



Analysis of Factors Affecting Nurses' Performance in Inpatient Units

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Abstract

Nurse performance is an essential determinant of hospital service quality and is influenced by workload, professional competence, and work motivation. This study aimed to analyze the influence of these factors on nurse performance and identify the most dominant determinant in the Inpatient Unit of Ibnu Sina Hospital Makassar in 2026. A quantitative analytical observational study with a cross-sectional design was conducted involving 62 nurses. Data were collected using questionnaires and analyzed using the Chi-Square test and multivariate logistic regression. The results showed that most nurses demonstrated good performance. Bivariate analysis revealed significant associations between nurse performance and workload ($p < 0.001$), work motivation ($p = 0.003$), and professional competence ($p < 0.001$). Multivariate analysis confirmed that workload ($p = 0.049$), work motivation ($p = 0.031$), and professional competence ($p = 0.021$) were significantly associated with nurse performance. The overall model was statistically significant ($p < 0.001$). Professional competence emerged as the most dominant factor based on the highest Odds Ratio. In conclusion, workload, work motivation, and professional competence were significantly associated with nurse performance. Strengthening professional competence, supported by effective workload management and motivational strategies, is essential for improving nursing performance and hospital service quality.

Introduction

Hospital quality relies on the delivery of optimal services, and nursing staff are the most critical element in this context (You et al., 2013; Beheshtinia et al., 2025; Yakusheva et al., 2024). Nurses constitute the largest segment of the healthcare workforce and engage in high-intensity interactions with patients, particularly in inpatient units (Arifah Devi Fitriani et al., 2024; Tria Aulia et al., 2023).

Globally, the World Health Organization (WHO) reports that nurses account for nearly 59% of the total global health workforce; consequently, the quality of health systems is heavily influenced by the productivity and performance of nursing personnel. The WHO also emphasizes that nursing shortages, unbalanced workload distribution, and low motivation are major challenges facing modern healthcare. Poor nursing performance can lead to increased medical errors, service delays, patient falls, and nosocomial infections, as well as reduced patient satisfaction (Sanjobo et al., 2025; Riman et al., 2022; AlThubaity et al., 2023).

In Southeast Asia, various studies indicate that 30–60% of hospital nurses experience high workloads, particularly in inpatient wards and units with high bed occupancy rates. Regional

research also shows that over 40% of nurses suffer from burnout due to job demands and long shifts (Astari et al., 2024).

In Indonesia, nurses represent the largest component of the hospital workforce (Muharram et al., 2024; Firman et al., 2024; Hadi et al., 2024). However, many hospitals continue to face issues regarding the mismatch between patient numbers and staffing levels, especially in inpatient wards. Nurses constitute the most dominant group within the health workforce, accounting for 65.3% of the total equivalent to approximately 533,796 individuals. Regarding the group of healthcare workers with the lowest numbers (Norman Alfiat Talibo & Irma M. Yahya, 2024)

According to Gibson (2003), individual performance within an organization is influenced by three main groups of factors: individual, organizational, and psychological factors. Individual factors encompass abilities and skills; background elements such as family circumstances, social status, and income level; and demographic characteristics like age, region of origin, and gender. Organizational factors include resource availability, leadership, reward or compensation systems, organizational structure, and workload. Meanwhile, psychological factors comprise perceptions, attitudes, personality, learning processes, and motivation. These three groups of factors are interrelated in shaping employee work behavior and ultimately help determine the resulting level of performance (Tini Utami, 2019).

