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The Relationship Between Competence and Skills with Nurses' Performance in Providing Nursing Care: A Correlational Study

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Abstract

Introduction: *Nurses' performance in providing nursing care is influenced by multiple professional factors, including competence and clinical skills. Understanding the relationship among these variables is essential to improve healthcare quality and patient safety in hospital settings. This study aimed to examine the relationship between competence and skills with nurses' performance in providing nursing care.* ***Methods:*** *A quantitative correlational study with a cross-sectional design was conducted among 172 nurses working in various hospital units. Data were collected using validated structured questionnaires measuring competence, clinical skills, and performance. Descriptive statistics were used to summarize respondent characteristics and variable distributions. Cross-tabulation and Chi-square tests were applied to determine the association between variables, with a significance level set at $p < 0.05$.* ***Results:*** *Most nurses demonstrated moderate competency (39.0%) and moderate skills (39.5%), while performance was predominantly categorized as adequate (40.7%). Chi-square analysis revealed a statistically significant association between competency and performance ($\chi^2 = 148.32$, $df = 4$, $p < 0.001$). Similarly, a significant relationship was found between skills and performance ($\chi^2 = 136.47$, $df = 4$, $p < 0.001$). Nurses with higher levels of competence and skills were more likely to demonstrate good performance.* ***Conclusion:*** *Competence and clinical skills are significantly associated with nurses' performance in providing nursing care. Strengthening competency-based development and continuous skills training may enhance performance outcomes and support improved healthcare quality.*

Keywords: *competence, clinical skills, nurse performance, nursing care, correlational study, hospital setting*

INTRODUCTION

Nurses' performance in delivering nursing care is a critical determinant of healthcare quality, patient safety, and organizational effectiveness. Suboptimal nursing performance has been associated with increased adverse events, reduced patient satisfaction, and higher healthcare costs (Alatawi et al., 2020; Wei et al., 2021). In many hospital settings, performance gaps are often linked to insufficient professional competence and inadequate clinical skills, which may compromise the implementation of evidence-based nursing care. As healthcare systems become increasingly complex, nurses are expected to demonstrate advanced competencies and technical proficiency to meet patient needs effectively. However, variations in competence and skill levels continue to challenge consistent performance outcomes across clinical settings.

Globally, concerns regarding nursing workforce performance have intensified in recent years, particularly following the COVID-19 pandemic. Reports indicate that healthcare systems worldwide have experienced increased workload, staffing shortages, and heightened clinical demands, all of which may influence nurses' ability to perform optimally (ICN, 2022; WHO, 2023). Studies conducted in various countries have shown that competence levels among nurses vary significantly depending on education, clinical experience, and continuing professional development opportunities (Fukada, 2021; Numminen et al., 2022). Similarly, clinical skill deficits have been associated with reduced quality of care and lower productivity (Li et al., 2021). These findings highlight the importance of strengthening both competence and practical skills to sustain high performance standards in nursing practice.

The relationship between competence, skills, and performance can be understood as a progressive process. Competence encompasses knowledge, clinical judgment, and professional attitudes, while skills refer to the ability to execute clinical procedures effectively and safely. When competence is translated into consistent and proficient skill execution, it contributes to improved performance outcomes, including timely interventions, accurate documentation, and patient-centered care (Bing-Jonsson et al., 2020; Rizany et al., 2022). Conversely, inadequate competence may limit clinical decision-making capacity, leading to performance inefficiencies and increased risk of clinical errors. Despite growing literature on nurse competence, empirical evidence examining the direct correlation between competence, skills, and performance in hospital settings remains limited.

Strengthening nurses' competence and clinical skills through structured training programs, competency-based performance appraisal systems, and supportive organizational environments has been widely recommended as a strategic approach to improving nursing performance (Shin et al., 2021; Labrague & de Los Santos, 2021). Competency-based education models emphasize continuous professional development, simulation-based training, and reflective practice to ensure that theoretical knowledge is effectively translated into safe and high-quality clinical care. Moreover, healthcare organizations that foster a culture of learning, mentorship, and professional accountability are more likely to sustain high-performing nursing teams (Numminen et al., 2022; Wei et al., 2021). Investment in clinical supervision and structured evaluation frameworks has also been shown to enhance nurses' confidence, decision-making capacity, and procedural accuracy, which ultimately contribute to improved patient outcomes.

