

FACTORS INFLUENCING ADHERENCE TO NURSING CARE STANDARDS AMONG
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ABSTRACT

Background: Adherence to quality nursing care standards is essential for ensuring safe and effective healthcare delivery. Though Nurses may possess good knowledge of quality nursing care standard protocols, organizational and contextual factors may influence the extent to which these standards are applied in practice. **Aim:** This study assessed factors influencing adherence to quality nursing care standards among nurse managers in selected tertiary health institutions. **Methods:** A convergent parallel mixed-methods design was employed. Quantitative data were collected from 65 nurse managers using a self-developed structured questionnaire and analyzed using descriptive and inferential statistics. Pearson and Spearman correlation analyses were used to examine the relationship between years of experience and compliance, while Chi-square tests assessed associations between knowledge, staffing adequacy, and utilization of standard protocols. Qualitative data were obtained through one-on-one interviews and open-ended questionnaire items and analyzed thematically. Ethical approval was obtained prior to data collection. **Results:** Quantitative findings showed no significant relationship between years of experience and compliance with nursing care standards ($r = 0.046$, $p = 0.714$), nor between knowledge of standard protocols and their utilization ($\chi^2 = 4.287$, $p = 0.369$). However, a significant association was found between staffing adequacy and utilization of nursing care protocols ($\chi^2 = 14.246$, $p = 0.007$). Qualitative findings revealed that staffing shortages, high workload, limited resources, inadequate institutional support, and insufficient continuous training constrained adherence to standards. Integration of findings indicated that organizational factors are major determinants of adherence irrespective of individual knowledge or experience. **Conclusion:** Adherence to quality nursing care standards among nurse managers is predominantly influenced by organizational and system-level factors rather than individual competencies alone. Improving staffing levels, strengthening institutional support, and ensuring adequate resources are essential for enhancing utilization of quality assurance protocols in tertiary health institutions.

KEYWORDS: Quality nursing care; adherence; quality assurance; Nurse Managers.

INTRODUCTION

Adherence to nursing care standards is essential to ensure safe, effective, and high-quality healthcare delivery. Nursing care standards and protocols provide evidence-based guidance that promotes consistency in practice, enhances patient safety, and supports accountability within healthcare systems. According to Donabedian's quality assurance framework, adherence to established standards is central to achieving optimal healthcare outcomes and maintaining quality of care

(Donabedian, 2003). In the tertiary health institutions, where health care service complexity are often high, strict adherence to nursing care standards is particularly critical (World Health Organization [WHO], 2016).

Despite the availability of well-defined nursing care standards developed by international and national regulatory bodies such as the World Health Organization, the International Council of Nurses, Joint Commission International, and national professional

councils, adherence to these standards in clinical practice remains variable. Evidence suggests that the mere existence of standards does not automatically translate into consistent application in practice (Kelly, 2021; Lateef & Mhlongo, 2021). Variations in adherence have been widely reported across healthcare settings, indicating that compliance is influenced by factors beyond professional knowledge alone.

Organizational factors such as staffing adequacy, workload, availability of resources, leadership support, and institutional policies have been identified as major determinants of adherence to nursing care standards. Studies have shown that inadequate nurse staffing and high patient-to-nurse ratios are associated with reduced compliance with clinical protocols, increased burnout, and compromised quality of care (Aiken et al., 2002; Liu & Aunguroch, 2017, Szentirmai et al 2020). Similarly, poor practice environments and limited managerial support negatively affect nurses' ability to consistently adhere to professional standards (Yacouba et al., 2022; Lake, 2002).

Workload pressure has also been identified as a significant barrier to adherence. Excessive workload and time constraints reduce opportunities for careful implementation of standards, particularly in areas such as infection prevention and control and documentation (Carayon & Gurses, 2008). Resource constraints, including shortages of equipment, supplies, and functional infrastructure, further limit the practical application of established protocols, even when knowledge and willingness to comply are present (Babaei & Taleghani, 2019; Xue et al., 2023).

