, job stress, and work motivation are assumed to be constant, nurse performance remains at that value. The workload regression coefficient of −0.213 indicates that an increase in workload will reduce nurse performance, assuming other variables remain constant. The job stress regression coefficient of −0.526 also shows that the higher the level of job stress experienced by nurses, the lower their performance will be. Conversely, the work motivation regression coefficient of 0.294 indicates that an increase in work motivation will be followed by an increase in nurse performance. Thus, workload and job stress function as performance-reducing factors, whereas work motivation serves as a performance-enhancing factor. The descriptive analysis results indicate that most nurses fall into the moderate to high job stress category. The main stressors reported by respondents include excessive workload, time pressure in completing nursing interventions, high documentation demands, and shift work systems that disrupt rest balance. These findings who stated that work overload is a primary trigger of job stress. Furthermore, Sarabandi et al. [4] emphasized that nurses in military hospitals tend to experience higher psychological pressure due to strict command systems and high disciplinary demands.Theoretically, the findings of this study support the view, who argue that job stress arises from mental pressure, workplace discomfort, as well as strict infection control demands and healthcare protocols.

Prolonged job stress can reduce work engagement and directly affect service quality. That stress resulting from role overload has been shown to decrease task performance and increase counterproductive work behavior. Therefore, job stress not only reduces the effectiveness of clinical actions but may also affect social interactions and teamwork within the workplace. These findings are also consistent with Ning et al. [13], who reported that nurse job stress is closely associated with anxiety, physical fatigue, and professional attitudes. When nurses experience sustained psychological pressure, their concentration capacity, accuracy, and clinical decision-making abilities decline. This condition poses significant risks in surgical inpatient wards, where rapid responses and precise actions are required in monitoring postoperative patients.The results of this study indicate that job stress is a significant variable affecting nurse performance and should become a primary concern for hospital management. Efforts to control job stress may include more balanced shift scheduling, the provision of psychological support, improved team communication, and stress management training. Effective job stress management is expected to enhance nurses' emotional stability, maintain service quality, and ensure patient safety in surgical inpatient wards.

3.The Effect of Work Motivation on Nurse Performance

Table 3. Results of the Simultaneous Hypothesis Testing (F-test)

Model	Sum of Squares	df	Mean Square	Count F	Sig.
Regression	3.212,568	3	1.070,856	24,637	0,000
Residual	3.086,099	71	43,466	–	–
Total	6.298,667	74	–	–	–

Source: Processed data analyzed using IBM-SPSS Statistics Version 26

Based on the results of the simultaneous test (F-test), the calculated F-value was 24.637 with a significance value of 0.000, which is lower than the significance level of 0.05. This indicates that workload, job stress, and work motivation simultaneously have a significant effect on nurse performance. Therefore, the regression model used in this study is considered appropriate and capable of explaining the relationship between the independent variables and the dependent variable. These results suggest that changes in nurse performance are not influenced by a single factor alone, but rather are the result of a combination of workload, job stress levels, and work motivation experienced by nurses.Descriptively, the majority of respondents were categorized as having high work motivation. This is reflected in the high scores on indicators of self-efficacy, hope, optimism, and resilience. These dimensions are consistent with the concept of Psychological Capital (PsyCap) proposed by Luthans et al. [7], which posits that individuals with high levels of PsyCap tend to have strong confidence in completing tasks, optimism regarding work outcomes, and the ability to remain resilient when facing work-related pressures. In the context of surgical inpatient wards, work motivation becomes particularly important given the high clinical demands and the dynamic conditions of postoperative patients.

The findings of this study also support those of Mualimin et al. [6], who reported that Psychological Capital has a positive and significant effect on healthcare workers' performance. Nurses with high motivation tend to demonstrate better task performance, stronger teamwork capabilities, and greater professional commitment. In addition, Sarıköse and Göktepe [2] explain that high work motivation is correlated with increased service effectiveness and patient satisfaction. This indicates that work motivation affects not only individual performance but also overall service quality.These findings are also aligned with the Job Demand–Resources Model [12], in which work motivation functions as a job resource capable of balancing job demands. When nurses possess strong psychological resources, high job demands do not directly reduce performance. Instead, high motivation enhances mental resilience and helps maintain consistent work performance even in challenging work situations.Overall, the results of this study indicate that work motivation serves as a protective factor that significantly enhances nurse performance. Therefore, hospital management should strengthen work motivation through recognition and rewards, career development opportunities, professional training, and the creation of a supportive work environment. These efforts are expected to sustain and improve the quality of nursing services in surgical inpatient wards over time.

