

Knowledge And Practice Of Quality Assurance Among Peri-Operative Nurses In Jos University Teaching Hospital Plateau State Nigeria

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Abstract

Introduction: Quality assurance in a health care setting encompasses a systematic approach to monitoring and evaluating the quality of care provided to patients, with the goal of identifying areas for improvement and implementing changes to enhance optimal outcomes.

Objective: The aim of the study was to assess perioperative nurses' awareness of quality assurance principles, current practices and tools used to measure and improve quality of care in Jos University Teaching Hospital.

Methodology: A cross-sectional research design was used for this study and census sampling approach was also employed to select all the 52 registered perioperative nurses working in the Teaching Hospital at the time of the study. Instrument for data collection was a structured, self-administered questionnaire.

Analysis: Data was collated and analysed with IBM Statistical Package for Social Sciences (SPSS) version 23. Data was presented as tables, charts, frequencies and percentages. Quantitative variables were analysed using mean and standard deviation. Student's *t*-test was used to analyse differences of mean between symmetrical, continuous variables. Differences of proportion between categorical variables were compared using Chi-square test and Fisher's exact test. At 95% Confidence interval, $p\text{-value} \leq 0.05$ was considered significant.

Result: 57.70% of respondents demonstrated good knowledge of quality assurance principles. 76.90% of study participants opined that there were no specific protocols in place. 86.50% of respondents engage in quality assurance activities frequently and 61.50% of respondents opined that findings from reviews are not effectively communicated and addressed within the team. Only 20% of respondents were aware of and used compliance assessment toolkit as a quality assurance indicator.

Conclusion/Recommendation: This study revealed that peri-operative nurses have varying levels of knowledge and practice regarding quality assurance. While some demonstrated good knowledge and adherence to quality standards, others fell short of expectation in the face of health system gaps bordering on capacity, documentation, regular audits and feedback. Further research is needed to identify specific barriers to quality assurance and to entrench a culture of continuous quality improvement.

Keywords: Awareness, Practice, Peri-operative nurses, Quality Assurance

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I. Introduction

Surgery has evolved significantly in recent years with emphasis on the importance of safety, quality and efficiency in surgical care (Gómez-Ríos, 2019). Quality issues are therefore, becoming increasingly topical in surgical health care service delivery globally. Assessment of quality has a direct bearing on the effectiveness of healthcare especially in resource-limited settings like ours (Howard, Cameron, Castrén, Wallis, & Lindström, 2019).

Quality assurance is an essential aspect of nursing practice in the perioperative setting, as it ensures that patients receive safe and effective care during surgical procedures. According to the American Society of Peri Anesthesia Nurses (ASPAN), quality assurance encompasses a systematic approach to monitoring and

evaluating the quality of care provided to patients, with the goal of identifying areas for improvement and implementing changes to enhance patient outcomes (Yang, Wang, Cui, Zhuan, Hu & Chen, 2022).

Quality improvement (QI) is a systematic approach to continuously improving processes, systems and outcomes in healthcare to enhance the delivery of safe, effective and patient-centered care. Quality improvement initiatives focus on identifying areas for improvement, implementing changes based on evidence-based practices, monitoring outcomes, and evaluating the effectiveness of interventions to promote better patient outcomes and overall healthcare quality. In relation to perioperative nursing, quality assurance entails the process of continuous checks, appraisal and advancement of the quality of health care for surgical patients (American Society of Peri-Anesthesia Nurses, 2019). Inadequate knowledge and practice of quality assurance among perioperative nurses may lead to errors, complications and adverse events that could harm patients and undermine the reputation of the healthcare institution.

According to Doughty and Marsh (2016), nurses need to assure their patients of the quality of care being provided. Eli (2018), opined that nurses do not ask patients enough for their perception of the type of care received. Despite the importance of quality assurance in perioperative nursing practice, there is limited research on the knowledge and practice of quality assurance among perioperative nurses in our environment. Apart from adding to the existing body of knowledge, the findings from this work may act as a nidus for further research in this field.