Nurse managers occupy a strategic position in influencing adherence to nursing care standards through supervision, leadership, and enforcement of professional practice. Effective nursing leadership has been associated with improved compliance with standards, enhanced patient safety, and better-quality care outcomes (Wong & Cummings, 2007; Boamah et al., 2018). However, nurse managers' capacity to promote adherence is often mediated by organizational support, staffing levels, and institutional commitment to quality assurance.

Quantitative studies have provided valuable insights into associations between selected organizational and professional factors and adherence to nursing care standards. However, statistical associations alone may not fully explain how and why these factors influence practice in real settings. Qualitative approaches offer deeper understanding of contextual realities and lived experiences that shape adherence behaviors among nurse managers. The integration of quantitative and qualitative approaches therefore allows for a more comprehensive examination of factors influencing adherence and strengthens interpretation of inferential findings (Fetters, Curry, & Creswell, 2013; Creswell & Plano Clark, 2018).

In the Nigerian healthcare context, empirical evidence that integrates inferential quantitative analysis with qualitative exploration of factors influencing adherence to nursing care standards among nurse managers in tertiary health institutions remains limited. Addressing this gap is essential for informing evidence-based managerial strategies and policy interventions aimed at improving adherence to nursing care standards and strengthening quality assurance systems.

Therefore, this study examined factors influencing adherence to nursing care standards among nurse managers in selected tertiary health institutions using a convergent parallel mixed-methods design.

OBJECTIVES OF THE STUDY

1. To determine the association between selected organizational and professional factors and adherence to nursing care standards among nurse managers.
2. To examine the relationship between selected factors and adherence to nursing care standards using correlation analysis.
3. To explore nurse managers' perceptions of factors influencing adherence to nursing care standards.

MATERIALS AND METHODS

Study Design

This study adopted a convergent parallel mixed-methods design, in which quantitative and qualitative data were collected concurrently, analyzed independently, and integrated during interpretation. This design enabled examination of statistical associations between selected factors and adherence to nursing care standards, alongside exploration of nurse managers' experiences and perceptions of factors influencing adherence.

Study Setting

The study was conducted in two tertiary health institutions in Ebonyi State, Nigeria- Alex Ekwueme Federal University Teaching Hospital Abakaliki (AEFUTHA) and David Umahi Federal Teaching Hospital Uburu (DUFUTH). These institutions provide specialized healthcare services and serve as referral centers, with diverse clinical departments and a large nursing workforce under the supervision of the Nurse Managers.

Study Population

The study population comprised Nurse Managers working in the two selected tertiary health institutions. Nurse managers were considered appropriate participants due to their supervisory roles, responsibility for enforcing nursing care standards, and involvement in quality assurance and monitoring activities.

Sample Size and Sampling Technique

A total of 65 nurse managers participated in the study. A census sampling approach was adopted, whereby all

eligible nurse managers available during the study period and who met the inclusion criteria were recruited.

Data Collection Instruments

Quantitative Data Collection

Quantitative data were collected using a self-developed structured questionnaire. The instrument captured information on selected organizational and professional factors, including staffing adequacy, workload, availability of resources, training exposure, management support, and years of managerial experience. Adherence to nursing care standards was assessed using structured items measured on a Likert-scale format.

Qualitative Data Collection

Qualitative data were collected concurrently through one-on-one in-depth interviews and open-ended questionnaire items. These explored nurse managers’ perceptions regarding factors that influence adherence to nursing care standards in their respective institutions.

Validity and Reliability

The questionnaire was subjected to content validation by experts in nursing management and quality assurance to ensure clarity and relevance of items. Reliability of the quantitative instrument was assessed through a pilot study, and internal consistency was determined using Cronbach’s alpha coefficient. Qualitative rigor was ensured through credibility measures, including careful transcription, repeated reading of data, and consistency in coding.

Data Collection Procedure

Data for both quantitative and qualitative components were collected concurrently. Questionnaires were administered during official working hours, while interviews were conducted at mutually convenient times and locations to ensure privacy and minimal disruption of participants’ duties. Written informed consent was obtained from all participants prior to data collection.

