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Nurses' Knowledge, Attitude, and Practice of Surgical-Patient Health Education at Modibbo Adama University Teaching Hospital, Yola

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Abstract

Background: Health education for surgical patients constitutes a crucial facet of patient care to alleviate associated preoperative fears and anxieties. This study evaluated nurses' knowledge, attitudes, and practices regarding Surgical-Patient Health Education (SPHE) at Modibbo Adama University Teaching Hospital in Yola, Nigeria.

Method: A descriptive cross-sectional study design was used. The sample size was electronically determined using an online application Rao-soft to achieve 140 respondents. At the same time, a proportionate purposive sampling technique was applied. A self-administered questionnaire with a reliability index of 0.72 was used to generate appropriate data and data was analyzed using IBM SPSS.

Result: The study revealed the majority of respondents were female 86(61.4%) and the mean age was 28.0 ± 5 . The findings also indicate no statistically significant relationship between the respondent's knowledge and practice of SPHE ($p=0.091$). Similarly, there was no statistically significant association between selected demographic characteristics (Age, Educational qualification, and Work experience) and knowledge of SPHE ($p=0.132$, $p=0.166$, and $p=0.978$ respectively). However, there was a statistically significant association between work experience and practice of SPHE ($p=0.020$). Most of the respondents have adequate knowledge of SPHE 127(90.7%), but there was poor practice of SPHE 37(26.4%) with a corresponding negative attitude to SPHE 94(67.1%).

Conclusion: The study concludes there was adequate knowledge of SPHE among the respondents, but it did not translate to practice of SPHE. Strategies to motivate nurses to practice SPHE were recommended.

Keywords: Optimization of a patient, Perioperative nursing, Preoperative anxiety, SPHE.



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Introduction

Due to the high burden of disease needing surgical intervention that exists globally, with 234 million operations performed each year, there has been an increased interest in defining the role of surgical care among other global health objectives over the past ten years. Approximately two billion people in low- and middle-income countries (LMICs) don't have access to emergency and basic surgical treatment, and there is mounting evidence that surgery plays a crucial role in reaching the Millennium Development Goals.¹ A perioperative complication or death occurred in one out of every five surgical patients in Africa, according to data from 25 nations for all in-patient procedures. Patients in Africa were twice as likely to pass away following surgery compared to the global average for postoperative fatalities, despite having a low-risk profile and minimal postoperative complications.²

Surgery patients frequently struggle with uncertainty and misinformation about surgical procedures and their results. Patients scheduled for surgery often inquire about the anticipated level of discomfort and the success of the procedure because there is a general fear of surgical interventions.³ The accelerated recovery pathway starts with preoperative preparation. Preoperative planning involves several procedures needed to ensure patient and family expectations are reasonable, to ensure fitness for surgery, and to ensure information transfer. The importance of education for the patient can vary greatly based on their needs. Pre-operative education is some of the most crucial information we give surgical patients.⁴

The goal of peri-operative education is not only to prepare the patients for surgery but also to inform them about what to expect regarding the surgery. Therefore, surgical-patient health education can be quite extensive. The information should be provided to the individual undergoing the surgery and their family and relatives where necessary.⁵ The provision of health education before surgical operation permits the client and family to build up an idea and understanding of what to expect after the procedure has been accomplished. It is recommended that when a client is planning for a surgical operation, the client must be visited before the procedure and receive information regarding the preparation for surgery.⁶

In Nigeria, akin to other Low- and Middle-Income Countries (LMICs), a pervasive low level of literacy exists, particularly in health-related matters. Additionally, entrenched traditional beliefs and misconceptions about orthodox healthcare further exacerbate this situation. The imperative to provide comprehensive health education to patients, especially those undergoing surgical procedures, cannot be overstated. Across most low- and middle-income nations, approximately five billion individuals lack

access to quality, life-saving surgical interventions. Most of this population comprises low-income individuals residing in rural areas. Patient education serves as the gateway to ensuring high-quality and safe patient care, particularly for those necessitating intricate surgical interventions.²

Surgical-Patient Health Education (SPHE) has been proven useful in decreasing postoperative complications and duration of hospital stay and positively influencing recovery. Surgical patients who are properly prepared with specific pre-operative preparation deal more effectively with their surgical treatment and are better prepared to manage their pain and ability to perform post-operative activities.⁷ The common challenges of preoperative patient education in Nigeria include a language barrier, a shortage of manpower, and low health literacy.⁸

Literature abounds with evidence of the benefits of patient education before, during, and after surgical procedures. However, the literature has not shown any evidence of studies carried out on SPHE in the study area. The study aims to assess nurses' knowledge, attitude, and practice of SPHE to determine health workers' commitment to increasing patients' knowledge of surgical procedures.

