



Article

Knowledge, Practice, and Factors Influencing Preoperative Patient Education Among Surgical Unit Nurses at Azadi Teaching Hospital, Kirkuk, Iraq

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Abstract: Background: Preoperative patient education is an essential component of nursing care. It aims to provide patients the information they need regarding the surgical procedure, preoperative preparation, and postoperative care. In addition, it improves patient understanding, reduces anxiety, and improves compliance with nursing and medical instructions. The surgical unit nurses are a key element in providing these instructions. Therefore, assessing their knowledge, practices, and factors influencing preoperative patient education is crucial for improving the quality of nursing care. Objective: This study aims to assess nurses' knowledge, practices, and factors influencing preoperative patient education. Methodology: A quantitative observational design was utilized in this study from February 2026 to August 2026. A non-probability (purposive) sampling technique was used to obtain data in the surgical units at Azadi Teaching Hospital in Kirkuk City, Iraq. Sixty-one nurses were sampled. The researcher constructed a questionnaire to collect data on nurses' knowledge, practice, and factors influencing related to preoperative patient education. The study data were analyzed utilizing statistical data analysis methods in the Statistical Package for the Social Sciences (SPSS) version 26.0. Results: The results show that the majority of nurses fall within the age group of 25 to 29 years; and that three-quarters of the nurses are female. Among all participants, half had a bachelor's degree. More than a third of the nurses had 3–4 years of experience. Less than half of the sample studied participated in a training course in preoperative patient education. Nearly three-quarters of the nurses had a high level of knowledge regarding preoperative patient education. The nurses' practices regarding preoperative patient education demonstrated a moderate level. Finally, the study findings revealed that the factors influencing preoperative patient education for nurses were at a high level. Conclusions: The study concluded that most nurses possessed a high level of knowledge regarding preoperative patient education. However, their practice demonstrated a moderate level of practice. Furthermore, the factors influencing nurses' preoperative patient education were at a high level.

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1. Introduction

Preoperative education is an important part of preoperative patient care, one of the most important nursing interventions, and a key measure of the quality of care received by surgical patients. Patient education is an evolving process that helps the individual adopt behavioral modifications. It aims to reduce health problems, improve well-being, and maintain a healthy lifestyle. Patient education is a process of teaching and learning

shared between healthcare providers and patients. Meeting patients' educational needs is an indicator of the quality of healthcare outcomes [1]. Preoperative education is crucial for surgical patients, helping to alleviate anxiety and postoperative complications. The effectiveness of preoperative education is affected by the nurses' knowledge and professional experience [2]. Providing health education to surgical patients is a crucial aspect of patient care, as it helps to alleviate preoperative fears and anxiety [3]. Providing appropriate preoperative education in a timely manner is crucial; ineffective education can lead to increased anxiety, increased complications, prolonged hospital stays, and frequent readmissions [4]. Perioperative education aims to prepare patients for surgery while ensuring they understand what to expect throughout the surgical process. Therefore, health education for patients undergoing surgery can be extensive and comprehensive. Information should be provided to the patient undergoing surgery and to their family and relatives when necessary [5]. Surgical complications are a major global health problem. Approximately 230 million surgical procedures are performed annually [2]. The perioperative period is a stressful time, during which many pathophysiological changes occur that make patients susceptible to many potential adverse events. Variations in the level of knowledge and experience possessed by nurses may lead to inadequate and ineffective preoperative patient preparation [6]. Preoperative education is considered an essential element in the care of patients undergoing surgery. This is achieved by providing patients with the necessary health information, psychosocial support, and the opportunity to learn certain skills prior to surgery [7]. Furthermore, previous studies indicate that preoperative education can reduce postoperative complications, shorten hospital stays, and increase patient and family satisfaction [8]. Although preoperative nursing education is essential, nurses may not be able to provide sufficient information to the patient before surgery. This may pose a challenge for nurses in certain areas or specific situations. Healthcare providers may sometimes be unable to provide adequate preoperative education due to patients' short hospital stays or transfers between hospital units. Additional factors affecting preoperative education may include health education professionals, such as limited time and heavy workloads [9]. Preoperative patient education is an essential nursing role that helps prepare patients physically and psychologically for surgery. However, in many healthcare settings, this education is inconsistent due to limited time, inadequate training, high patient turnover, and lack of standardized guidelines. As a result, patients may have insufficient knowledge about surgical procedures, postoperative care, and pain management, leading to increased anxiety, delayed recovery, and higher risk of complications. Therefore, improving nurses' knowledge and practices in preoperative patient education is necessary to enhance surgical outcomes and patient-centered care.