Significance of the study

- (i) **Patient Safety Improvement:** The study may identify gaps in quality assurance practices among perioperative nurses at Jos University Teaching Hospital.
- (ii) **Promotion of Quality Care:** Understanding the knowledge and practice of quality assurance among perioperative nurses will help instill a culture of quality care delivery in the perioperative setting.
- (iii) **Policy and Practice Guidance:** Study findings may influence policy direction and practice regarding quality assurance in the perioperative setting.
- (iv) **Continuous Professional Development:** Results may inform targeted educational initiatives and training programs for perioperative nurses, addressing possible knowledge gaps and enhancing understanding of quality assurance principles. This would empower nurses to upgrade skills and competencies, thereby improving patient outcomes and job satisfaction.
- (v) **Body of knowledge:** The findings from this study may enrich the body of literature on perioperative nursing and quality assurance practices, offering new insights that can guide future research efforts and scholarly discourse in the field.

Objectives of study

1. To assess the level of awareness of quality assurance principles among perioperative nurses at Jos University Teaching Hospital.
2. To identify current practices on quality assurance by perioperative nurses at Jos University Teaching Hospital.
3. To Identify the specific tools and methodologies utilized by perioperative nurses at Jos University Teaching Hospital to measure and improve quality assurance in the perioperative setting.

Research questions

1. What is the level of awareness of quality assurance principles among perioperative nurses at Jos University Teaching Hospital?
2. What are the current practices on quality assurance by perioperative nurses at Jos University Teaching Hospital?
3. What specific tools and methods do perioperative nurses at Jos University Teaching Hospital use to measure and improve quality assurance in the perioperative setting?

II. Materials And Method

Study setting

Jos University Teaching Hospital is located in Lamingo village, Jos North Local Government area of Plateau State. The Hospital was established by an act of parliament in 1981 by the then Shehu Shagari administration. The hospital was first established as a General Hospital by the colonial administration in 1929, as a native hospital to serve the general public. In 1981, the Head of Parliament gave legal backing and recognition to the institution as a Teaching Hospital and was empowered to act as such. All the essential departments and units were available in its old location. The hospital existed for 28 years at its old site before it was moved to the permanent site at Lamingo, within Jos North Local Government area in February 2010. The permanent site was commissioned on May 24th, 2007 by the then president, Olusegun Obasanjo, but active services started in 2010. The Teaching Hospital, with multiple operating theaters, is a center for specialized

care, pursuit of knowledge and academic excellence. The main mandate therefore, are medical service delivery, teaching and research.

Study Design

The study employed a cross-sectional research design.

Study Population

The study population were the 52 registered peri-operative nurses working in the perioperative units of Jos University Teaching Hospital.

Inclusion Criteria

- Perioperative nurses practicing in the operating theatres
- Perioperative nurses that were willing to participate in the study

Exclusion Criteria s

- Perioperative nurses that were not available at the time of the study
- Perioperative nurses not willing to participate in the study

Sample Size Determination

A type of purposive sampling called total enumeration sampling or the census approach was used for this study because the target population is small and well-defined (Lavrakas, P 2008). This approach is thought to enhance deeper insight into the population of interest. We therefore got a comprehensive data without relying on inferences from a subset. The stakes or the sensitivity of the findings were therefore high (Laerd Dissertation, Lund Research Ltd, 2018).

Sampling Technique

Total enumeration technique was used for this study. This involves collecting data from every individual in the population of interest. Total enumeration eliminates sampling bias by ensuring every member of the population is included (Crossman and Ashley, 2018).

Instrument for Data Collection

A Structured, Self-administered questionnaire was used as the instrument for data collection. The questionnaire was designed to collect data with four sections:

- i. Section A: Demographic data
- ii. Section B: knowledge of quality assurance
- iii. Section C: Practice of quality assurance
- iv. Section D: Assessment tools

Pre-test of Data Collection Instrument

The research instrument was pretested among 6 randomly selected peri-operative nurses (10% of the calculated minimum sample size) at Bingham University Teaching Hospital in Jos, Plateau state.

Method of Data Collection

Data was collected by a research assistant who was earlier trained on the research protocol. Study participants were traced with the aid of the theater duty rosters during working hours for the three days that data collection occurred.

Data Analysis

The data was checked for completeness and analyzed using the Statistical Package for Social Sciences (IBM) version 23. Data were presented as tables, charts, frequencies and percentages. Mean and standard deviation were used to summarize symmetrical, continuous variables. Student's t-test was used to analyse differences of mean between symmetrical, continuous variables. Differences of proportion between categorical variables were compared using Chi-square test and Fisher's exact test. With confidence limit set at 95%, $P \leq 0.05$ was considered statistically significant.

