

The mediating effects of leadership, organizational culture, and nurse factors on the relationship between nursing care and patient satisfaction

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Abstract

Effective leadership and a supportive organizational culture play a crucial role in shaping the quality of nursing care, affecting

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Ethics approval and consent to participate: ethical clearance for this study was granted by the Medical and Health Research Ethics Committee (MHREC) of Islamic Hospital on July 24 with approval number 71 /VII. All participants provided written informed consent after receiving a comprehensive explanation of the study. Researchers conveyed information both verbally and in writing to ensure participants fully understood the purpose, procedures, and implications of the research. Only after participants expressed their understanding were they invited to sign the informed consent form. The entire process was conducted in line with fundamental research ethics principles, including informed consent, anonymity, confidentiality, fidelity, and respect for autonomy.

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not only the environment but also nurses' skills and attitudes. This study explores how various factors related to nurses – such as their competence and attitudes – interact with leadership and organizational culture to impact nursing care and patient satisfaction. We aimed to identify previously overlooked connections that can improve patient outcomes. To conduct this research, we analyzed data from 125 nurses working in inpatient wards at an Islamic Hospital in Indonesia using a cross-sectional design. In August, we gathered information through validated questionnaires and examined the data using SmartPLS 3.2.8 with partial least squares structural equation modeling (PLS-SEM). Our results indicate that organizational factors significantly impact nursing practices ($p=0.000$) and the quality of nursing care ($p=0.019$). Moreover, the work conditions and experiences of nurses were found to greatly influence both the nurses' competencies ($p=0.000$) and the care they provide ($p=0.002$). Additionally, factors related to nursing significantly affect both the quality of care ($p=0.004$) and patient satisfaction ($p=0.002$), with nursing care having a strong positive impact on patient satisfaction ($p=0.000$). Interactions among organizational factors, nursing attributes, and care practices, as well as the working conditions of nurses, played significant roles in boosting patient satisfaction ($p=0.039$ and $p=0.0016$). Leadership, organizational culture, and nurse factors play significant mediating roles in strengthening the relationship between nursing care and patient satisfaction. These findings highlight the importance of strengthening organizational and nurse-related factors to improve nursing care quality and patient satisfaction.

Introduction

In today's rapidly changing healthcare landscape, organizations are confronted with a multitude of challenges. To navigate these difficulties, it is crucial for healthcare facilities to cultivate environments that embrace strategic and effective leadership.¹ Such leadership is fundamental for optimizing public services and ensuring that all team members comply with established regulations and standards in fulfilling their roles. Among the most valuable assets in hospitals are nurses, who play a pivotal role in helping organizations achieve their goals. Their contributions extend beyond traditional caregiving; they think critically, plan effectively, manage operations, and engage in activities that underpin the overall success of the institution.²

The ability of a hospital to adapt and expand into new areas largely hinges on its capacity to provide high-quality services. While the infrastructure and resources at a hospital's disposal are important, the competence and performance of its personnel are even more critical. Nurses, as the largest and most dedicated group of healthcare workers, have the most consistent and direct interaction with patients, placing them at the heart of patient care. To enhance hospital performance, effective human resource management is essential, particularly strategies focused on nursing devel-

opment that recognize and leverage human behavior. This focus not only boosts nurse performance but also aligns with the organization's objectives and ensures patient satisfaction. After all, the human resources in healthcare drive every operation, and without their effective execution of duties, overall services would falter. The performance of nurses is a direct determinant of service quality, reinforcing their key role in both hospital success and organizational excellence.³⁻⁵

Nursing services are predominantly shaped by the performance of nurses, who constitute the largest segment of the hospital workforce and provide round-the-clock care. This makes their impact on service quality more significant than that of other healthcare professionals. Given their vital position, nursing leaders, managers, and head nurses hold the responsible of guiding and developing nursing staff. Their leadership is crucial in enhancing the quality of nursing care. However, despite their importance, issues such as patient complaints about inadequate nursing performance persist, highlighting the need to address these challenges to ensure optimal service delivery.⁶⁻⁸