Method

Study design

The study utilized a descriptive cross-sectional survey design to assess the knowledge, attitude and reported practice of Surgical-Patient Health Education (SPHE) among Nurses.

Sample methodology

Two hundred and twenty (220) nurses manned the hospital's surgical areas. A sample of 140 respondents was determined electronically using an online application for a sample size calculator (Raosoft.com) with a 95% confidence level. A proportionate purposive sampling technique was used to select the study participants.

Inclusion Criteria

Registered professional nurses with a minimum of six months of experience caring for surgical patients were included in the study.

Exclusion Criteria

Registered professional nurses who met the inclusion criteria but were not present at the time of the study, were seriously sick, refused to consent, or were mentally disturbed were excluded from the study.

Instrument and Data Collection Procedure

A self-administered questionnaire of 50 items with a 0.7 % reliability index was used to collect data. The instrument was grouped into sections A to F: Section

A, comprised demographic information; Section B, contained 11 items about knowledge of surgical patient health education and Section C which assessed the practice of surgical patient health education had nine items. Section D also had nine Likert scale items and sections E & F had 10 items each about teaching method and content of surgical patient health education respectively. A nurse with average research capacity was identified and trained in each unit within the hospital's surgical areas and served as a research assistant in the data collection process. Individual consent of each respondent was obtained by signing a written consent form. Readily available participants were then served with the questionnaire which was filled and retrieved within the period of the shift duty. All instruments served were returned 100% and their appropriateness was checked.

Data analysis

The data was electronically analysed using IBM SPSS. Each of the results for the specific objectives was separately analyzed. The level of knowledge of SPHE was categorized into adequate or inadequate knowledge and descriptive statistics of frequency and percentage were used to analyze the category. The practice of SPHE was categorized into good and poor practice and descriptive statistics of frequency and percentage were used to analyze the category. The attitude of Nurses toward SPHE was analysed on a Likert Scale and the responses were categorized into either positive or negative attitudes. Hypotheses were tested using the parametric method at 95% confidence and 0.05 significance level within the SPSS application package. Categories of Knowledge and Practice of SPHE were entered into cross-tabulation and a chi-square test was applied. The selected demographic characteristics were cross tabulated with knowledge and practice categories using chi-square test.

Ethical consideration

The researcher activated the formal protocol of obtaining ethical clearance and approval from the Hospital Research and Ethical Committee, which culminated in granting formal approval for the research through a letter of approval with reference number MAUTH/HREC/22/189. Also, every participant involved in this study was given adequate information and autonomy to decide whether to participate in the study and to withdraw at any point during the process. Participation was completely anonymous as no identifiable information about the participants was collected. All information obtained was treated with utmost confidentiality and used only for the study purpose. A written consent form was signed by each participant.

Results

Table 1: Demographic characteristics of the respondents n = 140

Ward location	Freq (%)	
OT/SPBPON	42	30.0
Surgical Unit	34	24.3
Paediatrics Unit	24	17.1
O & G Unit	40	28.6
Gender	Male	54 38.6
	Female	86 61.4
Age	20-29 Years	52 37.1
	30-39 Years	54 38.6
	40-49 Years	27 19.3
	Greater than 50 Years	7 5.0
Education	Registered nurse/Midwife	55 39.3
	RN + Registered Post Basic	50 35.7
	BNSc	35 25.0
	CNO	5 3.6
Rank	ACNO	8 5.7
	PNO	11 7.9
	SNO	48 34.3
	NO I	37 26.4
	NO II	31 22.1
Work Experience	1-10 Years	67 47.8
	11-20 Years	54 38.6
	20 Years & above	19 13.6

Legend = OT/SPBPON – Operating Theatre/ School of Post Basic Perioperative Nursing, **O & G** – Obstetrics and Gynecology unit, **BNSc** – Bachelor of Nursing Science, **CNO** – Chief Nursing Officer, **ACNO** – Assistant Chief Nursing Officer, **PNO** – Principal Nursing Officer, **SNO** – Senior Nursing Officer, **NO** - Nursing Officer

