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Empowering Patient-Centered Care After Surgery: How Clinical Competence and Leadership Shape Outcomes Through Nurse Engagement

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Abstract

Background: This study analyzed the impact of Clinical Leadership and Clinical Competence on post-surgical Patient-Centered Care (PCC) implementation, with Work Engagement as a mediating variable among nurses at RS Islam Jakarta Cempaka Putih. **Method:** A quantitative cross-sectional design was used, involving 115 nurses selected through saturated sampling. Data were collected using a 4-point Likert questionnaire and analyzed with SEM-PLS. Ethical approval was obtained, and informed consent was secured from all participants. Clinical Leadership, Clinical Competence, and Work Engagement jointly influenced PCC implementation. **Result**: Both Clinical Leadership and Clinical Competence had positive, significant effects on Work Engagement. Clinical Competence and Work Engagement directly improved PCC implementation, while Clinical Leadership showed no direct significant effect. Work Engagement functioned as an important mediator linking leadership and competence to PCC. Work Engagement strengthens the contribution of leadership and competence to post-surgical PCC implementation. **Conclusion**: Hospitals should focus on engagement-oriented leadership development and ongoing competency training to enhance care quality. Future studies should use longitudinal designs and examine additional organizational factors to clarify causal pathways.

Keywords: clinical leadership, clinical competence, patient centered care postsurgical, work engagement

INTRODUCTION

Hospitals are vital service centers that are always in demand. One of the efforts to improve service quality and patient satisfaction is by enhancing hospital management. The role of management and the availability of healthcare facilities have a significant impact on public health and sustainable development.(1)

From a pre-survey conducted at RS Islam Jakarta Cempaka Putih, it was found that in the Patient-Centered Care Postsurgical, more than 50% of nurses felt they considered patient preferences and provided sufficient emotional support. About 60% of nurses felt they paid attention to patients' physical comfort and involved families in post-surgical care. However, 45% felt that patients had difficulty accessing the care they needed after surgery. This indicates that while most nurses prioritize patient-centered care, there are still some barriers in accessibility and continuity of care. The hospital needs to improve communication between medical teams and patients, as well as enhance accessibility to information and post-surgical care so that patients feel more involved in their care.

Additionally, nurse Work Engagement is also an important factor. Work Engagement refers to the extent to which nurses feel committed to their jobs and are motivated to provide the best care. Nurses who are engaged in their work tend to be more active in giving full attention to patients, improving the quality of care relationships, and carrying out procedures that support the successful implementation of patient-centered care. Therefore, Work Engagement can be an important mediator that connects Clinical Leadership and Clinical Competence with the implementation of PCC.

From the pre-survey results at RS Islam Jakarta Cempaka Putih, it was found that in terms of Work Engagement, the majority of nurses (56.67%) felt energized and enthusiastic about their work, and more than 60% felt motivated to provide the best care for surgical patients. However, 50% felt less fully engaged in their daily work. This suggests that while most nurses feel motivated and engaged in their tasks, there is a need to improve the level of nurse engagement in routine activities. The hospital needs to focus more on providing emotional support and improving the well-being of nurses to ensure they remain motivated and engaged in their daily work.

In research focused on the impact of Clinical Leadership and Clinical Competence on the implementation of patient-centered care post-surgery, mediated by Work Engagement among nurses, several research gaps still need attention. Most of the existing literature, such as studies by (2); (3) and (4), emphasizes the importance of nurse engagement and clinical competence in improving the quality of medical services. However, most of these studies focus more on Clinical Competence or patient-centered care separately, without exploring the complex relationship between Clinical Leadership, competence, and Work Engagement in enhancing the implementation of post-surgical patient-centered care. Additionally, the role of Work Engagement as a mediator in post-surgery hospitals, as explained by (5) and (6), has been underexplored in the Islamic hospital setting in Indonesia, particularly in relation to the hospital's cultural conditions and resources (7); (8); (9) and (10). Furthermore, in the study of patient-centered care, most research focuses more on variables such as patient satisfaction or postoperative outcomes (as found in studies by (11) and (8)), but rarely touches on the interaction between Clinical Leadership, Clinical Competence, and Work Engagement in improving the implementation of patient-centered care in hospital settings. Research by (9) and (10) suggests that factors like leadership style and nurse engagement can affect service quality, but the connection between these factors and the application of post-surgical patient-centered care remains limited. Therefore, this research aims to fill this gap by integrating Clinical Leadership, Clinical Competence, and Work Engagement in the implementation of patient-centered care at RS Islam Jakarta Cempaka Putih, which has not been extensively studied before (12); (13); (14); (4) and (3).