Ethical Clearance

Ethical clearance was sought and obtained from the Research Ethics Committee of Jos University Teaching Hospital. It was made clear to participants that the research was voluntary, free from harm and all information obtained will be treated with utmost confidentiality.

Limitations

The external validity of the findings from this study may be constrained by the small sample size and the fact that it was a facility-based study. This limitation may also lead to differential misclassification of dependent variables, but the fact that census sampling technique is bereft of sampling bias, data quality may still come out good.

III. Results

Table 1: Sex distribution of study participants

Sex	Frequency	Percentages (%)
Male	7	13.50
Female	45	86.50
Total	52	100

From table 1 above, majority of the respondents 45 (86.50%) were females.

Table 2: Age distribution of respondents

Age	Frequency	Percentages
21 - 30 years	4	7.70
31 - 40 years	11	21.20
41 - 50 years	22	42.30
51 years and above	15	28.80
Total	52	100

From table 2 above, majority of the respondents were above 40 years.

Table 3: Level of awareness of quality assurance principles

S/N	Responses	SA N (%)	A N (%)	D N (%)	SD N (%)
1.	I am familiar with the concept of quality assurance in the perioperative setting.	30 (57.70)	20 (38.50)	1.00 (1.90)	1.00 (1.90)
	I believe quality assurance principles are essential for ensuring patient safety during surgical procedures.	50 (96.20)	2 (3.80)		
2.	I feel confident in my understanding of how quality assurance measures contribute to improving perioperative care	48 (92.30)	4 (7.70)		
3.	I have received adequate training on quality assurance principles relevant to perioperative nursing.	45 (86.50)	5 (9.60)	2 (3.80)	
4.	I am aware of specific quality assurance protocols and guidelines in place at our hospital.	12 (23.10)		40 76.90	
5.	Implementing quality assurance practices lead to better surgical outcomes for patients.	50 (96.20)	2 (3.80)		

Findings from Table 3 showed that majority of the respondents 30 (57.70%) strongly agreed that they were familiar with the concept of quality assurance in the perioperative setting. 76.90% did not agreed that there are specific quality assurance protocols and guidelines in place.

Table 4: Current practices of quality assurance

S/N	Variables	Responses	Frequency	Percentage (%)
1.	Do perioperative nurses at Jos University Teaching Hospital engage in quality assurance activities frequently?	Yes No	45 7	86.50 13.50
2.	Do perioperative nurses track and document quality assurance efforts and outcomes?	Yes No	40 12	76.90 23.10
3.	Has any area(s) of perioperative care been identified for improvement based on quality assurance assessments?	Yes No	42 10	80.80 19.20
4.	Are quality assurance findings adequately communicated and addressed within the perioperative team?	Yes No	20 32	38.50 61.50
		Total	52	100

From Table 4 above, a significant proportion of the respondents 45 (86.50%) stated that they engage in quality assurance activities frequently. 80.80% of the study participants stated that there were areas of quality assurance that could be improved upon. 61.50% of respondents also stated that quality assurance findings were not adequately communicated and addressed within the perioperative team.

IV. Discussion

Quality assurance aims to evaluate and promote excellence in healthcare through ongoing monitoring and assessment. It involves determining standards, collecting data on whether standards are met, and taking corrective actions when needed.

In general, quality assurance in nursing among other things, require nurses to perform the following tasks: identify and coordinate patients and provide needs; orchestrate patient care across multiple caregivers (preadmission through discharge) and consider cultural, ethnic, and religious backgrounds as part of individual patient needs (WHO 2019). The AORN Perioperative Patient-Focused Model identifies four specific domains— patient safety, physiologic response, behavioral responses, and the health system—that are the focus of concern for the perioperative nurse (AORN Board of Directors 2000).

In this study, the mean age group of study participants was 35.20(± 7.28). This picture is out of tune with a similar study in Saudi Arabia on evidence-based practice and quality improvement where the mean age of study participants was 28.20 ± 3.31 (American Journ of Nursing Res 2021). This difference may be a result of contextual factors because the index study was conducted in north central Nigeria. More females (86.50%) than males (13.50%) participated in this study. This is in agreement with the findings from the study cited above where 61.50% were females. This finding is also in agreement with another study on quality assurance among nurses in south western Nigeria (International Journal of Caring Sciences 2024) and the reason may not be unconnected to the fact females are usually more attracted to the nursing profession.