The quality of nursing performance is a vital factor in determining patient satisfaction, which reflects how individuals assess the care they receive compared to their expectations. This satisfaction is one of the primary indicators for evaluating the quality of healthcare services.^{9,10} When patients feel that the services provided fall short of their expectations, it can lead to lower satisfaction levels, affecting their loyalty to the hospital. Patients arrive at healthcare facilities with various health issues and often expect clear, comprehensive explanations regarding their conditions. Therefore, enhancing patient satisfaction and loyalty is critical; a positive experience can encourage patients to return to the hospital for future care. When patients have a better understanding of the services they receive, the overall effectiveness of the healthcare system improves, resulting in higher service quality. This enhanced quality not only increases patient numbers but also fosters a sense of trust, encouraging patients to revisit, which is essential for the hospital's long-term sustainability and reputation.¹¹

The performance of nurses is pivotal in promoting hospitals and providing quality services to community. However, the level of engagement may vary among individuals. Recognizing and supporting nursing performance is essential for ensuring that nursing services meet the evolving needs of society. Improved nursing performance contributes not only to better patient experiences but also the overall management of the hospital. As competition in the healthcare sector intensifies, enhancing management performance has become a top priority. Focusing on this aspect is crucial for improving service quality and maintaining a competitive edge in the industry.^{12,13}

Low nursing performance can often be traced back to various challenges such as work pressure, fatigue, dizziness, and insufficient rest due to heavy workloads. When nurses are overburdened, their performance can suffer, disrupting the nursing process, failing to meet patients' needs, and potentially prolonging recovery time. Several key factors influence nursing performance, including workload, feedback, and the design of their work environment. Nurse leaders or head nurses play a crucial role in addressing these challenges. They have the authority to design effective work process, implement corrective actions, and provide constructive feedback. Their leadership is essential for maintaining and enhancing nursing performance.^{14,15}

According to the American Nurses' Foundation, nursing leaders need to actively reshape how performance is viewed and foster a long-term commitment among nurses. This involves cultivating a positive environment that motivates and inspires nurses, which,

in turn, enhances the overall health service environment. It is essential to recognize nursing as a vital and integrated profession, prompting hospitals to develop new models for growth.^{16,17} Interestingly, there has been no specific research aimed at reconstructing a model for nursing improvement through organizational leadership within Indonesian hospitals. Current challenges in nursing services – such as inconsistent performance, limited feedback, and suboptimal work design – can significantly impact patient satisfaction and health outcomes. Effective leadership and a supportive organizational culture are vital in addressing these issues, as they influence performance indicators, feedback, corrections, and job design, as well as nursing factors like competence and attitude. However, the combined impact of these factors on nursing care quality and patient satisfaction remains largely unexplored. This study aims to investigate the mediating role of nursing factors in the relationship among leadership, organizational culture, and nursing care quality. By doing so, we seek to propose a reconstructed model that can assist hospital management in improving nursing performance and enhancing patient outcomes. The uniqueness of this research lies in its focus on this Indonesian hospital context and offering an evidence-based model for optimizing nursing care.

Materials and Methods

Research design

This analytical observational study utilized a cross-sectional design, chosen for its effectiveness in quantitative research aimed at identifying the relationships between various factors. Specifically, we explored how organizational factors – such as leadership and organizational culture – interact with nurses' work factors – including performance, feedback, correction, and job design – as well as nursing factors like competence and attitude, to influence the quality of nursing care. Data were collected at a single point in time using an observational approach.

Setting and samples

The study was conducted in the inpatient wards of an Islamic Hospital in Indonesia, selected due to ongoing challenges in nursing services, including inconsistent nurse performance, limited feedback, and suboptimal work design. These issues have been associated with lower patient satisfaction, delays in care, and potentially adverse health outcomes, highlighting the need for evidence-based interventions. The study population consisted of 143 nurses and their patients in the inpatient wards. A total of 250 respondents participated, including 125 nurses and 125 patients receiving care in the same wards. The sample size was determined using the Rule of Thumb for Structural Equation Modeling (SEM) with the maximum likelihood estimation method, which recommends a minimum of 100-150 respondents or 5-10 times the number of observed indicators. The chosen location allows the study to capture the contextual influence of organizational and work factors on nursing care and patient satisfaction, providing scientifically grounded justification for conducting the research in this hospital.¹⁸ In this study, 13 variable indicators were analyzed; therefore, the required sample size was calculated as 10×13 , resulting in 125 respondents, based on the maximum likelihood calculation, nurses were selected from seven inpatient wards using a cluster sampling technique.