OBJECTIVE

This study examined the effects of Clinical Leadership and Clinical Competence on the implementation of post-surgical Patient-Centered Care (PCC), with Work Engagement as a mediating variable among nurses at RS Islam Jakarta Cempaka Putih

METHODS

Design

This study employs a systematic quantitative approach with a cross-sectional survey design to examine the relationship between Clinical Leadership, Clinical Competence, Work Engagement, and the implementation of Patient-Centered Care Postsurgical. This study was conducted at RS Islam Jakarta Cempaka Putih, an Islamic hospital in Jakarta, Indonesia. The hospital serves a diverse patient base and has been providing post-surgical care services, making it an ideal setting to investigate the implementation of Patient-Centered Care and its associated factors.

Sample, sample size, & sampling technique

The study population consisted of all nurses involved in surgical activities at RS Islam Jakarta Cempaka Putih, including 45 nurses in the operating room, 30 nurses in the surgical ward, 30 nurses in the obstetrics and gynecology surgical ward, and 10 nurses in the entrusted surgical room. The total population was 115 nurses. A total sampling (saturated sampling) technique was used, meaning that all nurses who met the inclusion criteria were included in the study, with the exception of nurses working in hospital management. Thus, the total sample used in this study was 115 respondents, which corresponds to the relevant population.

Data Collection Procedures

The study used a structured questionnaire to measure the key variables: Clinical Leadership, Clinical Competence, Work Engagement, and the implementation of Patient-Centered Care Postsurgical. The questionnaire was designed using a 4-point Likert scale and was tested for validity and reliability to ensure it would yield objective, quantifiable data.

Data were collected through a structured questionnaire distributed to nurses over a specific period. The respondents were informed about the purpose of the study and assured of the confidentiality of their responses. Participants were asked to complete the questionnaire voluntarily, after providing their informed consent.

Data Analysis

Data collected from the questionnaires were analyzed using Structural Equation Modeling (SEM) with SmartPLS version 3.2.9 software. This method was chosen because it allows for the analysis of both direct and indirect (mediated) relationships between variables. It also provides insights into the effect of Clinical Leadership, Clinical Competence, and Work Engagement on the implementation of Patient-Centered Care.

Ethical Approval

The study adhered to ethical standards in health research. Ethical approval was obtained from the relevant ethics committee, and all participants were informed about the study's objectives and procedures. The confidentiality of the participants' identities was ensured, and their participation was voluntary, with informed consent obtained from each participant before data collection.

RESULT

Demographic Data

Characteristic	Category	f	%
Age	< 25 years	28	24.3
	25 - 30 years	64	55.7
	> 40 years	23	20.0
Gender	Male	20	17.4
	Female	95	82.6
Education	DIII Nursing	15	13.0
	Nurse	12	10.4
	Professional Nurse	5	4.3

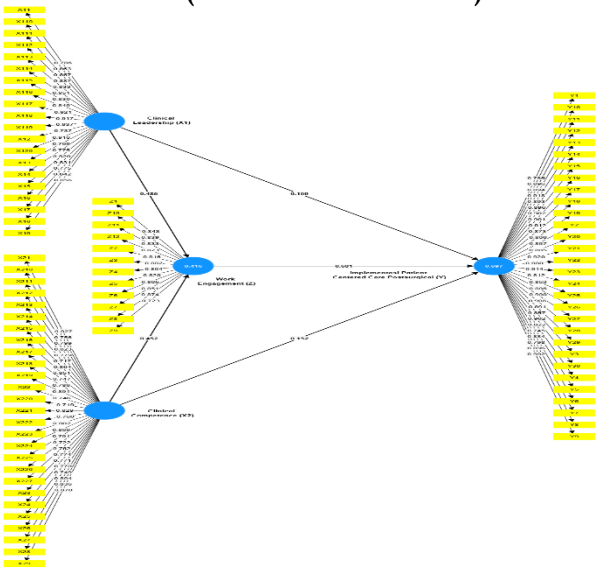
	Bachelor's Degree	83	72.2
Marital Status	Single	80	69.6
	Married	35	30.4
Years of Work	< 1 year	14	12.2
	1–2 years	54	47.0
	2–5 years	24	20.9
	> 10 years	23	20.0

The respondents in this study were nurses at RS Islam Jakarta Cempaka Putih, with a total of 115 individuals, all of whom met the study criteria. Based on the distribution of characteristics, the majority of respondents were in the age range of 25–30 years (55.7%), followed by those under 25 years (24.3%) and over 40 years (20.0%). This indicates that most nurses are in the early to mid-career stage, with high energy and enthusiasm to improve their competencies and the quality of service. In terms of gender, the profession is dominated by females (82.6%) compared to males (17.4%), which aligns with the general trend in the nursing profession. The education level of the respondents was also relatively high, with the majority having completed a bachelor's degree (72.2%), while the remaining were DIII Nursing graduates (13.0%), Registered Nurses (Ners) (10.4%), and Professional Registered Nurses (4.3%). Regarding marital status, most nurses were unmarried (69.6%), while 30.4% were married, which may influence the dynamics of work-life balance. In terms of work experience, nearly half of the nurses (47.0%) had 1–2 years of work experience, 20.9% worked for 2–5 years, 20.0% had more than 10 years of experience, and 12.2% had less than 1 year of experience. Overall, the profile of nurses at RS Islam Jakarta Cempaka Putih is characterized by a predominance of female, highly educated, productive-age workers with varied levels of experience, providing a strong foundation for supporting professional and high-quality healthcare services.

