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Original Research

Nurses' Clinical Competence as a Predictor of Patient Safety Target Compliance in Surgical Procedures

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ABSTRACT

Background: The implementation of patient safety goals in hospitals, including operating rooms, is inseparable from the competence of nurses. High levels of competence also contribute to improving the quality of nursing care and enhancing patient safety. This study aims to gain a deeper understanding of the relationship between the clinical competence of operating room nurses and the achievement of patient safety goals. **Methods:** This study used a cross-sectional design and collected data from seven private hospitals in Ambon City, with a sample of 66 surgical nurses. The sampling technique used was simple random sampling, a method of selecting participants from a population without regard to the strata within that population. **Results:** The clinical competence of surgical nurses was measured using three subdomains aligned with competency areas: ethical and legal professional practice and cultural sensitivity; nursing care provision and management; and personal and professional quality development. The frequency distribution of respondents was analyzed based on these clinical competence domains. There was a significant relationship between the clinical competence of surgical nurses and patient safety goals, particularly regarding surgical procedures. **Conclusions:** Clinical competence is a critical component of patient safety, as it helps ensure that nurses provide safe and effective care while promoting active involvement and participation in achieving patient safety goals.

Keywords: Nurse; clinical nurse competence; patient safety; operating room; private hospital

1. INTRODUCTION

Surgery in health services aims to save lives, prevent disability and complications. However, surgical procedures can cause complications that endanger the patient's life. WHO data states that for more than a century, surgical

procedures have been an important component of health care worldwide.[1] Patient-centered safety practices must be the focus of perioperative care, which includes before, during, and after surgery. According to Gousario (2025), surgery plays an increasingly prominent role in healthcare worldwide, and more attention is being focused on the safety and quality of such care. Half of all iatrogenic complications related to surgery can be avoided, and disruptions in communication, ineffective teamwork, and non-compliance by the surgical team, including standard practices regarding sterilization, aseptic techniques, and patient and location errors, are contributing factors.[2]

The implementation of patient safety goals in hospitals, including in operating rooms, is inseparable from the competence of nurses. The competence of nurses in hospitals is referred to as clinical competence. The clinical competence of nurses is a detailed description of the competencies that nurses can perform in providing nursing care to patients in hospitals. Complaints from patients and the occurrence of unexpected events can occur due to the suboptimal implementation of nurses' clinical competencies.[3] High competence can also develop the nursing process to improve the quality of nursing and patient safety.[4] Clinical competence is the ability to integrate knowledge, skills, attitudes, and values into clinical situations and is very important in nursing education, clinical settings, nursing management, and crises.[3] Nurses feel more satisfied with their work and responsible for their work with this competence. Thus, clinical competence greatly influences the quality of nursing care services. The picture of clinical competence among nurses in Indonesia is that proper nurse allocation is difficult to achieve be-cause most nurses are graduates of diploma programs.[5] This is due to the limited research on competence, necessitating further research on clinical competence based on caring.

The implementation of clinical competencies in hospitals in Indonesia has not been optimally carried out. This is in line with the results of Pieter's (2021) research on emergency room nurses at a hospital in Central Java, where 100% of the clinical competencies performed by nurses did not comply with the Clinical Competency Details (*Rincian Kewenangan Klinis* or RKK) provided by the hospital.[4] The implementation of clinical competencies in hospitals is still far from perfect.[6] Research findings in Maluku indicate that the implementation of clinical competencies by nurses is still ineffective, with the lowest results at 50% in the medical surgery and oncology wards.[7] A nurse must understand the concept of caring and be able to apply it in providing nursing care.

Therefore, it is necessary to gain a deeper understanding of the relationship between clinical competencies of nurses in the operating room in order to improve patient safety objectives. Study objectives to relationship between clinical competencies of nurses in the operating room in order to improve patient safety objectives. The high incidence of patient safety incidents in operating rooms linked to nursing errors indicates that nurses' clinical competence is a crucial factor requiring in-depth examination, given that even the slightest error during a surgical procedure can have fatal consequences for the patient. The research findings can serve as a basis for developing clinical competency training programs for surgical nurses based on specific patient safety goals—an area that has not been extensively formulated in previous research.

2. Materials and Methods

2.1 Study Design

This study used a cross-sectional research design. This type of research seeks to study the relationship or correlation between factors and their effects.[8] Risk factors and effects were measured at the same time. This study analyzed the influence of organizational characteristics on the clinical competence of nurses.