4. The Combined Effect of Workload, Job Stress, and Work Motivation on Nurse Performance

Table 4. Coefficient of Determination (R^2) Results

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	0,714	0,510	0,489	6,593

Source: Processed data analyzed using IBM-SPSS Statistics Version 26

Based on the table above, the correlation coefficient (R) value of 0.714 indicates a strong relationship between workload, job stress, and work motivation and nurse performance. The coefficient of determination (R Square) value of 0.510 shows that 51.0% of the variance in nurse performance can be explained by these three independent variables, while the remaining 49.0% is influenced by other factors outside the research model. The Adjusted R Square value of 0.489 indicates that after adjusting for the number of independent variables, the contribution of workload, job stress, and work motivation to nurse performance remains relatively substantial. Therefore, the regression model used in this study is considered sufficiently capable of explaining the relationship between the independent and dependent

variables.Simultaneously, workload and job stress function as risk factors that may potentially reduce performance if not properly managed, whereas work motivation acts as a protective factor that can enhance and sustain performance quality. These findings reinforce the theoretical framework of the Job Demand–Resources Model [12], which explains that job demands such as workload and work pressure can deplete healthcare workers' physical and psychological energy. However, when individuals possess strong job resources such as work motivation and Psychological Capital, the negative impact of job demands can be minimized.

The findings of this study are also consistent with Ahmad et al. (2024), who state that role overload and work pressure contribute to decreased task performance; however, psychological support and motivational factors can strengthen individual performance. In the context of nursing services in surgical inpatient wards, these three variables are dynamically interrelated. High workload tends to increase job stress, and if not balanced by strong work motivation [7], the decline in performance becomes more significant. The results of this study indicate that the most dominant variable influencing nurse performance is work motivation, followed by job stress and workload. This suggests that although workload and job stress cannot be entirely avoided in hospital settings, strengthening work motivation can serve as an effective managerial strategy to maintain service quality. Therefore, hospital management should implement a comprehensive approach that includes proportional workload management, job stress management, and the enhancement of motivation through organizational support, recognition, and continuous professional development. The simultaneous test results confirm that nurse performance is not influenced by a single factor but rather is the result of a complex interaction between job demands and individual psychological resources. A holistic management approach oriented toward balancing job demands and job resources is essential to improving and sustaining nurse performance in surgical inpatient wards.

IV. CONCLUSION

Based on the results of the study conducted in the surgical inpatient ward of RSPAL dr. Ramelan Surabaya, it can be concluded that workload has a significant negative effect on nurse performance. The higher the perceived workload whether physical, mental, or administrative the greater the tendency for nurse performance to decline. Workload that is not balanced with individual capacity has the potential to reduce the effectiveness of nursing care delivery and increase the risk of service errors. Therefore, workload management is a crucial factor in maintaining the quality of nursing services.Job stress was also found to have a significant negative effect on nurse performance. High work pressure, time demands, shift work systems, and the complexity of postoperative patient care contribute to increased stress levels among nurses. Prolonged job stress can reduce concentration, accuracy, and emotional stability, thereby negatively affecting service quality. These findings indicate that job stress is a risk factor that requires serious attention in hospital human resource management. Meanwhile, work motivation was proven to have a significant positive effect on nurse performance and emerged as the most dominant variable influencing performance. Nurses with high levels of motivation characterized by self-efficacy, optimism, hope, and resilience tend to demonstrate better work performance.

Simultaneously, workload, job stress, and work motivation collectively have a significant effect on nurse performance. This suggests that nurse performance is the result of an interaction between job demands and individual psychological resources, thereby requiring a comprehensive managerial approach to maintain a balance between these factors. Workload distribution should be managed more proportionally, including adjustments to the nurse-to-patient ratio and the implementation of more balanced shift scheduling. In addition, stress management programs are necessary, such as coping stress training, psychological counseling services, and enhanced communication and teamwork support to create a more conducive and supportive work environment.For future researchers, it is recommended to include additional variables that may potentially influence nurse performance, such as leadership, organizational culture, job satisfaction, or social support. Longitudinal research designs are also suggested to examine changes in nurse performance over time, thereby providing a more comprehensive understanding of the dynamic factors influencing performance within hospital settings.

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