2. Materials and Methods

The current study employed a quantitative observational design and was conducted from February 2026 to August 2026. The study was conducted in surgical units at Azadi Teaching Hospital in Kirkuk City, Iraq. A Purposive (non-probability) sampling has been performed. More specifically, a total of sixty-one nurses were selected as the study sample size. The researcher constructed a questionnaire to collect data on nurses' knowledge, practices, and factors influencing preoperative patient education. The questionnaire consists of four parts: the first part addresses nurses' socio-demographic characteristics and professional background and includes eight items; these include age, gender, marital status, educational level, experience in surgical units, working shifts, participating in preoperative patient education training, and monthly salary. The second part focuses on nurses' knowledge and consists of 18 items divided into three subdomains: general principles of preoperative patient education, content of preoperative patient education, and outcomes and preventive aspects of preoperative patient education. The third part is

designed to assess nurses' practices and consists of 20 items divided into two subdomains: preoperative preparation and information and postoperative guidance, lifestyle, and follow-up practices. The fourth part addresses factors influencing nurses' provision of preoperative patient education, which consists of 15 items divided into three subdomains: nurse-related factors, patient and environment-related factors, and institutional factors. To evaluate the validity of the tool, experts from different specialties assessed the questionnaire by considering the nurses' requirements, relevant scientific literature, and previous studies. The questionnaire was then modified according to the experts' instructions. Thereafter, the reliability of the instrument was assessed to ensure the tool's consistency and to confirm the clarity, adequacy, and comprehensibility of its structure for the participants, as well as to determine the necessary adjustments; the study's reliability was 0.85. After obtaining approval from the relevant hospital authorities, data were collected through a designed questionnaire and interview technique; each participant was interviewed individually, and each interview lasted approximately 15–25 minutes. The questionnaire items were evaluated using three different rating scales according to the study domains. The assessment of nurses' knowledge part was evaluated using the responses true, false, and I don't know; the evaluation of nurses' practice's part was evaluated using never, sometimes, and always; and the factors influencing nurses' provision of preoperative patient education part was evaluated using agree and disagree. The study data were analysed utilizing statistical data analysis methods in the Statistical Package for the Social Sciences (SPSS) version 26.0.

3. Results

Table 1. Distribution of the Socio-Demographic Characteristics of the Studied Sample (n = 61)

Socio-demographic	Classes	Frequency	Percentage %
Age	20 - 24	6	9.8
	25 - 29	44	72.1
	30 - 34	9	14.8
	35-39	2	3.3
	Mean ± SD		27.5± 2.8
Sex	Male	15	24.6
	Female	46	75.4
Marital Status	Single	27	44.3
	Married	34	55.7
Educational Level Status	Diploma	29	47.5
	Bachelor	31	50.8
	Master's	1	1.6
Marital Status	≤ 700.000 IQD	45	73.8
	700.000–1000.000IQD	14	23.0
	≥ 1000.000IQD	2	3.3