Data Analysis

Quantitative Data Analysis

Quantitative data were analyzed using descriptive and inferential statistics. Descriptive statistics were used to summarize participant characteristics and adherence levels. Inferential analysis included Chi-square tests to determine associations between selected factors and adherence to nursing care standards, and correlation analysis to examine the strength and direction of relationships between variables. Statistical significance was set at $p < 0.05$.

Qualitative Data Analysis

Qualitative data from interviews and open-ended responses were analyzed using thematic analysis. Transcripts and textual responses were coded inductively, and related codes were grouped into categories and themes that reflected organizational and professional factors influencing adherence to nursing care standards.

Integration of Quantitative and Qualitative Data

Integration of findings was conducted during interpretation by comparing quantitative and qualitative results. Areas of convergence, divergence, and complementarity between datasets were identified to provide a comprehensive understanding of factors influencing adherence to nursing care standards.

Ethical Considerations

Ethical approval for the study was obtained from the research and ethics review committees of both institutions. Permission was also obtained from hospital management. Participation was voluntary, and written informed consent was obtained from all respondents. Confidentiality and anonymity were ensured throughout the study, and participants were informed of their right to withdraw from the study at any stage without any penalty.

RESULTS

Quantitative Findings

Table 1: Socio-demographic information of respondents.

Demographic variables	Frequency	Percent %
Age (years)		
20-25	1	1.5
26-30	4	6.2
31-35	4	6.2
36-40	18	27.7
41-45	7	10.8
46-50	14	21.5
51-55	13	20.0
56-60	4	6.2
Gender	2	3.1
Male	6	9.2
Female	59	90.8
Years of experience as a nurse manager		
Less than 5 years	9	13.8
5 to 10 years	17	26.2

11 to 15 years	13	20.0
More than 15 years	26	40.0
Current position		
ACNO	4	6.2
ADN	13	20.0
CNO	15	23.1
DDN	7	10.8
PNO	7	10.8
SNO	19	29.2

Table 2: Inferential statistics 1: Relationship between years of experience and compliance mean.

Variables	r (Pearson)	p-value
Years of Experience vs Compliance Mean	0.046	0.714

Note: Spearman correlation was also run and yielded a similar result ($\rho = 0.019$, $p = 0.881$), indicating no significant relationship.

Relationship Between Years of Experience and Compliance with Nursing Care Standards

A correlation analysis was conducted to examine the relationship between nurse managers’ years of experience and their level of compliance with quality nursing care standards. The Pearson correlation analysis revealed a very weak and non-significant relationship between years of experience and compliance ($r = 0.046$, $p = 0.714$).

To confirm this finding, a Spearman rank-order correlation was also performed, which similarly showed no significant relationship between years of experience and compliance ($\rho = 0.019$, $p = 0.881$). These results indicate that years of professional experience did not significantly influence compliance with quality nursing care standards among nurse managers in this study.

Table 3: Inferential statistics 2: Relationship between.

Variables	χ^2	df	p-value	Interpretation
Knowledge of standard protocol vs Institution	0.769	1	.0383	Not statistically significant; knowledge of protocols does not differ significantly by institution
Knowledge of protocols vs Utilization	4.287	4	.369	No statistically significant association between knowledge and utilization of protocols
Staffing adequacy vs Utilization of protocols	14.246	4	.007	Significant association: staffing affects utilization of QA protocols

Association Between Knowledge of Standard Protocols and Institution

A Chi-square test of independence was conducted to determine whether Nurse Managers’ knowledge of standard nursing care protocols differed by institution. The results showed no statistically significant association between institution and knowledge of standard protocols ($\chi^2(1, N = 65) = 0.769$, $p = 0.383$). This finding suggests that Nurse Managers in both tertiary health institutions had comparable levels of knowledge regarding standard nursing care protocols.

Association Between Staffing Adequacy and Utilization of Nursing Care Protocols

The relationship between staffing adequacy and utilization of nursing care protocols was also examined using the Chi-square test of independence. The results demonstrated a statistically significant association between staffing adequacy and utilization of nursing care protocols ($\chi^2(4, N = 65) = 14.246$, $p = 0.007$). This finding indicates that staffing levels significantly influence the utilization of quality assurance protocols. Units with inadequate staffing were less likely to fully implement nursing care standards and quality monitoring protocols.