2.2 Setting and Samples

This study was conducted in private hospitals in Ambon City from March to July 2025. The study population consisted of all nurses working in the operating rooms of seven private hospitals in Ambon City. The hospitals included Dr. Latumeten Tk II Hospital, Al-Fatah Hospital, Sumber Hidup Hospital, Bhakti Rahayu Hospital, Bhayangkara Hospital, Dr. FX Suharjo Hospital, and Hative Passo Hospital, with a total of 66 nurses. The sample consisted of nurses working in the operating rooms of private hospitals in Ambon City who met the following inclusion criteria: (1) circulating nurses and/or scrub nurses and (2) permanent employees.

2.3 Measurement and Data Collection

The independent variables in this study are clinical competence include professional, ethical, legal, and culturally sensitive practices; nursing care provision and management; and personal and professional quality

development. The dependent variables of surgical nurses, include accurate identification of the surgical site, accurate identification of surgical procedures, accurate identification of surgical patients.

2.4 Data Analysis;

Data were analyzed using Statistical Package for the Social Sciences (SPSS) version 20 and SmartPLS (SEM-PLS 3). Univariate analysis was performed using descriptive statistics to summarize the characteristics of the study variables. Since the data were not normally distributed, bivariate analysis was conducted using the Wilcoxon signed-rank test to compare paired observations. In addition, the Spearman rank correlation test was used to assess the relationship between variables. Statistical analyses were performed using SPSS version 20, while Structural Equation Modeling (SEM) analysis was conducted using SmartPLS 3.

2.5 Ethical Considerations

This study received ethical approval from Health Research Ethics Committee, Faculty of Public Health, Universitas Airlangga (ethical approval no.: 42/EA/KEPK/2025).

3. Results

The clinical competence of surgical nurses was measured using three sub-variables adjusted to the area of competence, namely ethical and legal professional practice and cultural sensitivity, nursing care provision and management, and personal and professional quality development. The following is the frequency distribution of respondents according to the clinical competence of surgical nurses.

3.1 Distribution of Respondents Based on Observations of Clinical Competence of Surgical Nurses at Ambon City Hospital in 2025

Based on Table 1, it can be seen that 36 (54.5%) respondents had adequate professional, ethical, legal, and culturally sensitive practices. A total of 25 (37.9%) respondents had adequate nursing care and management. A total of 39 (59.1%) respondents had good personal and professional quality development. Patient safety targets are focused on surgical procedures, which are measured by the sub-variables of identifying the location of the surgery, identifying the correct surgical procedure, and identifying the correct patient. These variables are also measured by the service setting in the operating room, which includes pre-op, intra-op, and post-op. The following is the frequency distribution of respondents according to patient safety targets.

Table 1. Distribution of respondents based on observations of clinical competence of surgical nurses at Ambon City Hospital in 2025.

Clinical competence of surgical nurses	Frequency (f)	Percentage (%)
Professional, ethical, legal, and culturally sensitive practice		
Good	18	27.3
Fair	36	54.5
Poor	12	18.2
Total	66	100
Nursing care provision and management		
Good	22	33.3
Adequate	25	37.9
Insufficient	19	28.8
Total	66	100
Personal and professional development		
Good	39	59.1
Fair	11	16.7
Poor	16	24.2
Total	66	100

The following are the results of the relationship test on the variables of nurses' clinical competence, consisting of professional, ethical, legal, and culturally sensitive practices, nursing care provision and management, and per-sonal and professional quality development with patient safety goals: surgical procedures consisting of accurate identification of the surgical site, accurate identification of the surgical procedure, and accurate identification of the surgical patient.

3.2 Relationship between professional, Ethical, Legal, and Culturally Sensitive Practices and Accurate Identification of the Surgical Site, Surgical Procedure, and Surgical Patient

Based on Table 2, it can be seen that of the 18 respondents with good professional, ethical, legal, and culturally sensitive practices, 18 respondents (100%) had accurate identification of the location of the operation in the good category, while of the 36 respondents with adequate professional, ethical, legal, and culturally sensitive practices, 20 respondents (55.6%) had accurate identification of the location of the operation in the adequate category. Of the 12 respondents with poor professional, ethical, legal, and culturally sensitive

practices, 6 respondents (50.0%) had accurate identification of the location of surgery in the good category.