Assessment of nurse performance is carried out by reviewing the completeness of nursing care documentation (Ningsih, 2023; Jasem & Younis, 2024). The dominant number of nurses in the hospital health workforce structure needs to be balanced with adequate competence and optimal work performance. The quality of a nurse's performance can be seen through the quality of nursing care that is given to the patient. Peraxw'at has an important role in building the perception and image of society and society as well as supporting the achievement of organizational goals. As a profession, nursing requires nurses to carry out their duties professionally in accordance with their competence and authority (Ministry of Health of the Republic of Indonesia, 2005). Therefore, the implementation of nursing services requires adequate abilities and skills so that each task can be carried out optimally and is able to produce quality nursing care. (Asmeriyanty et al., 2024; Kamaruddin & Nurhanifah, 2024; Wahyudin et al., 2026; Rostami et al., 2026).

Research by Rochadi & Meher (2021) shows that the implementation of nursing care by nurses is still minimal, with 52.5% of respondents in the poor category. Similar findings by Teresa et al. (2021) in a Jakarta hospital, which found that 56.8% of nurses' performance was poor, while the good category was 43.2%. Meanwhile, research by Tulasi et al. (2021) at R'SxUD Kefxa'menanu, Kaxbup'aten Txim'or Texng'ah Uta'xra, shows that nurses have good performance in the kurx'ang category, namely 55.1%, while 44.9% are included in the good category. (Nafis 'et a'xl., 2x021; Teresa e't xal', 20x21; Tulasi et' xa'l., 20x21)

The selection of the variables work load, professional competence, and work motivation in this research is based on the findings of various previous studies which show that these three factors are important determinants of nurse performance (Kurniawati et al., 2023; Abadi & Norawati, 2022; Wulandari & Dara, 2023). Research by Lasri and Hidayati (2022) found that there is a relationship between work load & nurse performance, where an increase in work load contributes to a decrease in nurse performance. In addition, research by Gulo et al. (2024) also showed that work load and work motivation have a significant correlation with the performance of nurses in hospitals (Rizal et al., 2026; Ain & Wiliynarti, 2026). Professional competence is an ability that includes knowledge, clinical skills, decision-making abilities, therapeutic communication, and application of nursing care standards. Research by Priyanti et al. (2024) showed that competence and work motivation have a significant influence on the performance of nurses in hospital inpatient units. Similar findings were reported by Lase (2025) who found

that competence and motivation had a partial or simultaneous influence on nurse performance. However, research results in various hospitals show variations in the influence of each factor according to organizational characteristics, work culture, number of patients, and different service systems (Simonetti et al., 2026; Puspitasari et al., 2026; Srimulyani & Hermanto, 2022).

Ruma'h Sak'it Ib'nu S'ina M'akassar is a private referral hospital in Maka'ssar City which has an inpatient installation with a high volume of patients and a need for 24 hour nursing services. Based on a 2026 survey of several inpatient nurses, complaints were found regarding the high number of patients per shift, large documentation burden, fatigue after night shifts, the need for further clinical training, and the need to improve the work reward system. In addition, initial observation results show that there are still delays in responding to patient calls during peak hours and variations in the completeness of nursing care documentation. Until now, research that specifically analyzes these three variables in the raw'at in'ap installation of Rum'ah Sa'kit Ib'nu Si'na Mak'assar is still limited.

Based on the foregoing, it is necessary to conduct a study titled “Analysis of Determinants of Nurse Performance via Workload, Professional Competence, and Work Motivation in the Inpatient Unit of Ibnu Sina Hospital, Makassar, in 2026.” This research is expected to serve as a basis for formulating nursing human resource management strategies to improve the quality of hospital services.

Methods

Study Design and Setting

This study employed a quantitative approach with an analytical observational and cross-sectional design to examine the associations between workload, professional competence, work motivation, and nurses' performance. The study was conducted in the inpatient units of Ibnu Sina Hospital, Makassar, Indonesia, in 2026. The cross-sectional design allowed the independent variables and nurses' performance to be assessed during the same study period. This approach was considered appropriate for examining the relationships between organizational, individual, and motivational factors and nurses' performance in the hospital setting.