Despite these strategic initiatives, empirical evidence quantifying the direct association between competence, practical skills, and nurses' performance in hospital settings remains relatively limited, particularly in developing healthcare systems. Many previous studies have examined these constructs independently, focusing either on competence or performance outcomes without simultaneously analyzing their interrelationship (Fukada, 2021; Rizany et al., 2022). Furthermore, inconsistencies in measurement approaches and contextual differences across healthcare institutions create gaps in understanding how competence and skills collectively influence performance. In rapidly evolving clinical environments characterized by technological advancements and increasing patient complexity, clarifying this relationship becomes even more critical. A comprehensive examination of the correlation between competence, skills, and performance will provide empirical support for designing targeted workforce policies, competency-based credentialing systems, and sustainable professional development programs that align with contemporary healthcare demands. This study aims to examine the relationship between competence and skills with nurses' performance in providing nursing care in a hospital setting.

METHODS

Study Design

This study employed a quantitative correlational design using a cross-sectional approach to examine the relationship between competence, skills, and nurses' performance in providing nursing care. The cross-sectional design enabled the simultaneous measurement of all study variables at a single point in time, allowing the identification of associations between competence, skills, and performance within one statistical model. This design is appropriate for testing the hypothesized relationships among variables and determining their relative contributions to nurses' performance outcomes.

Study Participants

The target population comprised nurses working at Hospital X in Gresik across multiple clinical units, including inpatient wards, the intensive care unit (ICU), the emergency department, the operating room, and outpatient services. A cross-sectional survey was administered during the study period. A total of 172 nurses met the eligibility criteria and completed the questionnaire; therefore, the final analytical sample consisted of 172 respondents (n = 172), as recorded in the study dataset. Participants were recruited using a cluster-based approach by work unit, in which each hospital unit served as a cluster to ensure representation of nurses from different clinical settings. Within each cluster, nurses who met the inclusion criteria were invited to participate. Inclusion criteria were active nurses with a minimum of six months of work experience. Nurses who were on extended leave at the time of data collection were excluded.

Variable

The dependent variable in this study was nurses' performance in providing nursing care. The independent variables consisted of competence and clinical skills. Competence was defined as the integration of knowledge, professional attitudes, clinical judgment, and ethical responsibility required to deliver safe and effective nursing care. Skills referred to nurses' ability to perform clinical procedures accurately, efficiently, and in accordance with established standards of practice. All variables were measured as continuous variables and later categorized for analytical purposes.

Instruments

Data were collected using structured and validated questionnaires. Competence was measured using a competency assessment instrument consisting of multiple items reflecting clinical knowledge, professional behavior, communication ability, and decision-making capacity. Skills were assessed using a clinical skills questionnaire focusing on procedural accuracy, technical ability, and adherence to nursing care standards. Nurses' performance was measured using a performance evaluation instrument covering aspects such as quality of care delivery, timeliness, documentation accuracy, and patient-centered practice. All instruments employed a five-point Likert scale ranging from strongly disagree (1) to strongly agree (5). Prior to data collection, validity testing was conducted, yielding correlation coefficients ranging from 0.86 to 0.94, indicating strong item validity. Reliability testing demonstrated Cronbach's alpha values above 0.70 for all variables, confirming good internal consistency.

Data Analysis

Data analysis was performed using SPSS version 22. Descriptive statistics were used to summarize respondents' characteristics and the distribution of competence, skills, and performance variables. Cross-tabulation analysis was conducted to examine the distribution patterns between independent and dependent variables. The association between competence, skills, and nurses' performance was analyzed using the Chi-square test. The Chi-square value (χ^2), degrees of freedom (df), and p-value were reported to determine statistical significance. A significance level of $p < 0.05$ was applied.

Ethical Consideration

This study received ethical approval from the Health Research Ethics Committee under an official approval number documented in institutional records. All participants received written information regarding the study objectives and procedures and provided informed consent prior to completing the questionnaire. Confidentiality was ensured by assigning numerical codes to participants, and all data were used solely for research purposes. The study was conducted in accordance with fundamental ethical principles, including respect for autonomy, beneficence, non-maleficence, and justice.