Based on Table 2, it can be seen that of the 18 respondents with good professional, ethical, legal, and culturally sensitive practices, 18 respondents (100%) had accurate identification of surgical procedures in the good category, while of the 36 respondents with adequate professional, ethical, legal, and culturally sensitive practices, 31 respondents (86.1%) had accurate identification of surgical procedures in the adequate category. Of the 12 respond-ents with poor professional, ethical, legal, and culturally sensitive practices, 6 respondents (50.0%) had adequate identification of surgical procedures.

Table 2. Relationship between professional, ethical, legal, and culturally sensitive practices and accurate identification of the surgical site, surgical procedure, and surgical patient in seven private hospitals in Ambon City

Variable	Category	Professional, ethical, legal, and culturally sensitive practices		
		Good, f (%)	Fair, f (%)	Insufficient, f (%)
Accurate identification of the surgical site	Good	18 (100%)	14 (38.9%)	6 (50.0%)
	Adequate	0 (0.0%)	20 (55.6%)	6 (50.0%)
	Poor	0 (0.0%)	2 (5.6%)	0 (0.0%)
	Total	18 (100%)	36 (100%)	12 (100%)
Accurate identification of surgical procedures	Good	18 (100%)	2 (5.6%)	1 (8.3%)
	Adequate	0 (0.0%)	31 (86.1%)	6 (50.0%)
	Poor	0 (0.0%)	3 (8.3%)	5 (41.7%)
	Total	18 (100%)	36 (100%)	12 (100%)
Accurate identification of surgical patients	Good	16 (88.9%)	14 (38.9%)	1 (8.3%)
	Adequate	2 (11.1%)	15 (41.7%)	4 (33.3%)
	Poor	0 (0.0%)	7 (19.4%)	7 (58.3%)
	Total	18 (100%)	36 (100%)	12 (100%)

Based on Table 2, it can be seen that of the 18 respondents with good professional, ethical, legal, and culturally sensitive practices, 16 respondents (88.9%) had accurate identification of surgical patients in the good category, while of the 36 respondents with adequate professional, ethical, legal, and culturally sensitive practices, 15 respondents (41.7%) had accurate identification of surgical patients in the adequate category. Of the 12 respondents with poor professional, ethical, legal, and culturally sensitive practices, 7 respondents (58.3%) had poor identification of surgical patients.

3.3 Relationship Between Nursing Care Provision and Management and the Accurate Identification of Surgical Site, Surgical Procedure, and Surgical Patient

Based on Table 3, it can be seen that from the indicator of nursing care provision and management, out of 22 respondents with good nursing care provision and management, 20 respondents (90.9%) had accurate identification of the location of surgery in the good category. out of 25 respondents with adequate nursing care provision and management, 16 respondents (64.0%) had accurate identification of the surgical site in the adequate category. Out of 19 respondents with poor nursing care provision and management, 11 respondents (57.9%) had accurate identification of the surgical site in the good category.

Based on Table 3, it can be seen that of the 22 respondents with good nursing care and management, 19 respondents (86.4%) had accurate identification of surgical procedures in the good category, while of the 25 respond-ents with adequate nursing care and management, 24 respondents (96.0%) had accurate identification of surgical procedures in the adequate category. Of the 19 respondents with inadequate nursing care and management, 10 respondents (52.6%) had adequate identification of surgical procedures in the adequate category.

Based on Table 3, it can be seen that of the 22 respondents with good nursing care and management, 18 respondents (81.8%) had accurate identification of surgical patients in the good category, while of the 25 respondents with adequate nursing care and management, 13 respondents (52.0%) had accurate identification of surgical patients in the good category. Of

Table 3. Relationship between nursing care provision and management and the accurate identification of surgical site, surgical procedure, and surgical patient in seven private hospitals in Ambon City

Variable	Category	Nursing care provision and management		
		Good, f (%)	Fair, f (%)	Insufficient, f (%)
Accurate identification of the surgical site	Good	20 (90.9%)	7 (28.0%)	11 (57.9%)
	Adequate	2 (9.1%)	16 (64.0%)	8 (42.1%)
	Poor	0 (0.0%)	2 (8.0%)	0 (0.0%)
	Total	22 (100%)	25 (100%)	19 (100%)
Accurate identification of surgical procedures	Good	19 (86.4%)	0 (0.0%)	2 (10.5%)
	Adequate	3 (13.6%)	24 (96.0%)	10 (52.6%)
	Poor	0 (0.0%)	1 (4.0%)	7 (36.8%)
	Total	22 (100%)	25 (100%)	19 (100%)
Accurate identification of surgical patients	Good	18 (81.8%)	13 (52.0%)	0 (0.0%)
	Adequate	4 (18.2%)	12 (48.0%)	5 (26.3%)
	Poor	0 (0.0%)	0 (0.0%)	14 (73.7%)
	Total	22 (100%)	25 (100%)	19 (100%)

the 19 respondents with poor nursing care and management, 14 respondents (73.3%) had poor identification of surgical patients.