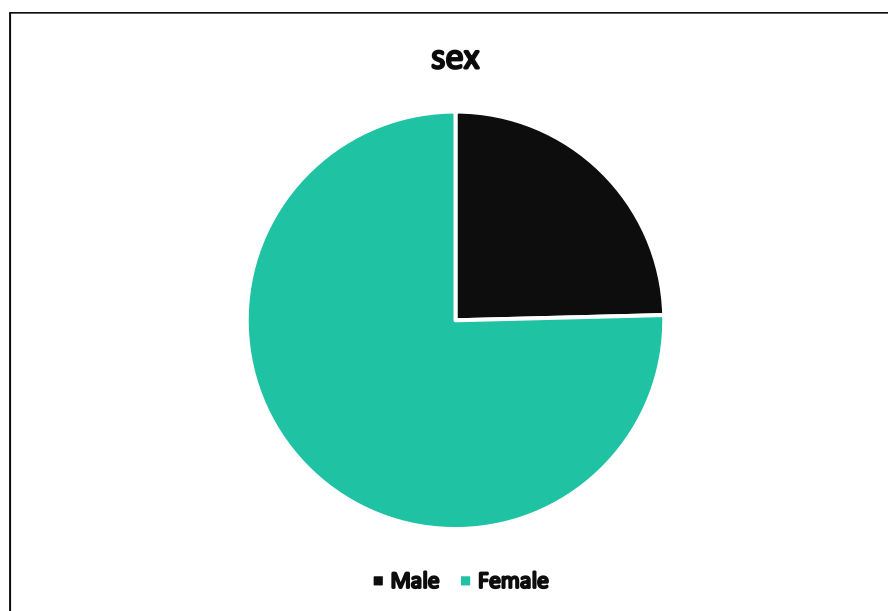


Figure 1. Distribution of Nurses According to Sex at Azadi Teaching Hospital

Table 2: Distribution of the Studied Sample by Professional Background

Professional background	Classes	Frequency	%
Experience in Surgical Units	<1 yr	10	16.4
	1–2	18	29.5
	3–4	22	36.1
	> 4 yrs.	11	18.0
Participation in Preoperative Patient Education Training	No	36	59.0
	Yes	25	41.0

Table 3. Nurses' Knowledge Regarding Preoperative Patient Education

Sub & Main Domains	No.	Min.	Max.	PGMS	PPSE	PPSD
General Principles of Preoperative Patient Education	61	17.0	100	75.68	3.01	23.49
Content of Preoperative Patient Education	61	33.0	83.0	65.30	1.92	15.00
Outcomes and Preventive Aspects of Preoperative Patient Education	61	33.0	100	80.05	2.94	22.94
Nurses' Knowledge for Preoperative Patient Education main domain	61	33.0	94.0	73.41	1.93	15.05

Ev.: Evaluated by: (0.00 – 33.33) Low (L); (33.34 – 66.66) Moderate (M); (66.67– 100) High (H).

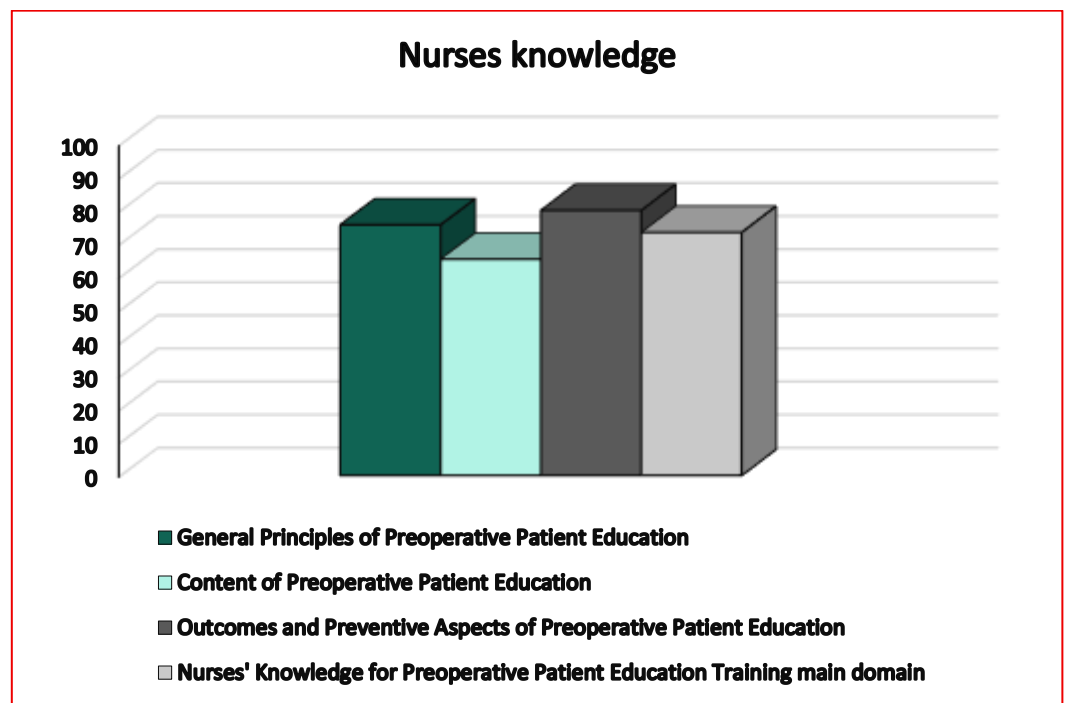


Figure 2. Grand Mean Score of Nurses' Knowledge Regarding Preoperative Patient Education at Azadi Teaching Hospital