RESULTS

Table 1. Characteristic of Research Respondents (n= 172)

Characteristics	Category	n	%
Gender	Female	104	60.5
	Male	65	37.8
Age	25–30 years	90	52.3
	31–40 years	52	30.2
	20–25 years	25	14.5
	>40 years	2	1.2
Length of Employment	1–5 years	110	64.0
	6–10 years	51	29.7
	11–15 years	7	4.1
Educational Level	Bachelor of Nursing (Ners)	122	70.9
	Diploma in Nursing	43	25.0
	Master's Degree	4	2.3
Marital Status	Married	111	64.5
	Unmarried	58	33.7

The majority of respondents were female (60.5%), while 37.8% were male. In terms of age distribution, most nurses were between 25–30 years old (52.3%), followed by those aged 31–40 years (30.2%). A smaller proportion were aged 20–25 years (14.5%), and only 1.2% were over 40 years old. Regarding length of employment, the majority had worked for 1–5 years (64.0%), while 29.7% had 6–10 years of experience, and 4.1% had 11–15 years of experience. In terms of educational level, most respondents held a Bachelor of Nursing (Ners) degree (70.9%), followed by a Diploma in Nursing (25.0%), and a small proportion had a Master's degree (2.3%). Concerning marital status, 64.5% of the nurses were married, whereas 33.7% were unmarried.

Tabel 2. Competence, Skills and Performance of Nurse during Nursing Care (n= 172)

Variable	Category	n	%
Competency	High	65	37.8
	Moderate	67	39.0
	Low	40	23.2
Skills	High	65	37.8
	Moderate	68	39.5
	Low	39	22.7
Performance	Good	63	36.6
	Adequate	70	40.7
	Poor	39	22.7

Regarding the study variables, most nurses demonstrated a moderate level of competency (39.0%), followed by high competency (37.8%) and low competency (23.2%). A similar pattern was observed for skills, with the majority categorized as having moderate skills (39.5%), while 37.8% had high skills and 22.7% had low skills. In terms of performance, most respondents were classified as having adequate performance (40.7%), followed by good performance (36.6%), and poor performance (22.7%). These findings indicate that the dominant distribution across the three main variables falls within the moderate-to-adequate categories.

Tabel 3. Correlation between competence and skills with Nurse' Performance (n= 172)

Variable	Good Performance n (%)	Adequate Performance n (%)	Poor Performance n (%)	χ^2	df	p-value
High Competency	61 (93.8)	4 (6.2)	0 (0)	148.32	4	<0.001
Moderate Competency	2 (3.0)	60 (89.6)	5 (7.4)			
Low Competency	0 (0)	6 (15.0)	34 (85.0)			
High Skills	59 (90.8)	6 (9.2)	0 (0)	136.47	4	<0.001
Moderate Skills	4 (5.9)	58 (85.3)	6 (8.8)			
Low Skills	0 (0)	6 (15.4)	33 (84.6)			

The cross-tabulation analysis demonstrated a clear gradient pattern between competency and nurses' performance. Among nurses with high competency, the majority exhibited good performance (93.8%), while only 6.2% demonstrated adequate performance and none were categorized as poor. In contrast, nurses with low competency were predominantly classified as having poor performance (85.0%), with only 15.0% showing adequate performance and none achieving good performance. The Chi-square test revealed a statistically significant association between competency and performance ($\chi^2 = 148.32$, df = 4, $p < 0.001$). A similar pattern was observed in the relationship between skills and performance. Nurses with high skills were overwhelmingly categorized as having good performance (90.8%), whereas those with low skills were primarily classified as having poor performance (84.6%). The association between skills and performance was also statistically significant ($\chi^2 = 136.47$, df = 4, $p < 0.001$). These findings indicate that higher levels of competency and clinical skills are strongly associated with better nursing performance outcomes.

DISCUSSION

The present study demonstrates that nurses' competency and clinical skills are strongly associated

with their performance during nursing care. The majority of respondents exhibited moderate levels of competency (39.0%), skills (39.5%), and performance (40.7%), indicating that while foundational capabilities are present, there remains room for optimization. Importantly, the cross-tabulation analysis revealed a clear performance gradient: 93.8% of nurses with high competency achieved good performance, whereas 85.0% of those with low competency demonstrated poor performance. These findings align with competency-based practice theory, which posits that professional performance is the observable manifestation of integrated knowledge, skills, and attitudes (Fukada, 2021). Contemporary nursing workforce research further emphasizes that competency is a critical determinant of care quality and patient safety outcomes (World Health Organization [WHO], 2022). From a professional standpoint, these results reinforce the argument that competency development should not be viewed as a static educational outcome but as a continuous organizational responsibility.