Proportional sampling was applied to obtain 125 nurses from a population of 143. Specifically, 16 nurses were drawn from

Inpatient Room A (12.5%), 20 from Room B (16%), 16 from Room C (11.8%), 17 from Room D (13.2%), 14 from Room E (10.4%), 25 from Room F (19.5%), and 17 from Room G (13.2%). The sample was chosen through cluster sampling combined with random selection. Eligibility criteria for nurses included: i) being assigned to inpatient wards and ii) holding at least an associate degree in nursing or having completed a three-year associate nursing program after secondary school. Nurses assigned to intensive care units or emergency departments were excluded from the study.

Measurement and data collection

In quantitative research, the credibility of our findings relies heavily on the quality of measurement instruments used to assess the underlying constructs. We designed measurement to ensure consistency, accuracy, and comparability in capturing and explaining the concepts we studied. This measurement process involved using specific that represent these constructs, providing both evidence and validation for our results.¹⁹

For this study, we assessed all variables through a structured questionnaire, having obtained permission to adapt the instrument obtained from the original author. The variables related to organizational factors included two key indicators: leadership and organizational culture. Nurses’ work factors were measured using four indicators: performance, feedback, correction, and job design. Nursing factors were evaluated through two indicators: competence and attitude. Nursing competence refers to nurse’s ability to carry out tasks accurately, reflecting their knowledge, skills, and expertise in providing care. On the other hand, nursing attitude encompasses a nurse’s feelings and consistent tendencies in fulfilling their professional responsibilities. Nursing care – our main focus and endogenous variable – was measured using five indicators: assessment, diagnosis, intervention, implementation, and evaluation. These indicators helped us capture the entire nursing process, from assessing patients, establishing diagnoses to planning and implementing interventions and conducting evaluations (Table 1).

To assess the organizational factors, nurses’ work factors, nursing factors, and nursing care, we employed a five-point Likert

scale that allowed participants to express their level of agreement, ranging from “strongly disagree” to “strongly agree.” The responses were organized in an ordinal scale, with scores categorized as follows: good (76-100%), sufficient (55-75%), and poor (<55%). The nursing care variable included 25 questions distributed across five essential processes: assessment, diagnosis, intervention, implementation, and evaluation, with each process represented by five specific items.

We conducted validity and reliability tests for all the measurement instruments used in this study. The questionnaire for assessing organizational factors showed strong validity scores ranging from 0.716 to 0.996 and reliability scores between 0.876 and 0.990. The work factors questionnaire demonstrated validity ranging from 0.575 to 1.000 and reliability scores from 0.851 to 1.000. For nursing factors, the questionnaire achieved validity between 0.559 and 0.986 and reliability between 0.928 and 0.953. The nursing care questionnaire reflected validity values from 0.656 to 0.993 and reliability scores ranging from 0.879 to 0.975. Finally, the patient satisfaction questionnaire had validity scores between 0.552 and 0.876, with reliability values ranging from 0.851 to 0.906. This study was conducted in an Indonesian hospital in August. To minimize potential bias, we applied strict inclusion and exclusion criteria to select appropriate respondents. We collected primary data using 125 questionnaires. The research process began with obtaining official research permission from the hospital, followed by receiving ethical approval from the hospital’s Ethics Committee. Data collection was carried out with inpatient participants who met the study criteria. before participating, individuals received a thorough oral and written explanation of the study, and their informed consent was obtained in writing. This consent process adhered to key ethical research principles, including informed consent, anonymity, confidentiality, fidelity, and respect for autonomy. After data collection, we ensures that all responses were complete before analyzing the data using SmartPLS software.

Data analysis

For our data analysis, we employed descriptive analysis to understand the frequency distribution of the data, while inferential analysis utilized Partial Least Squares Structural Equation

Table 1. Instrument source.