Table 4. Nurses' Practices Regarding Preoperative Patient Education

Sub & Main Domains	No.	Min.	Max.	PGMS	PPSE	PPSD	Ev.
Preoperative Preparation and Information	61	10.00	90.00	53.94	3.12	24.33	M
Postoperative Guidance, Lifestyle, and Follow-Up Practices	61	15.00	85.00	51.81	3.14	24.51	M
Nurses' Practices Regarding Preoperative Patient Education main domain	61	12.50	85.00	52.79	2.89	22.58	M

Ev.: Evaluated by: (0.00 – 33.33) Low (L); (33.34 – 66.66) Moderate (M); (66.67– 100) High (H).

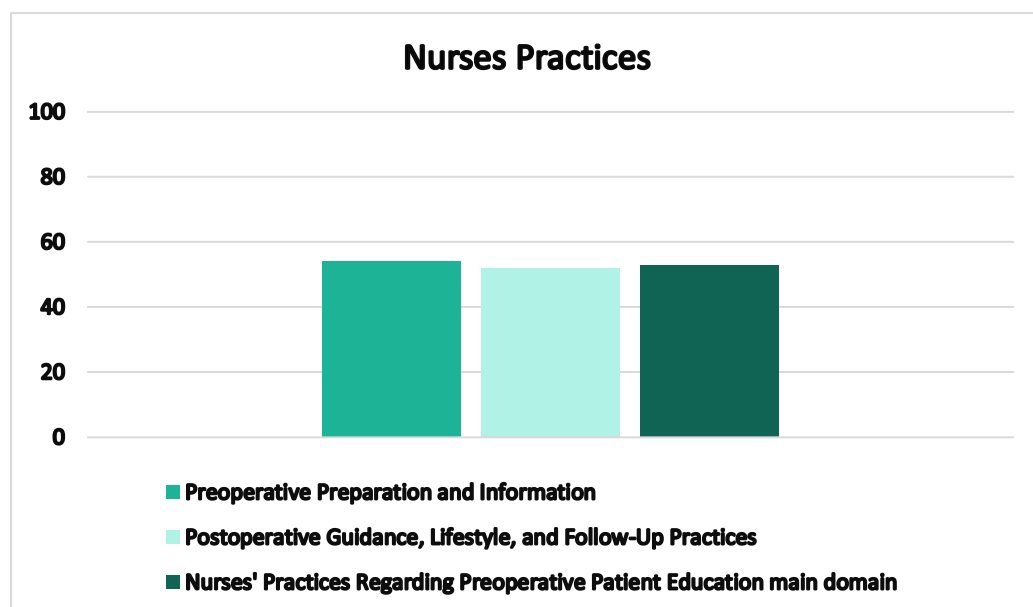


Figure 3. Grand Mean Score of Nurses' Practices Regarding Preoperative Patient Education at Azadi Teaching Hospital

Table 5. Factors Influencing Nurses' Preoperative Patient Education

Domains	Variable	Response	No	F.	%	PGMS	PPSE	PPSD	Ev.
1. Nurse-related Factors	Inadequate training	Agree	61	45	73.8				
		Disagree		16	26.2				
	Nurses' daily workload	Agree	61	33	54.1				
		Disagree		28	45.9				
	Time constraints among nursing staff	Agree	61	28	45.9				
		Disagree		33	54.1	82.40	1.61	12.53	H
	Nursing staff shortage	Agree	61	38	62.3				
		Disagree		23	37.7				
2. Patient & Environment-related Factors	Nurses' experience and academic qualifications	Agree	61	40	65.6				
		Disagree		21	34.4				
	critically ill patients	Agree	61	32	52.5				
		Disagree		29	47.5				
	Patients' and family members' anxiety	Agree	61	36	56.0				
		Disagree		25	41				
	Linguistic barriers	Agree	61	41	67.2	80.22	1.69	13.22	H
		Disagree		20	32.8				
3. Institutional Factors	Noise in the hospital setting	Agree	61	47	77.0				
		Disagree		14	23.0				
	Absence of the patient's relatives	Agree	61	40	65.6				
		Disagree		21	34.5				
	Lack of educational materials	Agree	61	49	80.3				
		Disagree		12	19.7				
	High volume of scheduled daily surgeries	Agree	61	42	68.9				
		Disagree		19	31.1				
	Lack of managerial emphasis	Agree	61	43	70.5	84.37	1.99	15.58	H
		Disagree		18	29.5				
	Absence of clear guidelines	Agree	61	44	72.1				
		Disagree		17	27.9				
	Lack of hospital support	Agree	61	47	77.0				
		Disagree		14	23.0				
	Factors Influencing Nurses in Preoperative Patient Education Main Domain					82.33	1.39	10.88	H