Hypothesis Testing

In this study, inferential analysis is conducted using multivariate statistical methods through the SEMPLS approach. The PLS method allows for analyzing relationships between variables in a complex model involving multiple variables (15). There are two stages in SEMPLS analysis. The first stage is dedicated to the outer model, which aims to assess the reliability and validity of the indicators in the model. The second stage focuses on the inner model or structural model, which aims to test the explanatory and predictive power of the model and the significance of interactions between variables in the research model (16).

Outer Model (Measurement Model)



The first image represents the Outer Model of a structural equation modeling (SEM). In this model, the relationships between latent variables (the variables that cannot be directly measured) are depicted. These latent variables are connected through arrows indicating the direction of influence or effect. The arrows represent the causal paths, while the coefficients along each path show the magnitude of influence between the variables. The blocks in yellow correspond to the observed variables (or indicators) that are used to measure the latent variables. This type of model is commonly used in multivariate analysis to explore complex relationships between variables in a system.

No	Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted AVE)	HTMT Ratio (Discriminant Validity)	Evaluation Result
1	Clinical Leadership (X1)	0.979	0.982	0.713	0.093	Valid &

No	Variable	Cronbach's Alpha	Composite Reliability	Average Variance Extracted AVE)	HTMT Ratio (Discriminant Validity)	Evaluation Result
						Reliable
2	Clinical Competence (X2)	0.977	0.979	0.631	0.093	Valid & Reliable
3	Implementation of Patient Centered Care Postsurgical (Y)	0.989	0.990	0.764	0.431 (X1) / 0.460 (X2)	Valid & Reliable
4	Work Engagement (Z)	0.961	0.962	0.701	0.834 (Y)	Valid & Reliable

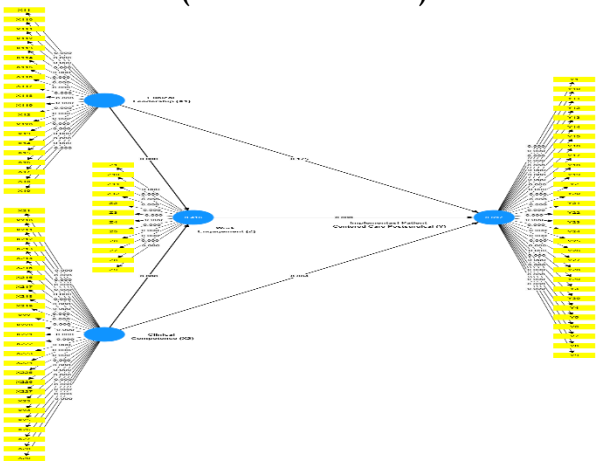
In the evaluation of the measurement model (outer model), reliability and validity tests were conducted to assess the quality of the indicators used in this study. Based on Cronbach's Alpha and Composite Reliability values, all variables show excellent results, with all values exceeding 0.7, indicating that the indicators in this study are reliable and consistent in measuring their respective constructs. For example, Clinical Leadership (X1) has a Cronbach's Alpha value of 0.979 and a Composite Reliability of 0.982, demonstrating very high reliability, in accordance with the guidelines recommended by (17).

Next, for construct validity, measured using Average Variance Extracted (AVE), the results show that all variables have AVE values greater than 0.5, indicating high convergent validity. For example, Implementation of Patient Centered Care Postsurgical (Y) has an AVE value of 0.764, which is higher than the minimum threshold of 0.5, indicating that this construct is valid in measuring its indicators.

In the Discriminant Validity stage, measured using the Heterotrait-Monotrait Ratio (HTMT), the test results show that the HTMT values between different constructs are all below 0.9. This indicates that each construct in this model has legitimate discriminant validity and can measure its construct specifically without overlap between constructs. For instance, Work Engagement (Z) has an HTMT value of 0.834 with Implementation of Patient Centered Care Postsurgical (Y), which is still below the 0.9 threshold, meaning this variable can be clearly distinguished from others in the model.

Overall, the results of the outer model evaluation show that all the indicators used in this study are valid and reliable and can measure their constructs effectively. This provides a solid foundation for proceeding with the next analysis stage in the inner model or structural model to test the relationships between the variables in the research.