Variables	Indicator	Items	Sources
Organizational factors	Leadership	7	(20)
	Organizational culture	15	(21)
Total		12	
Work factors	Performance	4	(20)
	Feedback	4	(22)
	Correction	4	(20)
	Job design	3	(20)
Total		23	
Nursing care	Assessment	5	(23)
	Diagnosis	5	(23)
	Intervention	5	(23)
	Implementation	5	(23)
	Evaluation	5	(23)
Total		25	
Patient satisfaction	Reliability	6	(24)
	Assurance	3	(24)
	Reality	5	(24)
	Empathy	5	(24)
	Responsibility	4	(24)
Total		23	

Modeling (PLS SEM) with SmartPLS software. We selected SmartPLS because it accommodates various data distribution requirements and measurement scales, making it suitable for small sample sizes. It also effectively confirms theoretical models and allows us to test complex relationships among variables simultaneously. Our analysis using SmartPLS involved several key components: the measurement model, the structural model, and the hypothesis testing. In the measurement model, we assessed indicator validity through Average Variance Extracted (AVE). An AVE value greater than 0.50 indicates that a construct explains more than half of the variance in its indicators, which is vital for ensuring robust measurements. Additionally, we checked that the outer loading values exceeded 0.50 to confirm convergent validity. Moving to the structural model evaluation, we aimed to predict the causal relationships between the latent variables. To assess the model fit, we utilized the coefficient of determination (R^2), which measures how much variance is explained by the model. We also conducted the Stone-Geisser predictive relevance test (Q^2) to evaluate predictive validity, where Q^2 values greater than zero indicate good predictive relevance, while values below zero suggest poor predictive power. For hypothesis testing, we used bootstrapping to estimate path coefficients and determine their significance. We considered results significant when the t statistic was greater than 1.96 and the p -value was less than or equal to 0.01.

Ethical considerations

The study received ethical approval from the Medical and Health Research Ethics Committee (MHREC) at the Islamic Hospital on July 25, under approval number 71 /VII/. We prioritized the rights and well-being of our participants by following a formal informed consent process. Before any patient participated, we provided a thorough explanation of the study, both verbally and in writing. This ensured that patients fully understood the study's objectives and procedures. Only after confirming their understanding did we obtain their written informed consent. Participation was entirely voluntary, and only those who agreed to take part signed the consent form. Throughout this process, we adhered to key ethical principles of research, which include ensuring informed con-

sent, maintaining anonymity, protecting confidentiality, and respecting each participant's autonomy.

Results

The measurement model was deemed valid, as all outer loading indicators had reliability coefficients exceeding 0.7. This indicate a strong performance in measuring the constructs we studied. Additionally, the Average Variance Extracted (AVE) values for each construct were above 0.7, demonstrating robust convergent validity. We assessed reliability using both composite reliability and Cronbach's alpha, with scores surpassing 0.7 for all variables. Most of these reliability values were even higher than 0.80, which reinforces the internal consistency and strength of our measurement instruments. To confirm the distinctiveness of our construct, we applied the Fornell-Larcker criterion. This analysis showed that the square root of the AVE for each construct (the diagonal values) was greater than the inter-construct correlations, indicating good discriminant validity. Moreover, the Heterotrait-Monotrait Ratio (HTMT) values were all below 1.0, further supporting the conclusion that our constructs were well-defined and separate from one another (Table 2, Figure 1).

In terms of the relationships between variables, the coefficient of determination revealed that organizational factors and nurses' work factors accounted for 81.8% of the variance in nursing factors, leaving 18.2% attributed to other, unmeasured variables. Together, organizational factors, nurses' work factors, and nursing factors explained 72.1% of the variance in nursing care, with the remaining 27.9% influenced by factors outside our model. Finally, nursing factors and nursing care jointly accounted for 74.3% of the variance in patient satisfaction, while 15.7% was affected by other unmeasured variables.

The analysis demonstrated that all tested relationships were statistically significant. Specifically, organizational factors had a significant impact on nursing factors, with a p -value of 0.000, a path coefficient (β) 0.279; and a t -value greater than 1.96.

Table 2. Distribution of variable frequency.