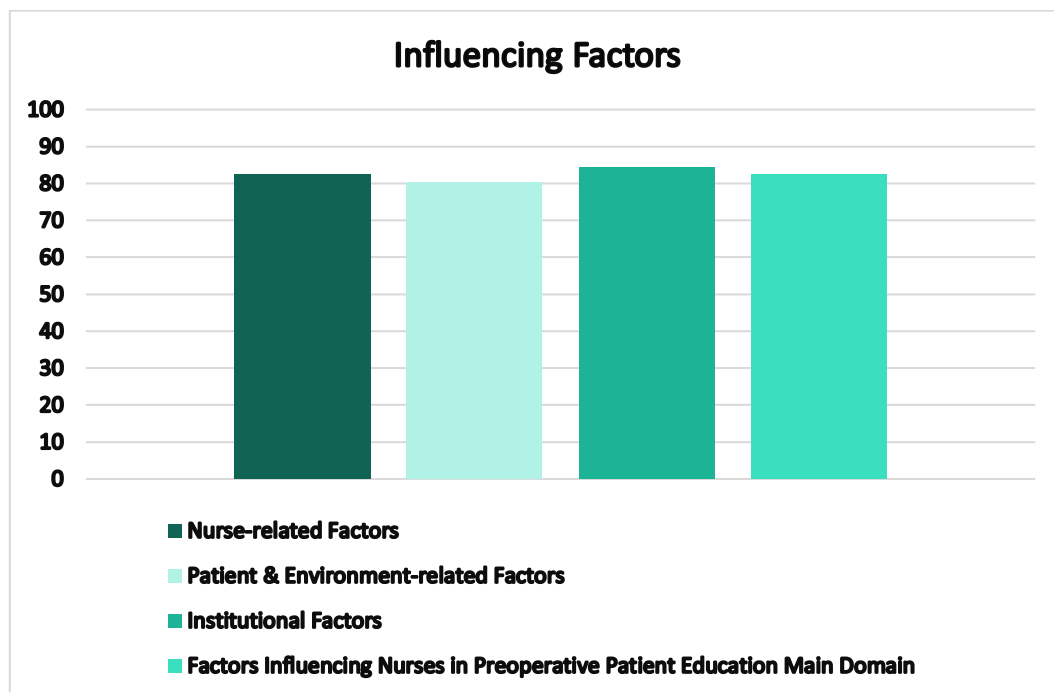


Figure 4. Grand Mean Score of Factors Influencing Nurses' Preoperative Patient Education at Azadi Teaching Hospital

4. Discussion

The results of the current study indicated that a significant majority of nurses were in the 25-29 age group. According to the report, this is due to the hiring of younger nurses recently and the increasing number of new employees in the nursing field. This result is consistent with the findings of a cross-sectional study conducted by [10] at Azadi Teaching Hospital in Kirkuk city, Iraq, which reported that participants aged 25-29 years constituted the largest age group in the study.

With respect to the sex variable, the majority of the nursing staff included in this study were female. These findings are attributed to the Iraqi Ministry of Higher Education and Scientific Research's policy of admitting a larger number of female students to nursing colleges/universities. This explains why females predominate among nurses. The study conducted by [11] at Kirkuk Teaching Hospitals in Kirkuk city, Iraq, and this study supports the researcher's findings, which indicate that the majority of nurses were female.

Regarding marital status, the results of the present study revealed that more than half of the nurses were married. The present study supports the findings of a descriptive study conducted by [12] in Nicosia, Cyprus, which reported that most of the participants were married.

With regard to the nurses' level of education, half of the studied sample held a bachelor's degree. The current finding is consistent with the findings reported by [13] conducted in the Jeddah region, Kingdom of Saudi Arabia, which reported that a bachelor's degree was the most common educational level among nurses, although the percentage was higher than that in the current study.