The results in Table 1 show the demographic distribution of the respondents according to the unit area of practice within the hospital. Most 42(30%) of the respondents were perioperative nurses in the operating theatre and surgical units and a significant percentage 40(28.6%) of the sample were drawn in the Obstetrics and Gynaecology unit. The majority of the respondents 86(61.4%) were females and the mean age was 28.0 ± 5 years. Most of the respondents 105(75%) have a diploma in Nursing (Registered Nurse/midwife or double diploma holders RN and post basic registration), leaving only 35(25%) of the nurses with a Bachelor of Nursing Science (BNSc) degree. The cadre of Nurses showed that only 5(3.6%) were at the rank of chief nursing officers while most of them 48(34.3%) were Senior nursing officers. As regards years of experience, most 67(47.9%) of the respondents had 1-10 years of experience; and only 19(13.6%) had practiced for more than 20 years.

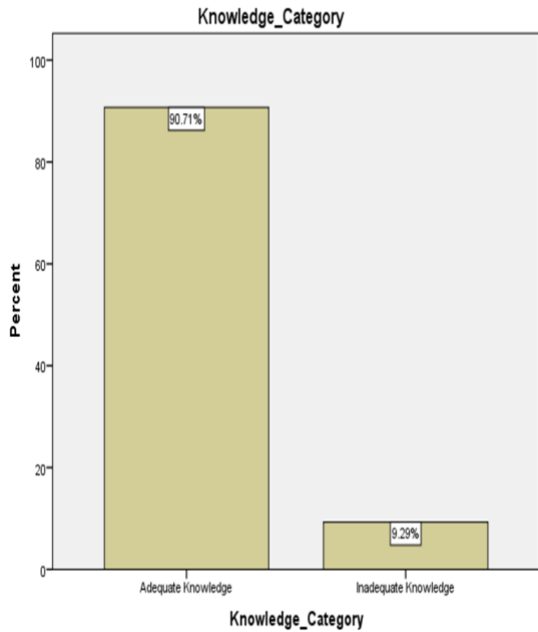


Figure 1: Knowledge Categorization of Surgical-Patient Health Education

Fig. 1 The bar graph presents the categorization of the respondents based on knowledge of surgical-patient health education. The vast majority (90.71%) of respondents have adequate knowledge of SPHE. However, there were few (9.29%) who demonstrated inadequate knowledge of the subject matter.

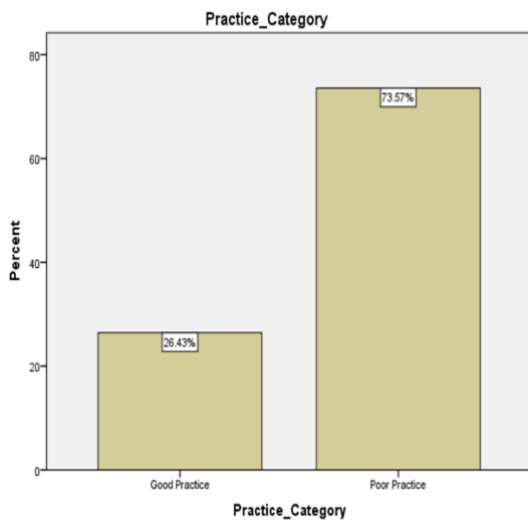


Figure 2: Practice Categorization of Surgical-Patient Health Education

Fig. 2 Shows a bar chart that presents the categorization of respondents in terms of the practice of SPHE. Most of the respondents (73.57%) have poor practice of SPHE and only a small percentage (26.43%) of the respondents had good practice of SPHE.