Study Population and Participants

The study involved 62 nurses working in the inpatient units of Ibnu Sina Hospital, Makassar. These nurses constituted the final analytical sample. All respondents had complete data for the variables examined, and no observations were excluded because of missing information. The analysis included nurses with different levels of workload, professional competence, work motivation, and performance, allowing comparisons across the categories represented in the study population.

Research Variables and Measurements

The study examined three independent variables, namely workload, professional competence, and work motivation, with nurses' performance as the dependent variable. Data were collected using questionnaires designed to assess the variables of interest.

Workload referred to the demands and responsibilities associated with nursing activities and was classified into light, moderate, and heavy categories. Professional competence reflected nurses' capacity to fulfill their professional responsibilities and was classified as less professional, moderately professional, and professional. Work motivation represented the level of motivation associated with performing nursing responsibilities and was categorized as low, moderate, or high.

Nurses' performance reflected the implementation of nursing duties and responsibilities and was classified as poor, adequate, or good. Although three performance categories were

considered in the descriptive classification, the observed data contained only adequate and good performance categories. Accordingly, nurses' performance was treated as a binary outcome in the multivariate analysis.

Data Collection

Data were collected through questionnaires administered to nurses working in the inpatient units. The questionnaire responses provided information on workload, professional competence, work motivation, and nurses' performance. Following data collection, responses were examined for completeness and organized according to the predefined study variables. The data were subsequently coded and categorized for statistical analysis. All 62 respondents were included in the final analysis because their records were complete for the variables examined.

Statistical Analysis

Data analysis was conducted in three stages: univariate, bivariate, and multivariate analyses. Univariate analysis was used to describe the distribution of each study variable through frequencies and percentages. Bivariate analysis was performed using Pearson's Chi-square test to examine the associations between workload, professional competence, work motivation, and nurses' performance. Fisher's exact test was also used to evaluate associations in the contingency tables.

Multivariate analysis was conducted using binary logistic regression to examine the associations between the three independent variables and nurses' performance after adjustment for the other variables included in the model. Binary logistic regression was selected because the observed dependent variable consisted of two categories: adequate and good performance. The regression results were presented using regression coefficients (B), Wald statistics, p-values, and odds ratios (OR), expressed as $\text{Exp}(B)$.

The overall significance of the regression model was assessed using the Omnibus Test of Model Coefficients. Nagelkerke R Square was used as a measure of the model's explanatory performance, while the Hosmer–Lemeshow goodness-of-fit test was applied to assess model calibration. The model's classification accuracy was also examined to determine its ability to distinguish between the two observed performance categories. Statistical significance was established at $p < 0.05$.

Result and Discussion

Characteristics and Distribution of Research Variables

This study was conducted to analyze the determinants of workload, professional competence, and work motivation on nurses' performance in the Inpatient Unit of Ibnu Sina Hospital, Makassar, in 2026. The study involved 62 nurses as respondents. All respondents had complete data for the variables analyzed; therefore, there were no missing data.

Data analysis included univariate, bivariate, and multivariate analyses. Univariate analysis was used to describe the distribution of each research variable. Bivariate analysis was conducted to examine the relationship between each independent variable and nurses' performance. Furthermore, multivariate analysis was performed using binary logistic regression to identify the determinants of nurses' performance after simultaneously analyzing the independent variables.

Table 1. Distribution of Nurse Performance

Nurses' Performance	Frequency (n)	Percentage (%)
Poor	0	0.0
Adequate	10	16.1

Good	52	83.9
Total	62	100.0

Based on Table 1, the majority of nurses demonstrated good performance, with 52 respondents (83.9%) falling into this category. Meanwhile, 10 respondents (16.1%) were classified as having adequate performance, and none were categorized as having poor performance. These findings indicate that most nurses in the Inpatient Unit of Ibnu Sina Hospital, Makassar, demonstrated good performance, although a small proportion remained in the adequate performance category.