Concerning the monthly salary, nearly three-quarters of the nurses received less than 700,000 IQD, which is equivalent to approximately <\$500. This may be because nurses in Iraq generally receive a fixed monthly salary without additional financial incentives. The findings of the current study are not in agreement with the findings of [14], conducted in a major public hospital in Dammam, Kingdom of Saudi Arabia, which reported that most nurses received a monthly salary of more than \$2,670.

The results of the present study show just over a third of the sample belonged to the group with three to four years of experience. The researcher believes this result may be attributed to the workload and stress experienced by nurses in hospital settings. After several years of working in hospitals, some nurses may prefer to transfer to positions outside the hospital, where the workload is lower and the work environment is more comfortable. This finding is inconsistent with the findings of a quantitative observational study conducted in Kirkuk City, Iraq, which reported that only a minority of the nurses had three to four years of experience [15].

According to the findings of the study regarding participation in preoperative patient education training, more than half of the nurses had not participated in the training. This result agrees with the findings of a study conducted by [16] at the surgical wards of Rania Teaching Hospital in Sulaymaniyah, Kurdistan Region, Iraq, which reported that more than half of the nurses had not participated in training courses on preoperative care.

Nurses' Knowledge Regarding Preoperative Patient Education

Regarding the nurses' knowledge of preoperative patient education, the results in Table (3) revealed that the nurses demonstrated a high level of knowledge regarding the general principles, outcomes, and preventive aspects of preoperative patient education. However, they demonstrated a moderate level of knowledge regarding the content of preoperative patient education. The current findings are in agreement with a study conducted by [17] among 90 nurses at referral teaching hospitals in Rwanda, which reported that most nurses had good knowledge regarding preoperative patient teaching.

Nurses' Practices Regarding Preoperative Patient Education

The results of the current study revealed that nurses' practices regarding preoperative patient education were at a moderate level in the domains of preoperative preparation and information, as well as postoperative guidance, lifestyle, and follow-up practices. This finding aligns with a study conducted by [18] in surgical units of specialized hospitals in southern Ethiopia, where the study reported that a substantial proportion of nurses demonstrated poor preoperative care practices. From the researcher's point of view, this result can be attributed to the low participation of nurses in training courses related to preoperative patient education, which may have affected their level of knowledge.

Factors Influencing Nurses' Preoperative Patient Education

Based on the findings of the current study, the factors influencing preoperative patient education among nurses were found to be at a high level across the domains of nurse-related factors, patient- and environment-related factors, and institutional factors. Similar findings were reported in a previous study conducted in Selangor, Malaysia, which are consistent with the results of the present study. The study reported that most nurses identified two categories of factors influencing preoperative patient education: nurse-related factors and work environment-related [19]. Furthermore, another study also indicated that most nurses identified the factors influencing preoperative patient education as three main categories: nurse-related factors, institutional-related factors, and patient-related factors [2].

5. Conclusion

The present study concluded that the majority of the nursing staff were female, and half of the nurses held a bachelor's degree. Regarding years of experience in surgical units, slightly more than one-third of the sample belonged to the group with three to four years of experience. More than half of the nurses had not participated in preoperative patient education training. The findings revealed that nurses demonstrated a high level of knowledge regarding preoperative patient education. Moreover, most nurses demonstrated a moderate level of practice regarding preoperative patient education. In

addition, the factors influencing preoperative patient education among nurses were found to be at a high level.

Recommendations:

Based on the findings of the present study, it is recommended that regular training programs and educational courses be provided for nurses to enhance their knowledge and practices regarding preoperative patient education. Additionally, a standardized protocol or guideline for preoperative patient education should be developed and implemented in hospitals. Furthermore, hospitals should focus on improving the factors influencing nurses' preoperative patient education by providing adequate administrative support, educational resources, and a suitable work environment to facilitate nurses' involvement in patient education. Further studies involving larger samples are recommended to explore nurses' knowledge, practices, and factors influencing preoperative patient education