Variable		Category scale						Total	
		Good		Enough		Less		f	%
		f	%	f	%	f	%	f	%
Organizational factors	Leadership	89	71.2	35	28	1	0.8	125	100
	Organizational culture	92	73.6	30	24	3	2.4	125	100
Nurses' work factors	Performance	93	74.4	27	21.6	5	4	125	100
	Feedback	96	76.8	26	20.8	3	2.4	125	100
	Correction	96	76.8	25	20	4	3.2	125	100
	Job design	92	73.6	30	24	3	2.4	125	100
Nursing factors	Nurse competence	93	74.4	32	25.6	0	0	125	100
	Nurse's attitude	96	76.8	23	24.2	0	0	125	100
Nursing care	Assessment	94	75.2	30	24	1	0.8	125	100
	Diagnosis	86	68.8	36	28.8	3	2.4	125	100
	Intervention	93	74.4	30	24	2	1.6	125	100
	Implementation	88	70.4	32	25.6	4	3.2	125	100
	Evaluation	92	73.6	28	22.4	4	3.2	125	100
Patient satisfaction	Reliability	96	76.8	27	21.6	2	1.6	125	100
	Assurance	89	71.2	34	27.2	2	1.6	125	100
	Reality	91	72.8	34	27.2	0	0	125	100
	Empathy	91	72.8	34	27.7	0	0	125	100
	Responsibility	94	75.2	31	24.8	0	0	125	100

Similarly, organizational factors also significantly influenced nursing care, yielding a p-value of 0.019 and a path coefficient of 0.216 ($t > 1.96$). Nurses' work factors were found to significantly affect nursing factors as well, showing a p-value of 0.000 and a path coefficient of 0.674 ($t > 1.96$). They also had a strong influence on nursing care with a p-value of 0.002 and a path coefficient of 0.348 ($t > 1.96$). Furthermore, nursing factors significantly impacted nursing care, with a p-value of 0.004 and a β of 0.339 ($t > 1.96$), and patient satisfaction, with a p-value of 0.002 and a β of 0.402 ($t > 1.96$). The effect of nursing care on patient satisfaction was particularly robust, evidenced by a p-value of 0.000 and a β of 0.502 ($t > 1.96$). Moreover, the combined influence of organizational factors and nurses' work factors on nursing factors was significant, with a p-value of 0.000 a β of 0.387 ($t > 1.96$). The collective impact of organizational factors, nursing factors, and nursing care on patient satisfaction was also significant, with a p-value of 0.039 and a path coefficient of 0.047 ($t > 1.96$). Lastly, the combination of nurses' work factors, nursing factors, and nursing care was shown to significantly influence patient satisfaction, with a p-value of 0.016 and a β of 0.115 ($t > 1.96$; Table 3).

The coefficient of determination for the Nursing Factors variable is 0.818, which means that our model explains 81.8% of the variation in Nursing Factors. The remaining 18.2% of the variation is influenced by other factors not included in the model. For the Nursing Care variable, the R Square value is 0.721, indicating that the independent variables in our model can explain 72.1% of the variation in Nursing Care, with 27.9% attributed to external factors outside of this study. When it comes to Patient Satisfaction, the R Square value of 0.743 shows that our model can explain 74.3% of the variation in patient satisfaction, while the remaining 25.7% is influenced by other unmeasured variables. All three R Square values are above 0.70, indicating that our model has strong explanatory power for the dependent variables. The most substantial impact is seen in Nursing Factors, followed by Patient Satisfaction and Nursing Care (Table 4).

These findings suggest that nurses' work factors have the

greatest influence on nursing care, while the quality of nursing care provided is the most significant factor shaping patient satisfaction. Additionally, our analysis of indirect effects revealed that the combined influence of nurse performance, nursing factors, and nursing care leads to a greater improvement in patient satisfaction compared to the pathway involving organizational factors, nursing factors, and nursing care (Table 5).

Discussion

The findings of this study highlight the significant impact of organizational factors, such as leadership and organizational culture, on work factors like performance, feedback, correction, and job design. These factors also influence nursing care processes, which encompass assessment, diagnosis, intervention, implementation, and evaluation. Leadership and organizational culture are vital in shaping effective nursing strategies. Our results are consistent with previous research that demonstrates how organizational characteristics and nurses' attitudes can influence patients' perceptions of the care they receive. This suggests that organizational factors are key determinants of nursing quality. Further confirming these insights, other studies have shown that leadership, organizational culture, and competence collectively have a notable effect on employee performance in community health centers in Indonesia.^{25,26}