Table 2. Distribution of Nurses' Workload

Workload	Frequency (n)	Percentage (%)
Heavy	20	32.3
Moderate	42	67.7
Light	0	0.0
Total	62	100.0

Based on Table 2, the majority of nurses experienced a moderate workload, accounting for 42 respondents (67.7%), while 20 respondents (32.3%) reported a heavy workload. No respondents were classified as having a light workload. These findings indicate that most nurses in the Inpatient Unit of Ibnu Sina Hospital, Makassar, experienced moderate workloads, although nearly one-third were classified as having heavy workloads.

Table 3. Distribution of Nurses' Work Motivation

Work Motivation	Frequency (n)	Percentage (%)
Low	0	0.0
Moderate	24	38.7
High	38	61.3
Total	62	100.0

Based on Table 3, the majority of nurses had high work motivation, with 38 respondents (61.3%) falling into this category, while 24 respondents (38.7%) demonstrated moderate work motivation. No respondents were classified as having low work motivation. These findings indicate that most nurses in the Inpatient Unit of Ibnu Sina Hospital, Makassar, demonstrated high levels of work motivation, although a considerable proportion remained in the moderate category.

Table 4. Distribution of Nurses' Professional Competence

Professional Competence	Frequency (n)	Percentage (%)
Less Professional	0	0.0
Moderately Professional	10	16.1
Professional	52	83.9
Total	62	100.0

Based on Table 4, the majority of nurses were classified as professional, accounting for 52 respondents (83.9%), while 10 respondents (16.1%) were categorized as moderately professional. No respondents were classified as less professional. These findings indicate that most nurses in the Inpatient Unit of Ibnu Sina Hospital, Makassar, demonstrated a high level of professional competence, although a small proportion remained in the moderately professional category.

Bivariate Analysis

Bivariate analysis was conducted to determine the relationship between workload, work motivation, and professional competence and nurses' performance.

Table 5. Association Between Workload and Nurses' Performance

Workload	Adequate Performance n (%)	Good Performance n (%)	Total	p-value
Heavy	8 (40.0)	12 (60.0)	20	<0.001
Moderate	2 (4.8)	40 (95.2)	42	
Total	10	52	62	

Based on Table 5, among nurses with a heavy workload, 12 respondents (60.0%) demonstrated good performance, while 8 respondents (40.0%) had adequate performance. In contrast, among nurses with a moderate workload, 40 respondents (95.2%) demonstrated good performance, and only 2 respondents (4.8%) had adequate performance. The Chi-square test indicated a statistically significant association between workload and nurses' performance ($p < 0.001$). These findings suggest that nurses with moderate workloads were more likely to demonstrate good performance than those experiencing heavy workloads. However, this association does not establish a causal relationship.

Table 6. Association Between Work Motivation and Nurses' Performance

Work Motivation	Adequate Performance n (%)	Good Performance n (%)	Total	p-value
Moderate	8 (33.3)	16 (66.7)	24	0.003
High	2 (5.3)	36 (94.7)	38	
Total	10	52	62	

Based on Table 6, among nurses with moderate work motivation, 16 respondents (66.7%) demonstrated good performance, while 8 respondents (33.3%) had adequate performance. In comparison, among nurses with high work motivation, 36 respondents (94.7%) demonstrated good performance, whereas only 2 respondents (5.3%) had adequate performance. The Chi-square test revealed a statistically significant association between work motivation and nurses' performance ($p = 0.003$). These findings indicate that nurses with high work motivation had a greater proportion of good performance than those with moderate work motivation.

Table 7. Association Between Professional Competence and Nurses' Performance

Professional Competence	Adequate Performance n (%)	Good Performance n (%)	Total	p-value
Moderately Professional	6 (60.0)	4 (40.0)	10	<0.001
Professional	4 (7.7)	48 (92.3)	52	
Total	10	52	62	

Based on Table 7, among nurses with moderate professional competence, 6 respondents (60.0%) demonstrated adequate performance, while 4 respondents (40.0%) demonstrated good performance. In contrast, among nurses classified as professional, 48 respondents (92.3%) demonstrated good performance, while only 4 respondents (7.7%) had adequate performance. The Chi-square test revealed a statistically significant association between professional competence and nurses' performance ($p < 0.001$). These findings indicate that nurses with higher professional competence had a substantially greater proportion of good performance than those with moderate professional competence.