REFERENCES

- [1] Yilmaz, U. D., Bolat, H. N., & Cakir, H. K. Z. (2019). Nurses' practice of preoperative patient education in Cyprus. *International Journal of Medical Research & Health Sciences*, 8(3), 7–14.
- [2] Bazezew, A. M., Nuru, N., Demssie, T. G., & Ayele, D. G. (2023). Knowledge, practice, and associated factors of preoperative patient teaching among surgical unit nurses, at Northwest Amhara Comprehensive Specialized Referral Hospitals, Northwest Ethiopia, 2022. *BMC Nursing*, 22(1), 20.
- [3] Adamu, N. L., Ndikom, C. M., & Aliyu, U. (2024). Nurses' knowledge, attitude, and practice of surgical-patient health education at Modibbo Adama University Teaching Hospital, Yola. *The Nigerian Health Journal*, 24(2), 1292–1298.
- [4] Gerlitz, R. (2017). Barriers and facilitators of preoperative education within Enhanced Recovery after Surgery (ERAS) programs.
- [5] Mitchell, M. (2017). Day surgery nurses' selection of patient preoperative information. *Journal of Clinical Nursing*, 26(1–2), 225–237.
- [6] Lobo, D. (2016). *Effectiveness of preoperative teaching in promoting postoperative outcome among patients undergoing abdominal surgery in selected hospitals of Karnataka* (Doctoral dissertation, KLE University, Belagavi, Karnataka).
- [7] Tadesse, B., Kumar, P., Girma, N., Anteneh, S., Yimam, W., & Girma, M. (2023). Preoperative patient education practices and predictors among nurses working in East Amhara comprehensive specialized hospitals, Ethiopia, 2022. *Journal of Multidisciplinary Healthcare*, 16, 237–247. <https://doi.org/10.2147/JMDH.S398663>
- [8] Forsmo, H. M., Erichsen, C., Rasdal, A., Tvinnereim, J. M., Korner, H., & Pfeffer, F. (2018). Randomized controlled trial of extended perioperative counselling in enhanced recovery after colorectal surgery. *Diseases of the Colon & Rectum*, 61(6), 724–732. <https://doi.org/10.1097/DCR.0000000000001007>
- [9] Almashi, A. M., Almutary, H. H., & Mersal, N. A. (2020). Essential elements of preoperative information as perceived by the nurses in surgical units: Scoping review. *Evidence-Based Nursing Research*, 2(3), 16–25. <https://doi.org/10.47104/ebnrojs3.v2i3.130>
- [10] Reshid, R. N. M., & Baez, Y. K. (2024). Assessing nursing proficiency in nasogastric tube care Iraq study insights. *International Journal of Health Systems and Medical Sciences*, 3(3), 172–180.
- [11] Al-Jubari, M. A. E., & Baez, Y. K. (2025). Intensive Care Unit nurses' knowledge regarding chest physiotherapy. *Central Asian Journal of Medical and Natural Science*, 6(3), 1034–1041. <https://doi.org/10.51699/cajmns.v6i3.2788>
- [12] Dal Yilmaz, U., Bolat, H. N., & Cakir, H. K. Z. (2019). Nurses' practice of preoperative patient education in Cyprus. *International Journal of Medical Research & Health Sciences*, 8(3), 7–14.
- [13] Almutary, H., & Almashi, A. (2024). Preoperative patient education: Perceptions and actual practice among nurses working in surgical units. *SAGE Open Nursing*, 10, 23779608231226090.
- [14] Al-Haroon, H. I., & Al-Qahtani, M. F. (2020). The demographic predictors of job satisfaction among the nurses of a major public hospital in KSA. *Journal of Taibah University Medical Sciences*, 15(1), 32–38.

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- [15] Al-Jubari, M. A. E., & Baez, Y. K. (2025). Nurses' practice regarding chest physiotherapy in the intensive care unit. *Journal of Current Medical Research and Opinion*, 8(4), 4134–4142. <https://doi.org/10.52845/CMRO/2025/8-4-13>
 - [16] Hassan, Y. Y., Khdir Ibrahim, P., & Lafi, S. Y. (2023). Assessment of nurses' knowledge regarding preoperative preparation at Rania Teaching Hospital. *Mosul Journal of Nursing*, 11(1), 166–174.
 - [17] Mariza, D. (2019). *Knowledge, practices and barriers of preoperative patients teaching among nurses working in operating theatres at referral teaching hospitals in Rwanda* (Master's thesis, University of Rwanda).
 - [18] Lonsako, D. T., Geda, B., Gobena, T., Foga, S., & Kechine, T. (2024). Practice of preoperative patient care among nurses working in surgical units of specialized hospitals in Southern Ethiopia.
 - [19] Majid, N. (2020). The practice of patient education among public hospital nurses in Malaysia. *Environment-Behaviour Proceedings Journal*, 5(15), 131–137.