Association Between Knowledge of Protocols and Utilization

The association between Nurse Managers’ knowledge of standard nursing care protocols and their utilization of these protocols in practice was examined using the Chi-square test of independence. The analysis revealed no statistically significant association between knowledge and utilization of protocols ($\chi^2(4, N = 65) = 4.287$, $p = 0.369$). This indicates that possessing knowledge of standard protocols alone did not significantly influence whether Nurse Managers consistently utilized these protocols in practice.

Qualitative Findings

Analysis of qualitative data from one-on-one interviews and open-ended questionnaire responses revealed several themes that explained factors influencing adherence to nursing care standards.

Theme 1: Staffing Shortages and Workload Pressure

Participants consistently identified inadequate staffing and excessive workload as major barriers to adherence. Nurse managers reported that high patient volumes and

insufficient nurse-to-patient ratios limited the ability of nurses to consistently apply established standards, especially when the shifts are busy.

Theme 2: Availability of Resources and Infrastructure

Limited availability of essential equipment, supplies, and functional infrastructure was reported as a significant factor influencing adherence. Participants emphasized that even when standards were well understood, lack of resources constrained effective compliance.

Theme 3: Institutional Support and Leadership

Nurse managers highlighted the role of institutional and managerial support in promoting adherence. Weak enforcement mechanisms, limited authority, and inadequate administrative backing were perceived as barriers to consistent application of nursing care standards.

Theme 4: Training and Continuous Professional Development

Irregular training opportunities and limited refresher programs were identified as factors affecting sustained adherence. Participants noted that ongoing training was necessary for regular updates, to reinforce standards and ensure consistent compliance among nursing staff.

Integration of Quantitative and Qualitative Findings

Integration of quantitative and qualitative findings revealed strong convergence and complementarity. While quantitative analysis showed that years of experience and knowledge of protocols were not significantly associated with compliance or utilization, qualitative findings highlighted that organizational factors, particularly staffing adequacy, workload, resource availability, and institutional support, played a central role in influencing adherence to nursing care standards. The statistically significant association between staffing adequacy and utilization of protocols was further supported by qualitative narratives describing the challenges of implementing standards in understaffed and resource-limited settings.

DISCUSSION

This study examined factors influencing adherence to quality nursing care standards among nurse managers in selected tertiary health institutions using a convergent mixed-methods design. The findings demonstrate that while Nurse Managers possessed adequate knowledge of standard nursing care protocols, adherence and utilization of these standards were significantly influenced by organizational and contextual factors rather than individual characteristics such as years of professional experience.

Knowledge and Experience in Relation to Compliance

The quantitative findings revealed no significant relationship between years of experience and compliance

with quality nursing care standards. This suggests that length of professional practice alone does not guarantee consistent adherence to established standards. Similarly, no significant association was found between knowledge of standard protocols and their utilization in practice. These findings indicate that although Nurse Managers are knowledgeable about quality assurance principles, knowledge does not necessarily translate into practice.

This observation aligns with previous studies (Al Faouri et al, 2021; Sales 2018; Silvera et al 2015) which have reported that adequate knowledge among nurses does not always result in optimal compliance, particularly in settings characterized by high workload, limited resources, and system-level constraints. Knowledge and experience, while essential, appear insufficient in isolation to ensure adherence to quality nursing care standards.

Institutional Similarities in Knowledge of Standards

The absence of a significant association between the institutions and knowledge of standard protocols suggests a degree of uniformity in training, professional exposure, and regulatory expectations across the tertiary health institutions studied. This finding may reflect the influence of national nursing curricula, professional guidelines, and regulatory frameworks that standardize nursing education and practice across institutions. However, uniform knowledge does not imply uniform practice, as institutional environments differ in terms of resources, staffing, and managerial support.

Staffing Adequacy as a Key Determinant of Utilization

A major finding of this study was the statistically significant association between staffing adequacy and utilization of nursing care protocols. Nurse managers working in adequately staffed units were more likely to utilize quality assurance and monitoring protocols consistently. This finding underscores staffing as a critical determinant of adherence to nursing care standards.