Multivariate Analysis

Table 8. Results of Binary Logistic Regression Analysis of Factors Associated with Nurses' Performance

Variable	B	Wald	p-value	Exp(B) / OR
Workload	1.811	3.297	0.049	6.114
Work Motivation	2.535	4.675	0.031	12.619
Professional Competence	2.893	5.360	0.021	18.042
Constant	-15.156	8.077	0.004	—

The multivariate analysis showed that workload, work motivation, and professional competence were significantly associated with nurses' performance, with all three variables having p-values below 0.05. Workload was significantly associated with nurses' performance ($p = 0.049$; OR = 6.114), followed by work motivation ($p = 0.031$; OR = 12.619) and professional competence ($p = 0.021$; OR = 18.042). These findings indicate that each independent variable remained significantly associated with nurses' performance after adjustment for the other variables included in the multivariate model.

The Omnibus Test of Model Coefficients yielded a chi-square value of 25.526 ($df = 3$, $p < 0.001$), indicating that the model incorporating workload, work motivation, and professional competence was statistically significant overall. This finding suggests that the three variables collectively contributed to the model's ability to distinguish between nurses with adequate and good performance.

The Nagelkerke R Square value was 0.575, indicating that the model had a pseudo- R^2 value of 57.5%. This finding suggests that workload, work motivation, and professional competence collectively provided meaningful explanatory information regarding differences in nurses' performance. However, this value should not be interpreted as the exact proportion of performance variation explained by the predictors, as Nagelkerke R Square is a pseudo- R^2 measure used in logistic regression.

The Hosmer–Lemeshow goodness-of-fit test produced a chi-square value of 2.914 ($p = 0.572$). Since the p-value exceeded 0.05, the test did not indicate a statistically significant discrepancy between the observed and predicted outcomes, suggesting an acceptable model fit according to this assessment.

The classification results showed that the logistic regression model achieved an overall classification accuracy of 91.9%. The model correctly classified all 52 nurses with good performance (100.0%), while 5 of the 10 nurses with adequate performance were correctly classified (50.0%). These findings indicate that the model demonstrated higher classification accuracy for nurses with good performance than for those with adequate performance.

Association Between Workload and Nurses' Performance

The findings revealed a significant association between workload and nurses' performance in the Inpatient Unit of Ibnu Sina Hospital, Makassar. Nurses experiencing moderate workloads demonstrated better performance than those with heavy workloads. This relationship remained statistically significant after adjustment for professional competence and work motivation ($p = 0.049$; OR = 6.114). The findings suggest that workload is an important organizational factor associated with nurses' ability to maintain effective performance. Excessive work demands may limit the time and attention available for patient care, particularly when nurses must manage multiple responsibilities within limited working hours.

These findings are consistent with Kartono et al. (2025), who identified workload as a significant factor associated with nurses' performance. Similarly, Cesilia and Kokasih (2024)

reported a significant relationship between workload and nursing performance. Both studies highlight the relevance of workload distribution in maintaining the quality of nursing services. When work responsibilities are appropriately distributed, nurses may be better positioned to complete clinical tasks, respond to patients' needs, and maintain professional standards. Conversely, excessive demands may contribute to physical exhaustion, psychological strain, and reduced concentration, potentially affecting the consistency of nursing care.