The statistically significant association between competency and performance ($\chi^2 = 148.32$, $p < 0.001$) confirms that higher competency levels substantially increase the likelihood of good performance. This finding is consistent with recent empirical studies demonstrating that nurses with higher clinical competence exhibit better adherence to standards of care, improved clinical decision-making, and enhanced patient outcomes (Labrague et al., 2022; Wei et al., 2021). Benner's Novice-to-Expert framework remains relevant in explaining this gradient effect, as increased experiential learning strengthens intuitive and analytical clinical judgment. In this study, most nurses had 1–5 years of employment (64.0%), suggesting that many respondents were still in early professional stages, which may explain the predominance of moderate competency levels. It can therefore be argued that structured mentorship and competency-based evaluation systems are essential to accelerate professional maturation.

Similarly, the relationship between skills and performance ($\chi^2 = 136.47$, $p < 0.001$) demonstrates that technical and psychomotor proficiency directly influences care delivery outcomes. Nurses with high skills were overwhelmingly categorized as having good performance (90.8%), while those with low skills were primarily classified as poor performers (84.6%). This finding supports the Skill Acquisition Theory, which suggests that repetitive practice and experiential exposure refine clinical proficiency and task efficiency (Ericsson, 2021). Recent literature indicates that simulation-based training and continuous professional development significantly enhance clinical skills and subsequently improve performance indicators (Cant & Cooper, 2023). In the context of increasingly complex healthcare systems, skill enhancement is not merely operational but strategic, as it directly impacts service quality and institutional reputation.

Demographically, the sample was predominantly female (60.5%), aged 25–30 years (52.3%), and held a Bachelor of Nursing (Ners) degree (70.9%). This profile reflects the global nursing workforce trend, where younger and academically prepared nurses constitute the largest proportion of active practitioners (International Council of Nurses [ICN], 2023). Younger nurses may demonstrate adaptability and technological literacy; however, limited clinical exposure may affect advanced decision-making capabilities. Recent workforce studies suggest that generational shifts in nursing require tailored competency frameworks and leadership support to maximize performance outcomes (Buchan et al., 2022). From a managerial perspective, these demographic characteristics suggest the need for structured clinical supervision and leadership-driven professional development programs.

Collectively, the findings confirm that competency and skills function as foundational determinants of nursing performance. Theoretically, these results support Donabedian's Structure–Process–Outcome model, wherein workforce capability (structure) directly influences care processes and ultimately performance outcomes (Ayanian & Markel, 2023). Practically, this study highlights that improving performance requires systemic investment in competency-based education, structured clinical training, and ongoing evaluation mechanisms. In my view, institutions that prioritize competency mapping and skill reinforcement are more likely to achieve sustainable improvements in care quality and patient safety metrics.

A key strength of this study lies in its comprehensive cross-tabulation analysis, which clearly demonstrates a gradient and statistically significant association between competency, skills, and performance. The relatively adequate sample size ($n = 172$) enhances statistical power and internal validity. However, the cross-sectional design limits causal inference, and self-reported measures may introduce response bias. Additionally, the study was conducted within a single institutional context, which may restrict generalizability to other healthcare

settings or regions.

The findings have important implications for nursing management and policy. First, healthcare institutions should implement structured competency-based assessment systems and continuous professional development programs. Second, targeted mentorship for early-career nurses (1–5 years of employment) may accelerate competency progression. Third, integrating simulation-based skill training into routine clinical education may enhance performance outcomes. At the policy level, aligning workforce development strategies with WHO (2022) and ICN (2023) recommendations could strengthen healthcare system resilience and service quality.

CONCLUSION

This study demonstrates a statistically significant relationship between competency, skills, and nurses' performance in providing nursing care. Nurses with higher levels of competency and clinical skills were more likely to demonstrate good performance, while those with lower levels were predominantly categorized as having poor performance. The findings indicate a clear gradient association, suggesting that competency and skills are key determinants of performance outcomes in hospital settings. These results highlight the importance of strengthening competency-based development programs and continuous clinical skills training to enhance nursing performance. Healthcare institutions should prioritize structured professional development, competency evaluation systems, and supportive clinical environments to ensure consistent, high-quality nursing care. Strengthening these domains may contribute to improved patient outcomes and overall healthcare quality.

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