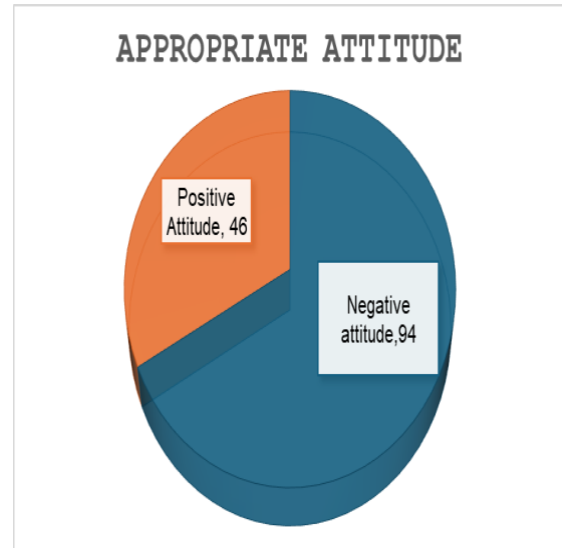


Figure 3: Appropriate Attitude to Surgical-Patient Health Education

Fig. 3 Shows a pie chart that presents the appropriateness of the attitude of the respondents toward surgical-patient health education. The majority of the respondents (67.1%) had a negative attitude to the practice of surgical-patient health education. However, 32.9% of the respondents demonstrate an appropriate (positive) attitude to the practice of surgical-patient health education.

H₀ 1: *There is no statistically significant relationship between respondents’ knowledge and practice of Surgical-Patient Health Education.*

Table 2 presents the chi-square cross-tabulation between knowledge and practice categories at 95% confidence and 0.05 level of significance. The result indicates no significant relationship between the variables (P=0.094) hence, the null hypothesis was retained.

Table 2: Knowledge Category * Practice Category Cross-tabulation

		Practice Category		Fisher’s	P-value	Remark
		Good	Poor			
Knowledge Category	Adequate	36 (28.3%)	91 (71.7%)	0.184	.094	Not Significant
	Inadequate	1 (7.7%)	12 (92.3%)			

H₀ #2: There is no statistically significant association between the selected demographic characteristics of the respondents and knowledge of SPHE.

Table 3 presents the chi-square cross-tabulation between selected demographic characteristics (Age, Educational qualification, and work experiences) and

knowledge of surgical-patient health education at 95% confidence and 0.05 alpha level. The results were not statistically significant ($p=0.132$, $p=0.166$, and $p=0.978$ respectively) in all the selected demographic variables. This implies no relationship between the variables; hence the null hypothesis was retained.

Table 3: Demographic Characteristics * Knowledge category Cross-tabulation

Variable		Knowledge category		X ²	df	P-value	Remark
Age	20 – 29 Years	51 (98.1%)	1 (1.9%)	5.621	3	.132	Not Significant
	30 – 39 Years	46 (85.2%)	8 (14.8%)				
	40 – 49 Years	24 (88.9%)	3 (11.1%)				
	Greater than 50	6 (85.7%)	1 (14.3%)				
Educational Qualification	Nurse/Midwife	53 (96.4%)	2 (3.6%)	3.594	2	.166	Not Significant
	RN +Post Basic	43 (86.0%)	7 (14.0%)				
	BNSc	31 (88.6%)	4 (11.4%)				
Work Experience	1 – 10 Years	61 (91.0%)	6 (9.0%)	0.043	2	.979	Not Significant
	11 – 20 Years	49 (90.7%)	5 (9.3%)				
	21 Years-above	17 (89.5%)	2 (10.5%)				

H₀ #3: There is no statistically significant association between the selected demographic characteristics of the respondents and the Practice of SPHE.

Table 4 presents the cross-tabulation result between selected demographic characteristics (Age, Educational qualification, and work experiences) and the practice of surgical-patient health education at 95% confidence and 0.05 alpha level. The results were

not significant with age ($p=0.673$) and educational qualification ($p=0.604$) however, there was a significant ($p=0.020$) association between work experience and practice of SPHE. The null hypothesis was retained about age and educational qualification but rejected in terms of work experience. This means that there is a strong association between the work experience of the respondents and the practice of SPHE.

Table 4: Demographic Characteristics * Practice category Cross-tabulation

		Knowledge category		X ²	df	P-value	Remark
Age	20 – 29 Years	13 (25.0%)	39 (75.0%)	1.540	3	.673	Not Significant
	30 – 39 Years	17 (31.5%)	37 (68.5%)				
	40 – 49 Years	6 (22.2%)	21 (77.8%)				
	Greater than 50	1 (14.3%)	6 (85.7%)				
Educational Qualification	Nurse/Midwife	16 (29.1%)	39 (70.9%)	1.008	2	.604	Not Significant
	RN + Post Basic	14 (28.0%)	36 (72.0%)				
	BNSc	7 (20.0%)	28 (80.0%)				
Work Experience	1 – 10 Years	25 (37.3%)	42 (62.7%)	7.835	2	.020	Significant
	11 – 20 Years	9 (16.7%)	45 (83.3%)				
	21 Years-above	3 (15.8%)	16 (84.2%)				

Discussion

In this study most of the participants were perioperative nurse specialists. Perioperative nurses also called surgical nurses are the most appropriate group of nurses to be engaged in SPHE due to their knowledge of surgical operation.⁹ However, due to the obvious shortage of perioperative nurses, general nurses are equally involved in the surgical care and preparation of patients for surgical procedures such as SPHE.