Qualitative findings strongly supported this result, with participants describing heavy workloads, unfavorable nurse-patient ratios, and time constraints as major barriers to protocol utilization. In understaffed units, Nurse Managers reported prioritizing immediate patient care needs over documentation, monitoring, and evaluation activities, thereby limiting adherence to quality assurance processes. This aligns with global evidence including the World Health Organization's State of the World's Nursing report, which identified nurse shortages as one of the strongest determinants of poor patient outcomes and access to quality health services (World Health Organisation, 2025). Inadequate staffing has been associated with work overload, burnout, and less time available for documentation, monitoring, and adherence to quality standards.

Organizational and System-Level Constraints

Beyond staffing, qualitative data revealed that limited availability of equipment, inadequate infrastructure, and weak institutional support further constrained adherence to standards. Participants emphasized that even when standards were clearly understood, lack of resources and insufficient administrative backing hindered effective implementation. These system-level barriers highlight the complexity of translating standards into practice within resource-constrained healthcare settings.

Leadership and institutional support also emerged as important facilitators of adherence. Nurse managers noted that inconsistent enforcement of standards and limited authority reduced their capacity to monitor and ensure compliance among nursing staff. This finding reinforces the importance of supportive leadership structures in promoting quality assurance practices.

Implications for Quality Assurance in Nursing

The findings of this study suggest that improving adherence to quality nursing care standards requires a shift from an exclusive focus on individual knowledge and experience to broader organizational interventions. Strengthening staffing levels, improving resource availability, enhancing leadership support, and institutionalizing continuous professional development are essential strategies for promoting effective utilization of nursing care standards.

The mixed-methods approach employed in this study provided a more comprehensive understanding of adherence by revealing how organizational realities explain quantitative findings. The convergence of statistical and narrative data strengthens the validity of the conclusions and highlights the value of mixed-methods research in health systems and nursing management studies.

Limitations

This study is not without limitations. The cross-sectional design limits causal inferences. Additionally, the study was conducted in only two tertiary health institutions, which may limit the generalizability of the findings. Despite these limitations, the integration of quantitative and qualitative data enhances the robustness of the results.

CONCLUSION

This study examined factors influencing adherence to quality nursing care standards among Nurse Managers in selected tertiary health institutions using a convergent mixed-methods approach. The findings demonstrate that although nurse managers possess adequate knowledge of quality assurance principles and standard nursing care protocols, adherence and utilization of these standards are not solely determined by knowledge or years of professional experience.

Quantitative results showed no significant association between years of experience and compliance, nor between knowledge of protocols and their utilization. However, staffing adequacy emerged as a significant determinant of protocol utilization. These findings were strongly supported by qualitative evidence, which revealed that staffing shortages, high workload, limited resources, and inadequate institutional support significantly constrained adherence to nursing care standards.

Overall, the study highlights that adherence to quality nursing care standards is largely shaped by organizational and system-level factors rather than individual competencies alone. Addressing these structural challenges is essential for strengthening quality assurance practices and improving nursing care outcomes in tertiary health institutions.

RECOMMENDATIONS

Based on the findings of this study, the following recommendations are proposed:

1. Strengthening Staffing Levels

Hospital management and policymakers should prioritize adequate nurse staffing to ensure favorable nurse-patient ratios. Improved staffing will enhance nurses' capacity to comply with quality assurance protocols and sustain high standards of care.

2. Enhance Institutional and Managerial Support with Improved Resource Availability

Health institutions should strengthen leadership structures and provide nurse managers with the authority and administrative backing needed to effectively monitor and enforce adherence to nursing care standards. Provision of essential equipment, supplies, and functional infrastructure should be improved to support the consistent implementation of standard nursing care protocols.

3. Institutionalizing Continuous Professional Development

Regular training, refresher courses, and supportive supervision with monitoring tools should be institutionalized to reinforce quality assurance principles and promote sustained adherence to standards among nursing staff.

4. Future Research

Further studies using longitudinal or intervention designs are recommended to establish causal relationships and evaluate the effectiveness of organizational strategies aimed at improving adherence to nursing care standards. Expanding research to include more health institutions and perspectives of frontline nurses would also enhance generalizability.

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