3.4 Relationship Between Personal and Professional Quality Development and the Accurate Identification of Surgical Site, Surgical Procedure, and Surgical Patient

Based on Table 4, it can be seen that of the 39 respondents with good personal and professional quality development, 20 respondents (51.3%) had accurate identification of the location of the operation in the good category, while of the 11 respondents with adequate personal and professional quality development, 7 respondents (63.6%) had accurate identification of the location of the operation in the good category. Of the 16 respondents with poor personal and professional quality development, 11 respondents (68.8%) had accurate identification of the location of surgery in the good category.

Table 4. Relationship between personal and professional quality development and the accurate identification of surgical site, surgical procedure, and surgical patient in seven private hospitals in Ambon City

Variable	Category	Personal and professional development		
		Good, f (%)	Fair, f (%)	Insufficient, f (%)
Accurate identification of the surgical site	Good	20 (51.3%)	7 (63.6%)	11 (68.8%)
	Adequate	18 (46.2%)	3 (27.3%)	5 (31.2%)
	Poor	1 (2.6%)	1 (9.1%)	0 (0.0%)
	Total	39 (100%)	11 (100%)	16 (100%)
Accurate identification of surgical procedures	Good	17 (43.6%)	2 (18.2%)	2 (12.5%)
	Adequate	21 (53.8%)	4 (36.4%)	12 (75.0%)
	Poor	1 (2.6%)	5 (45.5%)	2 (12.5%)
	Total	39 (100%)	11 (100%)	16 (100%)
Accurate identification of surgical patients	Good	30 (76.9%)	1 (9.1%)	0 (0.0%)
	Adequate	9 (23.1%)	4 (36.4%)	8 (50.0%)
	Poor	0 (0.0%)	6 (54.5%)	8 (50.0%)
	Total	39 (100%)	11 (100%)	16 (100%)

Based on Table 4, it can be seen that of the 39 respondents with good personal and professional quality development, 21 respondents (53.8%) had accurate identification of operating procedures in the sufficient category, while of the 11 respondents with sufficient personal and professional quality development, 5 respondents (45.5%) had accurate identification of operating procedures in the insufficient category. Of the 16 respondents with poor personal and professional development, 12 respondents (75.0%) had accurate

identification of surgical procedures in the adequate category.

Based on Table 4, it can be seen that of the 39 respondents with good personal and professional quality development, 30 respondents (76.98%) had accurate identification of surgical patients in the good category, while of the 11 respondents with adequate personal and professional quality development, 6 respondents (54.5%) had ac-curate identification of surgical patients in the insufficient category. Of the 16 respondents with poor personal and professional quality development, 8 respondents (50.0%) had adequate identification of surgical patients.

3.5 Results of Testing the Effect Values of the Relationships Among Clinical Competence of Surgical Nurses and Patient Safety Goals (Surgical Procedures)

Based on the table 5, it can be concluded that, with a p-value of 0.000, the clinical competence of surgical nurses has a significant effect and a strong association with patient safety outcomes (surgical procedures).

Table 5. Results of testing the effect values of the relationships among clinical competence of surgical nurses

Variables	Indicator	*p*-value
Clinical competence of surgical nurses	Professional practice, ethics, legal considerations, and cultural sensitivity	0.000
	Provision of nursing care and care management	
	Personal and professional development	
Patient safety goals (surgical procedures)	Accurate identification of the surgical site	0.000
	Accurate identification of surgical procedures	
	Accurate identification of surgical patients	

4. DISCUSSION

The Relationship Between Professional, Ethical, Legal, and Culturally Sensitive Practices and Patient Safety Goals: Surgical Procedures

Good professional, ethical, legal, and culturally sensitive practices are associated with accurate identification of the location of surgery in the good category (100%), accurate identification of surgical procedures in the good category (100%), and accurate identification of surgical patients in the good category (88.9%). Mualimah's re-search results show that good professional, ethical, legal, and culturally sensitive practices influence the level of compliance of nurses in performing accurate identification of surgical patients.[9] Professional practice competence includes proven clinical skills and consistent application of nursing procedures in accordance with applicable standards, thereby increasing accuracy in patient identification. Ethical and legal aspects in still awareness of moral responsibility and legal obligations in maintaining patient safety and rights, which strengthens nurses' integrity and compliance with accurate patient identification protocols.[10]