Inner Model (Structural Model)



The second image shows the Inner Model of the same analysis. In this model, the focus is on the relationships between the latent variables themselves, where each latent variable influences another based on the defined structural equations. The coefficients on the arrows between the latent variables indicate the strength and direction of the relationships. This part of the model is typically where the hypothesis testing takes place, as it reveals the theoretical relationships being studied. The inner model explores how well the latent variables interact with each other in terms of cause-and-effect relationships.

Table 3. Inner VIF Value

Variable	Clinical Competence (X2)	Clinical Leadership (X1)	Implementasi Patient Centered Care	Work Engagement (Z)

			Postsurgical (Y)	
Clinical Competence (X2)	-	1.352	1.003	-
Clinical Leadership (X1)	-	1.406	1.003	-
Implementation of Patient Centered Care Postsurgical (Y)	-	-	-	-
Work Engagement (Z)	-	1.711	-	-

Based on Table 3, all variables have VIF values below 3, indicating that multicollinearity is not an issue. According to Hair et al. (2019), a VIF value under 3 is ideal, meaning the independent variables do not have problematic correlations and the model remains stable

Table 4. R-Squared (R^2) Values

Variable	R-Squared Value
Work Engagement (Z)	0.416
Implementation of Centered Care Postsurgical (Y)	0.697

Table 4 shows that Work Engagement (Z) has an R^2 of 0.416, which is considered moderate. This means that 41.6% of the variation in Work Engagement is explained by the independent variables in the model. In contrast, Implementation of Centered Care Postsurgical (Y) has a higher R^2 of 0.697, classified as substantial. This indicates that 69.7% of the variation in patient-centered care implementation is explained by the model

Table 5. Effect Size (f^2)

Influence	Effect Size Value	Explanation
Clinical Leadership → Work Engagement	0.402	Strong
Clinical Competence → Work Engagement	0.348	Strong
Clinical Leadership → Implementation of Centered Care Postsurgical	0.059	Weak
Clinical Competence → Implementation of patient Centered Care Postsurgical	0.056	Weak
Work Engagement → Implementation of Patient Centered Care Postsurgical	0.892	Very Strong

From Table 5, the influence of Work Engagement on Implementasi Patient Centered Care Postsurgical is exceptionally strong, with a very high f^2 value of 0.892. This suggests that Work Engagement has a significant impact on patient-centered care implementation. Clinical Leadership and Clinical Competence have strong effects on Work Engagement, with f^2 values of 0.402 and 0.348, respectively, but only a weak influence on patient-centered care implementation

Table 6. Q^2 Square Values

Variable	Q^2 Square Value	Relevance Classification
Work Engagement (Z)	0.283	Medium Predictive Relevance
Implementasi Patient Centered Care Postsurgical (Y)	0.500	Medium Predictive Relevance

Table 6 indicates that both Work Engagement (Z) and Implementasi Patient Centered Care Postsurgical (Y) have medium predictive relevance (Q^2 values of 0.283 and 0.500, respectively). This suggests that the model is moderately capable of predicting the outcomes related to both variables, although there is room for improvement in predictive power.

The analysis of the model using VIF, R^2, effect size (f^2), and Q^2 values indicates that the model is robust and valid. The absence of multicollinearity, moderate to strong R^2 values, significant effect sizes, and medium predictive relevance suggest that the model provides useful insights into the relationships among the variables, particularly the role of Work Engagement in implementing patient-centered care.

Table 7. Hypothesis Testing Results

Hypothesis	Influence	Original sample (O)	T statistics (|O/STDEV|)	P values	Description
H1	*Clinical Leadership* (X1) -> *Work Engagement* (Z)	0.485	5.653	0.000	Accepted
H2	*Clinical Competence* (X2) -> *Work Engagement* (Z)	0.452	5.546	0.000	Accepted
H3	*Clinical Leadership* (X1) -> Implementasi *Patient Centered Care Postsurgical* (Y)	0.159	1.356	0.175	Rejected
H4	*Clinical Competence* (X2) -> Implementasi *Patient Centered Care Postsurgical* (Y)	0.152	2.898	0.004	Accepted
H5	*Work Engagement* (Z) -> Implementasi *Patient Centered Care Postsurgical* (Y)	0.681	8.681	0.000	Accepted
H6	*Clinical Leadership* (X1) -> *Work Engagement* (Z) -> Implementasi *Patient Centered Care Postsurgical* (Y)	0.330	5.379	0.000	Accepted
H7	*Clinical Competence* (X2) -> *Work Engagement* (Z) -> Implementasi *Patient Centered Care Postsurgical* (Y)	0.307	3.894	0.000	Accepted

The Impact of Clinical Leadership on Work Engagement

The result of hypothesis testing for H1 shows a p-value < 0.05 (0.000), coefficient value above 0 (0.485), and T-statistic above 1.64 (5.653), indicating a significant effect. The standard coefficient of 0.485 suggests that Clinical Leadership has a positive direction towards Work Engagement. Thus, it can be concluded that Clinical Leadership is significant and has a positive effect on Work Engagement. As Clinical Leadership increases, Work Engagement rises.