The organization structure is not merely an administrative necessity; it represents a significant challenge for nursing services. The choice of an appropriate nursing model heavily relies on how the organization is structured, and the quality of care delivered often reflects the effectiveness of the healthcare organization itself. Nursing leadership serves as a crucial factor in shaping, developing, and supporting organizational performance. Effective leadership has the power to alter the dynamics of the organizations. Nurse leaders play a critical role in inspiring and empowering their teams, fostering professional commitment, and reducing turnover

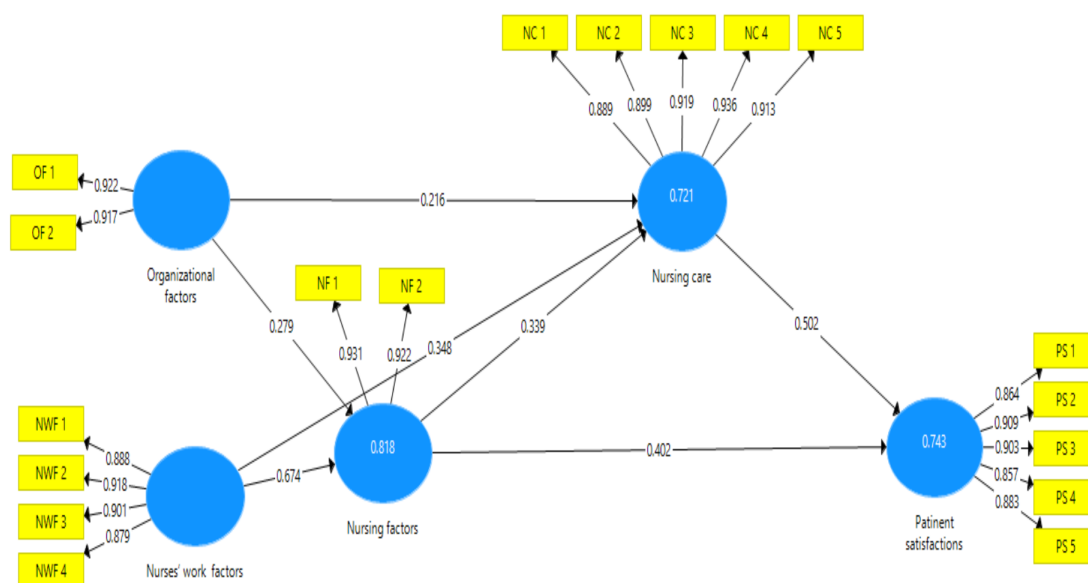


Figure 1. Measurement of outer model. OF, Organizational factors; NWF, Nurses' work factors; NF, Nursing factors; NC, Nursing care; PS, Patient satisfaction.

intentions. In hospital settings, it is essential for nurses to receive strong psychological support from their ward leaders to perform their roles effectively and fulfill their responsibilities.^{27,29}

Nurses who serve as ward leaders are experienced professionals entrusted with the important responsibility of leading and managing nursing services within their units. These ward leaders are expected not only to demonstrate strong leadership skills but also to provide clear guidance to staff nurses. Their role is crucial in ensuring that tasks are carried out in line with nursing goals rather than personal preferences. The findings from this study highlights the significant impact of organizational factors, like leadership and

organizational culture, on the work environment for nurses. It appears that effective ward leadership is largely implemented, making it a vital component of successful nursing strategies. On the other hand, inadequate leadership within a ward can lead to decreased satisfaction with nurse performance. Maintaining and improving nursing services is essential for meeting care standards and ensuring that patients receive the high-quality care they deserve. The ward leader plays a significant role in shaping nurse performance; issues such as tardiness, lack of responsibility, and low motivation are often reflective of a leader's influence. As a result, optimizing nurse performance remains a continuous chal-

Table 3. Measurement model evaluation, coefficients of determination, and path coefficients.