Professional, ethical, legal, and culturally sensitive practices are sufficiently related to accurate identification of the surgical site in the sufficient category (55.6%), accurate identification of surgical procedures in the sufficient category (86.1%), and accurate identification of surgical patients in the sufficient category (41.7%). Cultural sensitivity is an important aspect that adds to the quality of competence because it takes into account the uniqueness and needs of patients from various cultural backgrounds, so that communication and the implementation of nursing actions become more accurate and effective.[11] Nurses are able to reduce the risk of incorrect identification of the surgical site, thereby ensuring patient safety in perioperative care in the operating room. Nurses who master professional practices, adhere to ethical principles and legal regulations, and are culturally sensitive demonstrate better performance in correctly identifying the surgical site.

Professional, ethical, legal, and culturally sensitive practices that are less related to accurate identification of the surgical site in the good category (50.0%), accurate identification of the surgical procedure in the sufficient category (50.0%), and accurate identification of the surgical patient in the poor category (58.3%). Based on these re-search results, there is a relationship between nurses who have professional, ethical, legal, and culturally sensitive practices and the accurate identification of surgical procedures. Professional practices that involve consistent understanding and application of nursing standards, combined with

awareness and compliance with ethical principles and legal regulations, create a strong foundation for nurses to carry out patient identification procedures accurately and in accordance with safety standards.[12] Thus, the development and improvement of competencies in the areas of professionalism, ethics, legality, and cultural sensitivity not only improve the quality of service but also become key factors in ensuring patient safety during surgical procedures.

The Impact of Nursing Care and Nursing Care Management on Patient Safety Goals: Surgical Procedures

Based on the research results, the provision of nursing care and care management is associated with accurate identification of the surgical site in the good category (90.9%), accurate identification of the surgical procedure in the good category (86.4%), and accurate identification of the surgical patient in the good category (81.8%). Quality nursing care includes an integrated and comprehensive process of assessment, planning, implementation, and evaluation of the patient's condition. Good care management also ensures effective coordination between health team members so that there is smooth communication and multiple layers of verification of surgical procedures, which ultimately minimizes the risk of surgical site identification errors.[13] A comprehensive care process helps ensure that each step in the verification process, from reviewing medical documents and confirming with the patient to marking the surgical site, is carried out in accordance with patient safety standards.[14] Strengthening the provision of care and nursing care management is an important strategy in improving patient safety in the operating room, particularly in ensuring the accuracy of the surgical site to prevent fatal errors during surgery.

Nursing care provision and management were moderately related to surgical site accuracy in the moderate category (64.0%), accurate identification of surgical procedures in the moderate category (96.0%), and accurate identification of surgical patients in the good category (52.0%). The results of this study show that good nursing care and management have a positive effect on the accuracy of surgical site identification. Other studies explain the importance of the role of nurses in ensuring patient safety through identity and surgical site verification.[15] The implementation of systematic safety procedures, including accurate surgical site identification, is greatly influenced by the quality of competence and management in nursing care.

The provision of nursing care and nursing care management that is less related to the accurate identification of the surgical site in the good category is 57.9%, the accurate identification of surgical procedures in the sufficient category is 52.6%, and the accurate identification of surgical patients in the poor category is 73.3%. Effective nursing care involves a series of systematic processes ranging from assessment, planning, implementation, to evaluation, which directly supports nurses' ability to verify patient identity and ensure that surgical procedures are carried out according to plan.[16] Good care management also plays a role in coordinating communication and cooperation between health teams, so that the risk of patient and surgical site identification errors can be significantly minimized.