The Impact of Clinical Competence on Work Engagement

The result of hypothesis testing for H2 shows a p-value < 0.05 (0.000), coefficient value above 0 (0.452), and T-statistic above 1.64 (5.546), indicating a significant effect. The standard coefficient of 0.452 suggests that Clinical Competence has a positive direction towards Work Engagement. Therefore, Clinical Competence is significant and has a positive effect on Work Engagement. As Clinical Competence increases, Work Engagement rises.

The Impact of Clinical Leadership on the Implementation of Patient-Centered Care Postsurgical

The result of hypothesis testing for H3 shows a p-value > 0.05 (0.175), coefficient value above 0 (0.159), and T-statistic below 1.64 (1.356), indicating that the effect is not significant. The standard coefficient of 0.159 suggests that Clinical Leadership has a positive direction towards the implementation of Patient-Centered Care Postsurgical. However, the effect is not significant. As Clinical Leadership increases, the implementation of Patient-Centered Care Postsurgical rises.

The Impact of Clinical Competence on the Implementation of Patient-Centered Care Postsurgical

The result of hypothesis testing for H4 shows a p-value < 0.05 (0.004), coefficient value above 0 (0.152), and T-statistic above 1.64 (2.898), indicating a significant effect. The standard coefficient of 0.152 suggests that Clinical Competence has a positive direction towards the implementation of Patient-Centered Care Postsurgical. Therefore, Clinical Competence is significant and has a positive effect on the implementation of Patient-Centered Care Postsurgical. As Clinical Competence increases, the implementation of Patient-Centered Care Postsurgical rises.

The Impact of Work Engagement on the Implementation of Patient-Centered Care Postsurgical

The result of hypothesis testing for H5 shows a p-value < 0.05 (0.000), coefficient value above 0 (0.681), and T-statistic above 1.64 (8.681), indicating a significant effect. The standard coefficient of 0.681 suggests that Work Engagement has a positive direction towards the implementation of Patient-Centered Care Postsurgical. Therefore, Work Engagement is significant and has a positive effect on the implementation of Patient-Centered Care Postsurgical. As Work Engagement increases, the implementation of Patient-Centered Care Postsurgical rises.

The Impact of Clinical Leadership on the

Implementation of Patient-Centered Care Postsurgical Through Work Engagement

The result of hypothesis testing for H6 shows a p-value < 0.05 (0.000), coefficient value above 0 (0.330), and T-statistic above 1.64 (5.379), indicating a significant effect. The standard coefficient of 0.330 suggests that Clinical Leadership has a positive effect on the implementation of Patient-Centered Care Postsurgical through Work Engagement. Therefore, it can be concluded that Clinical Leadership is significant and has a positive effect on the implementation of Patient-Centered Care Postsurgical through Work Engagement.

The Impact of Clinical Competence on the Implementation of Patient-Centered Care Postsurgical Through Work Engagement

The result of hypothesis testing for H7 shows a p-value < 0.05 (0.000), coefficient value above 0 (0.307), and T-statistic above 1.64 (3.894), indicating a significant effect. The standard coefficient of 0.307 suggests that Clinical Competence has a positive effect on the implementation of Patient-Centered Care Postsurgical through Work Engagement. Therefore, it can be concluded that Clinical Competence is significant and has a positive effect on the implementation of Patient-Centered Care Postsurgical through Work Engagement.

DISCUSSION

This section interprets the findings of the study in light of existing research, discusses their practical implications, evaluates the strengths and limitations of the study, and provides recommendations for future research.

1. The Influence of Clinical Leadership on Work Engagement

Clinical Leadership plays a pivotal role in fostering Work Engagement among nurses. The quality of leadership in a clinical setting significantly influences nurses' emotional and intellectual investment in their work. Leaders who provide clear direction, motivational support, and foster a culture of mutual respect contribute to a higher level of work engagement. Nurses who perceive their leaders as effective are more likely to be motivated, committed, and dedicated to their roles, leading to improved patient care.

The results of this study, based on the Three Box Method, show high average scores for both Clinical Leadership (97.3) and Work Engagement (96.2), indicating a strong positive correlation between effective leadership and nurse engagement. The findings align with research by (18) which highlights the impact of leadership on staff motivation and commitment. Additionally, when nurses feel valued and supported by their leaders, they are more likely to go above and beyond in their work, contributing to improved healthcare outcomes.

Further studies have shown that clinical leadership not only drives motivation but also enhances job satisfaction and overall work engagement. (10) Emphasized that transformational leadership can create an environment where nurses feel both supported and challenged. This kind of leadership approach leads to greater satisfaction and higher levels of engagement among nursing staff, which in turn improves the quality of care delivered to patients.