Measurement model evaluation						
Latent variable	Items	Convergent validity		Internal consistency reliability		Discriminant validity
		Loadings	AVE	Composite reliability	Cronbach alpha	HTMT<1
Organizational factors	OF1	0.926	0.846	0.916	0.817	Yes
	OF2	0.913				
Nurses' work factors	WF1	0.888	0.804	0.942	0.919	Yes
	WF2	0.918				
	WF3	0.901				
	WF4	0.879				
Nursing factors	NF1	0.931	0.872	0.931	0.853	Yes
	NF2	0.922				
Nursing care	NC 1	0.889	0.831	0.961	0.950	Yes
	NC 2	0.899				
	NC 3	0.919				
	NC 4	0.936				
	NC 5	0.913				
Patient satisfaction	PS1	0.864	0.780	0.947	0.929	Yes
	PS2	0.909				
	PS3	0.903				
	PS4	0.857				
	PS5	0.883				

OF, Organizational factors; NWF, Nurses' work factors; NF, Nursing factors; NC, Nursing care; PS, Patient satisfaction.

Table 4. R square.

Coefficients of determination		
Variable	R square	R square adjusted
Nursing factors	0.818	0.815
Nursing care	0.721	0.715
Patient satisfaction	0.743	0.738

Table 5. Path coefficients.

Hypothesis		β	t-value	p-value	Test result
Organizational factors	Organizational factors affect nurses' factors	0.279	3.616	0.000	Supported
	Organizational factors affect nursing care	0.216	2.345	0.019	Supported
Nurses' work factors	Nurses' work factors affect nursing factors	0.674	9.165	0.000	Supported
	Nurses' work factors affect nursing care	0.348	3.083	0.002	Supported
Nursing factors	Nursing factors affect nursing care	0.339	2.9320	0.004	Supported
	Nursing factors affect patient satisfaction	0.402	3.161	0.002	Supported
Nursing care	Nursing care affects patient satisfaction	0.502	3.935	0.000	Supported
Organizational factors through nursing factors and nursing care affect patient satisfaction		0.047	2.074	0.039	Supported
Nurses' work factors through nursing factors and nursing care affect patient satisfaction		0.115	2.407	0.016	Supported

lenge for hospital management.^{30,31} This study revealed that work-related factors, including performance, feedback, correction, and work design, significantly shaped nurse-related factors such as competence and attitude. These work factors also affected nursing processes and act as mediators between nurse factors and nursing outcomes. Nurse factors did not exert a direct effect on nursing outcomes; however, when mediated by organizational factors specifically leadership and organizational culture work factors positively influenced nurses' attitudes and competencies, which in turn contributed to high-quality nursing care encompassing assessment, diagnosis, intervention, implementation, and evaluation. The findings successfully addressed the research question by reconstructing a comprehensive model that provides a clear and practical framework for hospital directors, nurse leaders, nurse managers, nurse practitioners, nursing educators, and students to improve nursing quality and support hospital development. Previous research has demonstrated that nurse-related factors, including demographic characteristics such as age, gender, educational background, knowledge, attitudes, competencies, and personality traits, play an important role in shaping the quality of nursing care. Findings from another study are consistent with the results of this research, showing a clear association between the delivery of nursing care and patient satisfaction. A study conducted in China similarly reported that the quality of nursing care provided had a significant relationship with the level of satisfaction experienced by patients.^{32,33}

Organizational functioning is shaped not only by leadership but also by an institution's culture. Nurses' competence and attitudes are strongly influenced by the organizational culture, which fosters a deeper understanding of the hospital's core values. A well-established and positive organizational culture has been shown to enhance nurses' performance and align their behavior with the standards and expectations of the institution.^{34,35} Culture serves as a driving force that promotes consistent work achievement and supports the improvement of overall nursing performance. Establishing a strong and supportive organizational culture is therefore a critical factor in achieving high-quality nursing care and sustaining professional standards within healthcare settings.^{36,37}

The model was reconstructed because organizational factors, including leadership and organizational culture, were identified as an effective strategy for navigating change and sustaining optimal service quality during transition. Developing leadership capacity within individuals becomes an essential preparation for guiding the organization and ensuring that nursing services remain aligned with established standards despite ongoing changes.²⁸ Leadership involvement has a strong impact on the interactions among nurses because their relationships are shaped by how they connect with their leaders. When leaders demonstrate empathy, nurses feel heard and valued, which fosters trust. This trust enhances their emotional readiness to adopt new and improved behaviors aligned with professional guidance, enabling them to deliver high-quality nursing care. Nurse leaders play a key role in motivating individuals to inspire themselves and others, fostering the development and realization of a shared vision for effective nursing leadership.^{38,39}