However, workload does not necessarily have the same implications across different healthcare environments. Sonia and Gurning (2023) suggested that workload perceived as manageable and meaningful may encourage nurses to demonstrate greater responsibility and professional commitment. Lasri et al. (2022) also discussed the relationship between workload and nursing performance, emphasizing the importance of maintaining appropriate working conditions. These perspectives indicate that workload should not be understood solely as a negative factor. Its relationship with performance may depend on whether nurses have sufficient resources, professional competence, and organizational support to manage their responsibilities effectively.

Differences in findings across previous studies may reflect variations in patient acuity, staffing levels, shift arrangements, workplace organization, and nurses' experience. Irawan and Sri Yuniar (2022) emphasized that such contextual conditions can shape how workload relates to nursing performance. For example, nurses caring for patients with complex clinical conditions may experience greater demands than those assigned to patients requiring routine monitoring. Similarly, inadequate staffing may increase individual responsibilities, even when the number of patients remains relatively stable. These circumstances illustrate why workload management requires consideration of both the quantity and complexity of nursing activities.

In the context of Ibnu Sina Hospital, these findings highlight the importance of maintaining a balanced allocation of nursing responsibilities. Hospital management should regularly evaluate nurse-to-patient assignments, shift schedules, patient care complexity, and the distribution of administrative duties. Jeany Nur Aini et al. (2023) emphasized the importance of appropriate workload management in supporting healthcare service quality. Although the present cross-sectional findings cannot establish causality, they suggest that workload management deserves attention as part of efforts to maintain nurses' performance and the quality of inpatient services.

Association Between Professional Competence and Nurses' Performance

Professional competence was significantly associated with nurses' performance in the present study. Nurses with higher levels of professional competence demonstrated a greater proportion of good performance than those with moderate competence. The relationship remained statistically significant in the multivariate analysis ($p = 0.021$; $OR = 18.042$), indicating that professional competence was associated with nurses' performance after accounting for workload and work motivation. This finding highlights the relevance of clinical knowledge, professional skills, and accountability in supporting effective nursing practice.

The findings are consistent with Gussanti et al. (2019), who reported a significant relationship between nursing competence and performance, particularly in relation to nurses' helping roles. Professional competence enables nurses to translate theoretical knowledge into appropriate clinical decisions and nursing interventions. Susanti et al. (2023) further emphasized that competence extends beyond technical skills to include ethical responsibility, accountability, respect for patients' rights, and adherence to professional standards. These dimensions are particularly important in inpatient settings, where nurses are responsible for continuous patient assessment, clinical monitoring, and the implementation of nursing care.

Professional competence may also influence how nurses respond to changing patient conditions and unexpected clinical situations. Nurses with adequate clinical knowledge and decision-making abilities are better prepared to identify patient needs, prioritize interventions,

and coordinate care with other healthcare professionals. Sipatu et al. (2023) highlighted the importance of competence in supporting professional nursing responsibilities. From this perspective, competence contributes not only to the completion of nursing activities but also to the consistency and appropriateness of care delivery.

The relatively large odds ratio associated with professional competence suggests a substantial association within the fitted regression model. However, its interpretation requires consideration of the outcome coding, reference categories, and precision of the estimates. A larger odds ratio does not necessarily establish a stronger causal effect or greater practical importance than other predictors. Nevertheless, the observed association provides a basis for considering professional competence as an important component of nursing workforce development.

These findings have practical implications for hospital management, particularly in strengthening continuing professional education and competency-based supervision. Febriani et al. (2024) emphasized the importance of ongoing professional development in maintaining nursing competence. Regular clinical training, structured competency assessments, mentoring, and performance feedback may help nurses maintain their professional capabilities. At Ibnu Sina Hospital, such initiatives could support consistent nursing practices while providing opportunities for professional growth and improved service delivery.

Association Between Work Motivation and Nurses' Performance

The findings demonstrated a significant association between work motivation and nurses' performance. Nurses with high work motivation were more frequently classified as having good performance than those with moderate motivation. This association remained statistically significant after adjustment for workload and professional competence ($p = 0.031$; $OR = 12.619$). These findings suggest that work motivation is an important psychological factor associated with nurses' professional commitment and the fulfillment of their responsibilities.