2. The Influence of Clinical Competence on Work Engagement

Clinical Competence has a significant impact on Work Engagement in healthcare settings. Nurses with higher levels of clinical competence tend to be more engaged in their work, as they feel more confident and capable in performing their duties. Clinical competence provides the necessary foundation for effective patient care, which fosters a sense of accomplishment and professional satisfaction. When nurses are skilled and knowledgeable, they are more likely to experience intrinsic motivation, which translates into greater emotional and intellectual engagement.

The study's findings, which show high average scores for Clinical Competence (100.4) and Work Engagement (96.2), suggest that as clinical competence improves, nurses become more involved in their work. This engagement is not only vital for individual nurse satisfaction

but also for providing quality care to patients. As (19) and (20) noted, nurses who feel competent are more likely to experience job satisfaction, which enhances their overall work engagement.

Moreover, high clinical competence allows nurses to handle complex and demanding situations, leading to greater work satisfaction. According to (18) competence in a profession fosters not only professional growth but also greater organizational commitment. Nurses who are proficient in their clinical roles feel more connected to their work and are more likely to remain engaged in providing high-quality care.

3. The Influence of Clinical Leadership on the Implementation of Patient-Centered Care Post-Surgical

Although Clinical Leadership positively influences the implementation of Patient-Centered Care (PCC) Post-Surgical, the direct statistical significance is limited. This implies that while clinical leadership provides a strong foundation for teamwork, communication, and patient advocacy, other factors may be necessary to fully realize the goals of PCC. Effective leadership is crucial for ensuring that care plans are tailored to meet patient needs, yet it alone may not be sufficient for optimal implementation.

The Three Box Method results show a high average score for Clinical Leadership (97.3) and PCC Post-Surgical (100.7), indicating that while leadership is a key contributor, other aspects, such as clinical competence and work engagement, may play mediating roles. Effective leadership enables nurses to manage patient needs and coordinate care efficiently, but the successful application of PCC also requires strong interpersonal skills and clinical knowledge, as emphasized by studies such as those by (6) and (8)

Further research suggests that while clinical leadership is an important factor in implementing PCC, it must be supported by other competencies such as clinical expertise and work engagement to have a truly significant impact. This finding is consistent with prior studies which emphasize the need for a holistic approach to patient care that integrates leadership, competence, and engagement (21); (10).

4. The Influence of Clinical Competence on the Implementation of Patient-Centered Care Post-Surgical

Clinical Competence plays a crucial role in the successful implementation of Patient-Centered Care (PCC) Post-Surgical. Nurses who are clinically competent are better equipped to handle the diverse and complex needs of post-surgical patients, ensuring that care is both effective and personalized. High levels of clinical competence enable nurses to provide safe and high-quality care, which is essential for meeting the expectations of patients and their families.

In this study, Clinical Competence received a high average score (100.4), reflecting that nurses possess the skills and knowledge necessary to provide high-quality care. This competence directly influences the ability to provide PCC, as competent nurses can manage complex medical situations while also addressing the emotional and psychological needs of patients (4); (2). The study supports the notion that competence enhances not only technical skills but also the ability to engage with patients effectively, a key component of PCC.

Furthermore, nurses with high clinical competence contribute to improving patient outcomes by facilitating effective communication and offering appropriate education. (18) argue that clinical competence is fundamental to effective work engagement, which then enhances the overall quality of patient-centered care. Competent nurses are more likely to provide the holistic, patient-focused care that is essential for optimal recovery in post-surgical settings.

5. The Influence of Work Engagement on the Implementation of Patient-Centered Care Post-Surgical

Work Engagement is a significant driver of the successful implementation of Patient-Centered Care (PCC) Post-Surgical. Engaged nurses are more committed to their roles, which results in better attention to patients' needs and

improved care outcomes. Nurses with high levels of engagement are emotionally and intellectually invested in their work, which enhances the quality of care provided, particularly in complex and high-pressure environments such as post-surgical recovery.

The study's findings show high levels of Work Engagement (96.2) alongside PCC Post-Surgical (100.7), suggesting that when nurses are engaged in their work, they are more likely to provide high-quality, patient-centered care. Nurses who feel connected to their roles demonstrate greater empathy, commitment, and responsiveness to patient needs, which directly impacts patient recovery (22). Engaged nurses also contribute to better communication and collaboration within the healthcare team, ensuring that patients receive comprehensive care.

Moreover, research supports that work engagement can serve as a mediator in enhancing the relationship between leadership and patient-centered care. Studies by (Kim & Seo, 2021) and (10) show that engaged nurses are more likely to demonstrate behaviors that align with the principles of PCC, leading to better patient satisfaction and recovery outcomes. As such, fostering work engagement is critical to improving patient care in post-surgical settings.