The Influence of Personal and Professional Quality Development on Patient Safety Goals: Surgical Procedures

The development of good personal and professional qualities in nurses is reflected in the accurate identification of the location of surgery in the good category (51.3%), the accurate identification of surgical procedures in the adequate category (53.8%), and the accurate identification of surgical patients in the good category (76.98%). The development of good personal and professional qualities in nurses is demonstrated by their ability to accurately identify surgical patients. This reflects that in addition to mastering technical aspects, nurses also have a high awareness of the importance of accuracy in patient care, especially in recognizing and confirming the patient's identity accurately before the surgical procedure is performed.[7] This condition is a reflection of a combination of personal qualities such as responsibility, concentration, and discipline, as well as professional qualities that include an understanding of nursing practice standards and a commitment to patient safety. Proper patient identification is a crucial aspect in preventing medical errors and improving patient safety during the surgical process.[17] Amalia's research results indicate that nursing professional development emphasizes the importance of continuous learning as an integral part of maintaining and improving nursing competence in line with the latest developments in science and clinical practice.[18]

Nurses with sufficient personal and professional development had accurate identification of the surgical

lo-cation in the good category (63.6%), accurate identification of the surgical procedure in the poor category (45.5%), and accurate identification of the surgical patient in the poor category (54.5%).[19] A consistent identification procedure using at least two valid indicators, such as full name and date of birth, significantly reduces the number of patient identification errors in the operating room.[20] The WHO has established this patient identification standard as part of its global patient safety protocol, which includes the use of preoperative checklists and double verification to ensure the correct patient, procedure, and surgical site.

Nurses with poor personal and professional quality development had accurate identification of the surgical location in the good category (68.8%), accurate identification of the surgical procedure in the adequate category (75.0%), and accurate identification of surgical patients in the adequate category (50.0%).[21] The importance of personal and professional quality development through continuing education, evidence-based practice, and motivation to improve the overall quality of nursing care.[22,23] This development includes a deep understanding of professional standards and patient safety procedures. Personal and professional quality development must be a key strategy in nurse competency development programs to achieve optimal nursing practice standards and ensure patient safety during surgical procedures.

The Effect Values of the Relationships Among Clinical Competence of Surgical Nurses and Patient Safety Goals (Surgical Procedures)

Nurses' clinical competencies in ethical, legal, and culturally sensitive aspects of the operating room are reflected in every phase of the Surgical Safety Checklist—sign-in, time-out, and sign-out—which consistently integrate elements of caring according to Swanson's theory, such as maintaining belief, knowing, being with, doing for, and enabling. During the sign-in phase, nurses verify the patient's identity, explain anesthesia information, and provide spiritual and emotional support before surgery. During the time-out phase, the primary focus is on monitoring vital signs, applying aseptic techniques, and checking the completeness of instruments to prevent procedural errors.[23] Meanwhile, during the sign-out phase, nurses protect the patient's privacy and dignity, provide postoperative care education, and involve the family in the recovery process. In general, these three phases are dominated by the *doing for* element—that is, the nurse's readiness to provide comprehensive care using their professional knowledge and skills—although some competencies—particularly regarding legal and culturally sensitive aspects—are still not optimally implemented by some nurses.

Caring is at the core of nursing practice; it builds the nurse-client relationship, strengthens patients' coping mechanisms, and serves as the foundation for safe and effective care.[9] Nursing competencies—including clinical knowledge, critical thinking skills, effective communication, and the ability to respond to changes in a patient's condition—have been shown to be positively associated with a culture of patient safety, particularly in efforts to accurately identify the location, procedure, and patient identity before, during, and after surgical procedures. Research findings indicate that nurses most frequently prioritize operating room readiness during the "sign-in" phase and vital sign monitoring during the "time-out" phase, while patient identity verification remains a crucial element throughout all stages.[11] Thus, the consistent application of caring-based competencies in every phase of the surgical checklist directly contributes to reducing the risk of surgical errors and improving patient clinical outcomes, such as accelerated recovery and a reduction in postoperative complications.

5. Conclusions

These results explain that there is a significant relationship between indicators of clinical competence in surgical nurses, which include professional, ethical, legal, and culturally sensitive practices; nursing care provision and management; and personal and professional quality development with patient safety targets: surgical procedures that include the correct location of surgery, the correct surgical procedure, and the correct surgical patient. Nurses who are competent in their practice are more likely to be involved in their organization's safety culture and more likely to identify and report safety issues. In addition, nurses who have the knowledge, skills, and abilities necessary to provide safe care are less likely to make mistakes that could lead to poor patient outcomes. Overall, clinical nurse competence is a critical component of positive patient safety, as it helps ensure that nurses can provide safe and effective care to patients and encourages active involvement and participation in patient safety goals.

Ethical Approval

The study was conducted in accordance with the Declaration of Health Research Ethics Committee, and approved by the Institutional Review Board of Universitas Airlangga (protocol code 42/EA/KEPK/2025).

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Competing Interests

All the authors declare that there are no conflicts of interest.

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Underlying Data

Derived data supporting the findings of this study are available from the corresponding author on request.

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