Work motivation may influence nurses' willingness to maintain service standards, complete assigned responsibilities, and respond to patients' needs. Karmadi (2019) explained that motivation is closely related to individuals' willingness to achieve work objectives and fulfill organizational expectations. In nursing practice, maintaining motivation is particularly important because professional responsibilities often involve demanding schedules, continuous patient interaction, and emotionally challenging situations. Nurses who remain motivated may be more willing to engage in professional development and maintain consistency in their daily responsibilities.

The findings are supported by Jariyah and Ade Ningsih (2024), who reported a significant relationship between work motivation and nurses' performance at RSUD H. Andi Sulthan Daeng Radja Bulukumba. Similarly, Hutaeruk and Fauza (2021) identified a positive relationship between intrinsic motivation and nurses' performance. These findings suggest that nurses' internal commitment, sense of responsibility, and professional satisfaction may contribute to their engagement in patient care. Motivation may therefore function as an important complement to clinical competence in supporting nursing performance.

Nevertheless, motivation is shaped not only by individual characteristics but also by organizational conditions. Recognition, opportunities for career advancement, supportive supervision, effective communication, and fair treatment may influence how nurses perceive their professional roles. A supportive working environment may strengthen employees' commitment, while limited recognition or inadequate managerial support may reduce their willingness to engage in organizational activities. This indicates that sustaining motivation requires attention to both personal and workplace factors.

The present findings emphasize the importance of developing management strategies that support nurses' motivation. Bisalomu (2026) and Jariyah and Ade Ningsih (2024) highlighted the relevance of motivational factors in understanding employee performance, while Kohnen et al. (2023) discussed the importance of workplace conditions for nurses' motivation. Hospital management may consider establishing transparent recognition systems, providing opportunities for professional advancement, strengthening communication between supervisors and nursing staff, and offering constructive performance feedback. These initiatives may help maintain motivation as part of broader efforts to support nursing performance.

Combined Associations of Workload, Professional Competence, and Work Motivation with Nurses' Performance

The multivariate analysis demonstrated that workload, professional competence, and work motivation were collectively associated with nurses' performance. The Omnibus Test of Model Coefficients indicated that the binary logistic regression model was statistically significant ($\chi^2 = 25.526$; $p < 0.001$). This finding suggests that the inclusion of these three predictors improved the model's ability to distinguish between nurses with adequate and good performance compared with a model containing no predictors. It also indicates that nurses' performance should be examined in relation to multiple organizational and individual factors rather than a single determinant.

The combined associations can be understood through the different functions of the three variables. Workload reflects the demands placed on nurses during their daily responsibilities, professional competence represents the knowledge and abilities required to deliver appropriate care, and work motivation reflects the willingness to perform professional duties. Herman and Deli (2021) emphasized the relevance of organizational and individual characteristics in understanding employee performance. Within nursing practice, these factors may operate together because professional abilities need to be applied under actual working conditions and supported by sufficient motivation.

The relationship among these variables may also explain why improving nursing performance requires coordinated management strategies. Nurses with strong professional competence may still experience difficulties maintaining performance when their workload becomes excessive. Similarly, high motivation may not be sufficient when nurses lack the clinical knowledge or organizational resources necessary to perform their responsibilities effectively. Alawiyah and Susilawati (2023), along with Haskas and Restika BN (2023), highlighted the importance of organizational support and individual characteristics in nursing performance. These perspectives reinforce the need to consider competence, motivation, and workload as complementary aspects of nursing workforce management.