The study findings revealed almost all respondents demonstrated adequate knowledge of surgical-patient health education. This implies that nurses have a high knowledge of surgical-patient health education. This finding agrees with the study conducted in Ethiopia by Bazezew and colleagues¹⁵ which indicates nurses have an adequate understanding of preoperative patient education. This result equally implies that nurses in this study area perform the same duty as their counterparts globally in terms of knowledge of surgical-patient health education.

Practical applications of knowledge have long been observed by many clinicians as deficient. The current study reveals most of the respondents reported poor practice of SPHE. Even though there was high knowledge of SPHE only a small percentage of the respondents had good practice of it. Furthermore, there is no significant relationship between the respondents' knowledge which was adequate, and the poor practice of Surgical-Patient Health Education. This is contrary to the report by Elkalashy et al.,¹⁰ which indicated that nurses always educate patients before surgical procedures in a consistent manner. The only reason that could clear this discrepancy between knowledge and practice is attitude which is presented as the third triangle of the equation. Regarding the significance of preoperative patient education as reported by Lee,¹¹ the author states that preoperative education practice is very important to surgical patients in freeing them from anxiety and post-operative complications. Surgical-patient health education has proven useful in decreasing the duration of stay and positively influencing recovery. Malley et al,¹² in a qualitative descriptive study done in Northeast USA on the Nurses' role during pre-operative evaluation in surgical patient reported that the Nurse's role is to identify the client's needs and risk factors that may be affected by the surgical experience.

This study identifies negative attitudes to the practice of SPHE that relate to the corresponding low practice. The finding disagrees with the report of Oyetunde et al,¹³ in southwest Nigeria, who reported that nurses had a positive attitude toward patient education. There is a

need to investigate more on the cause of the negative attitude of nurses in this study center and recommend appropriate interventions to enable patients to benefit from these valuable healthcare services. Health education is an effective means of alleviating anxiety, minimizing post-operative complications, and length of hospital stay as well as positively influencing recovery among surgical patients. Patients who are well prepared with complete surgical-patient health education deal more successfully with their surgical experience and are well prepared to cope with their pain and be involved in suitable self-care activities.¹⁴

Implication of the study

This study has tripartite implications for the nursing discipline that beckon respective stakeholders' attention:

1. **Nursing education:** Nurse educators should not only pay attention to inculcating knowledge but also positive attitude to patient education particularly while preparing patients for surgery.
2. **Nursing administration:** Nurse managers should devise a means of motivating nurses to develop positive attitudes to the practice of surgical patient health education.
3. **Nursing practice:** Effective surgical patient education is a professional responsibility of all nurses and when properly applied leads to greater patients' benefit and professional prestige/value for nursing practice.

Study limitation

The study was not able to conduct direct observation to identify factors associated with the negative attitude to the practice of surgical-patient health education and therefore recommend further study into this area in a view to improving nurses' attitudes thereby fostering the effective practice of surgical-patient health education.

Conclusion

The study concludes there was adequate knowledge of surgical-patient health education among the study participants, which however does not translate to its practice. The study further discovered the major factor linked to the dissociation between adequate knowledge and practice apathy was a negative attitude. Consequently, it was recommended that there is a need to scale up the level of practice of surgical-patient health education among nurses by adopting strategies or interventions that will foster attitudinal change.

Declarations

Ethical Consideration: The researcher activated the formal protocol of obtaining ethical clearance and approval from the Hospital Research and Ethical

Committee, which culminated in granting formal approval for the research through a letter of approval with reference number MAUTH/HREC/22/189.

Authors' Contribution: ANL conceived idea, developed objectives, literature review, study design, methods, data collection, initial analysis, discussion, and compilation of reference.

NMC: Literature review, study methods, data analysis and interpretation

AU Develop hypothesis, literature review, study methods

Conflict of interest: The authors declared no conflict of interest

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