6. The Influence of Clinical Leadership on the Implementation of Patient-Centered Care Post-Surgical through Work Engagement

This study demonstrates that Clinical Leadership influences the Implementation of Patient-Centered Care (PCC) Post-Surgical through Work Engagement, with a significant and positive indirect effect. Effective leadership helps create a supportive work environment that motivates nurses to engage more deeply in their roles. This emotional and intellectual investment is critical for the successful application of PCC, as it ensures that nurses are committed to providing high-quality, holistic care that is centered around the patient's needs.

The Three Box Method results show high scores for Clinical Leadership (97.3), Work Engagement (96.2), and PCC Post-Surgical (100.7), indicating a strong connection between leadership and engagement. Clinical leaders who empower their staff by fostering open communication and collaborative practices increase nurses' emotional commitment to their work. As nurses become more engaged, they are better equipped to apply the principles of PCC effectively, ensuring that patient care is personalized and responsive to individual needs.

Research supports the critical role of work engagement as a mediator between clinical leadership and the implementation of PCC. As (23) point out, leadership has a direct impact on motivation and engagement, which in turn enhances organizational performance. Furthermore, studies by (6) and (24) emphasize that effective leadership can enhance both engagement and collaboration, resulting in better patient outcomes. Thus, the development of clinical leadership should prioritize the creation of an environment that supports work engagement to optimize PCC.

7. The Influence of Clinical Competence on the Implementation of Patient-Centered Care Post-Surgical through Work Engagement

Clinical Competence has a significant and positive influence on the Implementation of Patient-Centered Care (PCC) Post-Surgical through Work Engagement. Competent nurses are more confident and capable of addressing the diverse needs of post-surgical patients, which leads to higher engagement in their work. The competence of nurses enhances their ability to provide effective, safe, and holistic care, and this professional confidence boosts their emotional and intellectual engagement, making them more invested in delivering high-quality patient care.

The study reveals that Clinical Competence (100.4), Work Engagement (96.2), and PCC Post-Surgical (100.7) all received high average scores, suggesting that competent nurses are more engaged in their roles and, therefore, more likely to implement PCC successfully. As nurses demonstrate high clinical competence, they are better able to meet patient needs and engage more deeply with their work. The connection between competence and engagement is key in creating

a care environment where patients receive personalized, responsive, and high-quality care during the recovery process.

Previous research supports the idea that Work Engagement acts as a mediator between Clinical Competence and PCC. Studies by (25) and (9) emphasize that nurses with high clinical competence tend to experience greater work engagement, leading to better patient outcomes and more effective implementation of PCC. (2) and (26) have also found that increasing nurses' clinical competence enhances both their job satisfaction and engagement, which are critical factors in the delivery of PCC.

Our findings revealed that Clinical Leadership significantly and positively influences Work Engagement, which means that the higher the quality of clinical leadership, the higher the nurses' work engagement. Effective clinical leadership facilitates clear communication, provides proper direction, and motivates nurses to contribute to their work to the fullest. This finding supports the theoretical framework that leadership is a key driver in increasing motivation and commitment among healthcare professionals(18). As clinical leadership improves, so does the level of work engagement, fostering an environment where nurses are more dedicated and invested in their roles, ultimately leading to better patient care.

Additionally, Clinical Competence was found to have a significant and positive effect on Work Engagement, meaning that nurses who feel competent in their roles are more likely to be engaged and committed to their work. This finding aligns with previous research by (27) and (20) which highlighted the role of clinical competence in increasing nurses' confidence, focus, and job satisfaction. Nurses with higher clinical competence tend to engage more in their work, as they feel capable of handling complex clinical situations and providing high-quality care. The increased work engagement, in turn, contributes to improved job performance and patient outcomes, reinforcing the idea that competence and engagement are integral to high-quality patient care.

Our results are consistent with studies by (10) and (21), who found that clinical leadership enhances work engagement among nurses. Both studies suggested that effective leadership can increase motivation and engagement by providing support and fostering a positive work environment. Additionally, (4) and (22) found that clinical competence positively affects nurse engagement and performance. These findings are in line with our study, showing that leadership and competence are essential factors in improving work engagement. However, our study diverges from some previous research, such as (6) and (8), which found direct effects of clinical leadership on patient-centered care implementation. In contrast, our study revealed that the direct impact of clinical leadership on the implementation of Patient-Centered Care (PCC) was not statistically significant. This suggests that work engagement might act as a mediator in the relationship between clinical leadership and the implementation of PCC, a nuance not fully explored in previous studies.