The Nagelkerke R Square value of 0.575 indicated that the model provided meaningful explanatory information regarding differences in nurses' performance. However, because Nagelkerke R Square is a pseudo- R^2 statistic, it should not be interpreted as the exact proportion of performance variance explained. The Hosmer–Lemeshow test ($p = 0.572$) did not indicate a statistically significant lack of fit, while the model achieved an overall classification accuracy of 91.9%. Despite this relatively high accuracy, its classification performance differed between the two outcome categories, indicating the need for cautious interpretation of the model's predictive ability.

These findings suggest that hospital management should adopt an integrated approach to supporting nursing performance. Appropriate staffing arrangements, continuing professional development, and motivational support may collectively contribute to a working environment that enables nurses to perform their responsibilities effectively. Nevertheless, the cross-sectional design limits causal interpretation, and the relatively small sample should be

considered when evaluating the generalizability and stability of the regression findings. Future studies involving larger samples and longitudinal designs could provide further insight into how these factors relate to changes in nursing performance over time.

The Most Prominent Factor Associated with Nurses' Performance

Professional competence had the largest odds ratio in the multivariate model (OR = 18.042), followed by work motivation (OR = 12.619) and workload (OR = 6.114). All three variables remained statistically significant after mutual adjustment. These findings indicate that professional competence showed the largest estimated odds ratio among the predictors examined. However, identifying it as the most dominant determinant requires caution because differences in predictor coding, reference categories, and statistical precision can affect comparisons between odds ratios.

The relevance of professional competence can be understood through the central role of clinical knowledge, practical skills, ethical responsibility, and professional judgment in nursing care. Nurses are expected to assess patients' conditions, determine care priorities, implement appropriate interventions, and evaluate patient responses. Sijabat (2025) emphasized that professional competence supports nurses' ability to carry out their responsibilities according to established clinical standards. These professional requirements may help explain the substantial association between competence and performance observed in this study.

Nevertheless, professional competence alone may not be sufficient to ensure consistent performance. Nurses require motivation to apply their knowledge and skills effectively, while manageable workloads provide opportunities to perform clinical responsibilities without excessive demands. The significant associations observed for work motivation and workload indicate that both factors remain relevant even when professional competence is included in the same regression model. Therefore, the findings should not be interpreted as evidence that professional competence is the only important consideration in nursing performance.

From an organizational perspective, these findings support the importance of developing nursing human resources through coordinated strategies. Prasitia and Rosyadi (2025) emphasized the strategic role of human resource management in achieving organizational objectives. In hospital settings, effective management involves strengthening staff competencies, providing professional support, maintaining appropriate workload distribution, and encouraging work motivation. These elements are relevant to the broader objectives of maintaining service quality, patient safety, and professional accountability.

Professional development should also address ethical conduct, communication skills, and responsibility in clinical practice. Mega Sakinah et al. (2026) emphasized the importance of professional values and practical skills among healthcare personnel. At Ibnu Sina Hospital, continuing education, competency-based training, clinical supervision, and structured performance evaluation may provide opportunities to strengthen professional competence. Such initiatives should be implemented alongside motivational support and workload management to promote a balanced and sustainable approach to improving nursing performance.

Conclusion

Based on the research findings regarding the "Analysis of Determinants of Workload, Professional Competence, and Work Motivation on Nurse Performance in the Inpatient Unit of Ibnu Sina Hospital Makassar in 2026," the conclusions drawn from the specific objectives are as follows: (1) Workload influences nurse performance in the Inpatient Unit of Ibnu Sina Hospital Makassar in 2026; (2) Professional competence influences nurse performance in the Inpatient Unit of Ibnu Sina Hospital Makassar in 2026; (3) Work motivation influences nurse performance in the Inpatient Unit of Ibnu Sina Hospital Makassar in 2026; (4) Workload,

professional competence, and work motivation simultaneously influence nurse performance in the Inpatient Unit of Ibnu Sina Hospital Makassar in 2026; and (5) Professional competence is the most dominant factor influencing nurse performance at Ibnu Sina Hospital Makassar in 2026, compared to workload and work motivation.

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