Attitude, performance, and organizational factors have a positive impact on nurses' job satisfaction in implementing nursing care. Nurses' attitude play a crucial role in the success of nursing services because nurses must allocate their time across multiple patients. Their behavior is also influenced by the structure and leadership style of nurse managers. Effective leaders who can design work schedules and distribute tasks fairly contribute to improved nurse performance. When nurses do not feel overbur-

dened by their responsibilities, their competence and positive attitudes enhance patient comfort and satisfaction. This improved patient experience encourages loyalty and repeat visits, which ultimately contributes to the hospital's growth and service expansion.⁴⁰

Nurses are key determinants of patient satisfaction because they spend more time in direct contact with patients than other healthcare professionals. Nursing care is provided continuously over a 24-hour period, positioning nurses as a central component of hospital services. The overall success of healthcare delivery is strongly influenced by nurses' performance, as patient satisfaction is a primary indicator of service quality. High-quality nursing care directly contributes to better patient experiences and improved hospital service outcome.^{41,42}

The services provided by nurses are one of the various basic services available in health services or hospitals, which cannot be denied, and this causes more interaction between nurses and patients. In addition, nurses focus on meeting the overall healthcare needs of patients, including efforts to restore emotional and spiritual health. The feeling of satisfaction influenced by the knowledge explored in this study can occur because most nurses in this study had good knowledge. A good level of knowledge among nurses enables them to explain health problems to patients, identify patient nursing problems appropriately, and provide responsive and appropriate treatment. Good nursing services cause patients to feel satisfied.⁴³

The interaction of nurses with outpatients during nursing care shows that there is a relationship between nurses' attitudes and patient satisfaction, as nurses interact through effective support, competence, and health education, and interact more often with patients to identify their needs. Patient needs must be studied in depth by nurses; therefore, nurses must have a deep interest and demonstrate the skills to observe carefully, have an attitude to respond directly to patient needs, and be able to resolve them promptly.⁴⁴ Professional and responsive nurses can increase patient satisfaction.⁴⁵ Good nursing attitudes comprised the majority of nursing attitudes in the findings of this study, which caused attitudes to influence the determination of patient satisfaction. These results are in accordance with the patient satisfaction process, which is a subjective assessment that represents cognitive and emotional responses triggered by a comparison of expectations with perceived nursing care, with good nursing attitudes during interactions, making patients feel that they are able to respond to problems quickly and meet patient needs holistically.

Implication and limitations

This research has a positive impact on nursing students, nurses, student nursing practitioners, and nurse practitioners because it is closely related to the service system. It is also useful for nursing managers and directors. This is because it can provide adequate information to nurses as a basis for determining leadership, organizational culture, job design, feedback, corrections, competence, and attitude, and increase their knowledge that allows them to provide the best nursing services for patients, thereby providing satisfaction to patients. This study also has a positive impact on health facilities. Improving these organizational factors (leadership and organizational culture), nurses' work factors, and nurse factors will increase nursing care. As a result, when patients are satisfied with nursing care, their loyalty can increase, which in turn makes health services better. Finally, all these benefits will eventually have a positive effect on society. Additionally, this study underwent several updates. Hospital and nursing managers should be aware that work factors have a positive impact on nursing care and that the

interaction between organizational factors (leadership and organizational culture), nurses' work factors, and nursing factors can increase nursing care. Thus, this new model must be implemented in hospitals as a key to hospital expansion in the future. Hospital and nursing managers should be aware that work factors positively impact nursing care and that the interaction between nurses' work factors and nursing care can increase patient satisfaction. Thus, nursing care can be implemented in Islamic hospitals as a key to hospital expansion in the future. Therefore, further research is expected to use this variable to implement it in other countries and Islamic hospitals.

Conclusions

Nurses with good performance who are supported by leadership, organizational culture, corrections, feedback, and good work designs are able to form professional quality nurse work so that it is in line with the vision and mission of the hospital by implementing nursing care; thus, the patient feels that all their needs are met, feels comfortable, and is satisfied with nursing services. Thus, this study has a positive impact on health facilities. Improving these organizational factors (leadership and organizational culture), nurses' work factors, nurse factors will increase nursing care.

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