Good knowledge of quality assurance principles is a key aspect of best practices in peri-operative settings. It has a significant influence on pre-operative, intra-operative and post-operative outcomes. Good knowledge of quality assurance will forestall mistakes by catching errors in good time; reduce wastages and the need to redo work and beget the best outcome. In respect of knowledge, majority of respondents (57.70%) strongly agreed that they were familiar with the concept of quality assurance in the perioperative setting. Majority of the study participants therefore had good awareness and understanding of the importance of quality assurance in ensuring safe and effective perioperative care. 76.90% of respondents agreed that there were no specific quality assurance protocols and guidelines in place. These findings fell far short of the findings from the facility-based Middle Eastern study on evidence-based practice and quality improvement cited above, that gave a good knowledge score of 86.60% with a visible presence of quality management guidelines (American Journ of Nursing Res 2021). Among other possible explanations, this difference in the level of awareness may be a result of the smaller sample size of the index study. The statistical power of the cited paper is also likely to be higher because of the larger sample size. In another cross-sectional study among Egyptian nurses on evidence-based practice and its relationship to quality improvement, majority of respondents (75.70%) were also females and 81.63% had good knowledge of evidenced-based practice and quality assurance (Ebstan et al 2020). The above findings are also in agreement with the findings from this study. In the same vein, Hwang and park (2015) also found that nurses regarded their level of quality improvement knowledge and skills as above average, and their attitude to quality improvement was positive. These findings may be due to the introduction of quality improvement programs in the hospitals through the quality assurance units being a prerequisite for accreditation of all hospitals, which prompted efforts to strengthen the attitudes, expertise and competencies of nurses. In this respect, Conner 2014, described the fact that quality improvement activities require continuous training, enhancement of knowledge and skills. Hussein and Abou (2016), opined that some hospital factors may influence the involvement of nurses in quality management issues and that performance is most frequently based on supervisory support, peer cohesion and the use of creative management approaches to drive quality initiatives.

86.50% of respondents agreed that they engage in quality assurance activities frequently and 92.30% of respondents stated that they felt confident in their understanding of how quality assurance measures contribute to improvement of perioperative care. These findings are in tandem with the findings from a study conducted by Manzanera et al. (2018), on quality assurance and patient safety measures.

Proper documentation and tracking of quality assurance activities and outcomes are essential for measuring progress, identifying trends and making informed decisions for improvement. In this study, 76.90% of respondents stated that perioperative nurses do not track and meticulously document quality assurance efforts and outcomes. 80.80% stated that there are areas of quality assurance that require improvement. All respondents agreed that checklist was a primary tool for measuring quality, but only 20% of study participants were aware of and used compliance assessment toolkit as a quality assurance indicator. These findings are consistent with the findings from a study conducted by Nyberg et al (2024), on perioperative patient safety indicators. The culture of feedback and evaluation is crucial for maintaining and enhancing quality assurance measures. In this study, only 13.50% of respondents were of the view that the use of feedback mechanisms such as post-training evaluations and performance assessment were integral to the continuous improvement of perioperative care

practices. This is inconsistent with the findings of a study conducted by Karaca & Durna (2019), on patient satisfaction with the quality of nursing care where majority of respondents agreed with the fact that audit and continuous evaluation were key components of quality management. The aim of the study was to evaluate patients' satisfaction with the quality of nursing care and examine associated factors. This finding is significant because we are in the era of evidence-based practice when nursing practice is supposed to be viewed with a problem-solving prism that uses the best available research evidence, clinical expertise and patient values to guide clinical decision-making. Abou, Eberhart, and Majid also reported that nurses rate understanding of the processes and the use of evidence in decision making as the main factors in improving hospital readiness for quality improvement activities. Thus, the creation of a work environment that provides the opportunity for nurses to share knowledge and information should be a key priority for hospital management, to maintain a safe work environment. These findings and their implications on quality practice is worsened by the relative paucity of literature on operative nursing practice in our environment.

V. Conclusion And Recommendation

This study revealed that peri-operative nurses have varying levels of knowledge and practice regarding quality assurance. While some demonstrated good knowledge and adherence to quality standards, others fell short of expectation in the face health system gaps in respect of capacity, documentation, regular audits and feedback. There is therefore, need for the development and implementation of tailored training programs, establishment of quality assurance committees with emphasis on the culture of continuous quality improvement.

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Conflict of interest

The authors hereby declare that there's no conflict of interest in the course of this research work.

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