There are several limitations to this study that must be addressed in future research. First, the cross-sectional design limits the ability to establish causality between clinical leadership, clinical competence, work engagement, and patient-centered care. Previous study (28) highlighted, cross-sectional studies can only demonstrate correlations rather than causal relationships. This limitation is inherent in many organizational behavior studies and calls for further research using longitudinal designs, which can establish temporal causality. Second, the reliance on self-reported data might introduce biases, such as over reporting or underreporting of work engagement and clinical competence. This issue has been documented by previous researchers, including (4), who acknowledged that self-reports might not always reflect actual behavior or performance accurately. Future studies should consider using observational methods or third-party evaluations to mitigate such biases.

Another limitation is that this study was conducted at a single hospital, which may reduce the generalizability of the findings. Previous study (23) noted, studies that focus on

one specific setting might not be applicable to other institutions with different organizational cultures or resources. The findings may not reflect the reality of clinical leadership, clinical competence, or work engagement in other healthcare environments, especially in hospitals with varying patient populations or healthcare models. Therefore, future research should expand the scope to include multiple healthcare institutions with diverse settings and cultures. This would help to enhance the generalizability of the findings and provide a more comprehensive understanding of how clinical leadership, clinical competence, and work engagement influence patient-centered care.

Future research should aim to address the limitations identified in this study by adopting longitudinal designs to establish causal relationships between clinical leadership, clinical competence, work engagement, and the implementation of patient-centered care. Longitudinal studies, as recommended by (29) would allow researchers to observe changes over time and understand how these variables interact and influence one another in real-world settings. Moreover, further research could investigate the specific leadership styles and competencies that are most effective in enhancing work engagement in healthcare settings, providing more targeted interventions. Studies by (30) and (31) have suggested that the style of leadership, whether transformational, transactional, or servant leadership, may have varying effects on employee motivation and engagement, so exploring these differences would be beneficial.

Additionally, expanding research to include diverse healthcare settings and cultural contexts would provide deeper insights into how clinical leadership and competence affect work engagement and patient-centered care. As noted by (32) and (33), cultural and organizational differences can significantly influence the effectiveness of leadership and the level of work engagement among healthcare workers. By including a broader range of hospitals from different regions or countries, future studies could generate findings that are more applicable across diverse healthcare systems. Furthermore, future research could explore other factors such as organizational culture, communication practices, and team dynamics to further enrich our understanding of the factors that influence patient-centered care and work engagement. Theoretically, this study emphasizes that Work Engagement is more dominant than Clinical Leadership and Clinical Competence in strengthening the implementation of Patient-Centered Care Postsurgical. This finding aligns with the organizational behavior theory of (23) which stresses the role of motivation and engagement in improving performance quality. High levels of engagement encourage nurses to care more about patient safety and service quality.

Additionally, the theories of (34) and (27) show that external factors such as leadership and work environment support the enhancement of Work Engagement. Therefore, this study contributes to reinforcing organizational behavior theory, especially in the context of patient safety culture through healthcare worker engagement.

From a managerial perspective, the results of this study provide practical guidance for RS Islam Jakarta Cempaka Putih, such as strengthening the role of Change Agents in clinical leadership, enhancing continuous professional development programs for nurses, optimizing access to post-surgical medical data through digital information systems, and providing mental well-being support for nurses to enhance focus and work engagement

Acknowledgement

This study demonstrates that Clinical Leadership, Clinical Competence, and Work Engagement significantly influence the implementation of Patient-Centered Care postsurgical simultaneously. Therefore, the integrated management of these three variables is essential to improve the quality of post-surgical patient care. Clinical Leadership significantly influences Work Engagement, although not directly affecting the implementation of patient-centered care, while Clinical Competence has a significant impact both directly and indirectly through Work

Engagement.

The findings also confirm that Work Engagement plays an important mediating role that strengthens the relationship between Clinical Leadership and Clinical Competence with the implementation of Patient-Centered Care. Nurses with high engagement are more effective in delivering care, indicating that motivation and emotional dedication are key factors in creating patient-centered care. Therefore, it can be concluded that Clinical Competence and Work Engagement have a dominant influence on improving the quality of care, while Clinical Leadership serves as an indirect supporting factor by increasing nurse engagement. This highlights the need for hospitals to focus on strengthening clinical competence and work motivation to ensure the successful implementation of Patient-Centered Care postsurgical.

Implication

The findings imply that improving post-surgical Patient-Centered Care (PCC) requires hospitals to move beyond focusing solely on leadership structures or clinical skill enhancement, and instead strategically prioritize strengthening nurses' work engagement as a central mechanism for performance improvement. Leadership development initiatives should emphasize supportive, transformational, and engagement-oriented approaches, while competency development programs should be continuously aligned with PCC standards. Integrating work engagement indicators into nursing performance evaluation and quality assurance systems may enhance sustainable PCC implementation. These results also contribute theoretically by positioning work engagement as a critical mediating construct in healthcare leadership models, offering a more comprehensive framework for improving nursing practice and patient outcomes.

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