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ORIGINAL ARTICLE

Satisfaction With Perioperative Anaesthesia Care Among General Surgery Patients at a Tertiary Level Hospital, Dodoma, Tanzania

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ABSTRACT

Background: This study aims to determine patients' satisfaction with perioperative anesthesia care and its associated factors among patients planned for surgery at Dodoma Regional Referral Hospital (DRRH), Tanzania.

Methods: An analytical Cross-sectional study of 425 perioperative patients admitted at DRRH using an interview form modified from the Leiden Perioperative Care Patient Satisfaction questionnaire, was conducted. Data was collected using an Open data Kit (ODK) tool. Perioperative factors were analysed by specific objective and where applicable percentage, mean and standard deviations were used. Satisfaction was measured using demarcation threshold formula. Association between variables was tested via Chi-square test for categorical variables. The chi-square, odds ratio, 95% confidence interval, and *p*-value were computed to identify associated factors and determine the strength of the association. *P*-value of .05 was used for statistical significance. Independent factors in univariate analysis with a P-value < .2 were included in the multivariate analysis. Statistical Package for Social Sciences (SPSS) computer program version 20 was utilized for analysis.

Results: About 65% (64.9%) of respondents were satisfied with the perioperative anaesthesia care services, Overall mean (SD) satisfaction score being 69 (8.0). Postoperative surgical pain, time spent in the recovery room and staff consideration of patient's privacy in theatre were predictive factors for patient satisfaction after perioperative anesthesia service with AOR (95% CI) *P* value of .2 (0.1–0.50) .003, 4.9(2.4–9.9) <.001, and 3.2 (1.1–9.46) .029 respectively.

Conclusion: Overall patient satisfaction with perioperative anesthesia services was moderately low. Findings align with similar resource-limited settings. Key factors influencing satisfaction were short recovery time, no postoperative pain, (American society for anesthesiologists) ASA status, preoperative visits and patient privacy. Future research should focus on patients' willingness to choose the same hospital for surgery and explore the underlying reasons behind satisfaction to improve perioperative care quality.

BACKGROUND

Patient satisfaction is a key indicator of the quality and effectiveness of healthcare services, particularly in perioperative anesthesia care, where it supports continuous improvement of hospital services.[1] It reflects how well patient expectations and needs are met and is influenced by subjective experiences.[1,2] High levels of satisfaction are associated with improved treatment adherence, better utilization of healthcare services, and strengthened patient provider relationships.[3,4] Providing patient cantered care that addresses physical, psychological, and emotional well-being is essential for achieving positive health outcomes.[1,5]

Patient satisfaction is influenced by factors such as communication, provider competence, interpersonal relationships, and service accessibility.[6] The Donabedian model provides a useful framework for evaluating healthcare quality through three components structure, process, and outcomes highlighting how care settings, service delivery, and patient experiences collectively determine satisfaction.[7] Satisfaction levels vary globally, with lower and inconsistent rates often reported in developing settings, potentially affecting healthcare seeking behaviours and outcomes.[8,9]

The perioperative period involves coordinated multidisciplinary care, where elements such as preoperative information, pain management, and clear communication play a crucial role in shaping patient

experiences. Despite its importance, there is limited evidence on perioperative anesthesia satisfaction in Tanzania, particularly at higher-level facilities. Conducting a thorough assessment of patient satisfaction with perioperative anesthesia care is essential for quality control and continuous improvement of hospital services.[10] This study therefore aims to assess perioperative anesthesia care satisfaction among general surgery patients at Dodoma Regional Referral Hospital in Tanzania, providing evidence to support improved care practices globally.

MATERIAL AND METHODS

Study Design

A hospital-based analytical cross-sectional study was conducted at Dodoma Regional Referral Hospital (DRRH) in Dodoma from 1 May 2024 to 29 June 2024. All eligible participants were interviewed to assess their satisfaction with perioperative anaesthesia care services

Study Area

The study was done at Dodoma Referral Regional Hospital, which is the closest hospital in the region with 3,084,000 million people. Patients were recruited from general surgical wards where patients who need surgical care are admitted. The recruitment was done from 01/05/2024 to 30/06/2024. When the decision for surgery is made, attending clinician/surgeon admits the patient to the general surgical wards, for review including preanesthetic workout including choices for anaesthesia to ensure his/her fitness. While still in the ward for preoperative workout, nurses/clinicians administered written consent after explanations on the details of the surgery to be conducted. All cleared fit for surgery patients were then taken to operating rooms according to the list.

Patients received in the operating room, got reassessed by anesthetist and necessary premedication given depending on the assessment. Also, patients' concerns were addressed during the operation, whether through communication with the patients (If given regional anaesthesia) and/or physiological examination (If under GA). Anesthetic care continued even after operation, and till patients were discharged, to address any anticipated concerns i.e pain, post-operative nausea and vomiting etc. During the post-operative period is when patients meeting criteria were enrolled in the study after consenting through written consent.

Study Population

Post-operative patients admitted at Dodoma Regional Referral Hospital and at least 24 hours have passed and have not exceeded 48 hours, since their general surgical procedure.

Inclusion Criteria and Exclusion Criteria

Surgical patients aged 18 years and above who consented were included while those who were critically ill, patients discharged before completing 24 hours postoperatively and those unable to communicate were excluded in this study.

Study Variables

Outcome (dependent) variables were patient satisfaction category (i.e Satisfied or dissatisfied). Independent variables consisted of social demographics, preoperative, intraoperative and postoperative variables.

Sample Size and Sampling Technique

A simple random sampling technique using a lottery method was employed. Eligible participants were newly admitted patients in male and female general surgical wards to avoid repeated selection. Each day, a list of eligible new admissions was prepared using hospital registration numbers, which were written on pieces of paper, mixed, and randomly drawn. Seven participants were selected daily for 60 days to reach a sample size of 420. This approach ensured equal selection probability, broad representation, and minimal bias. Informed consent was obtained, and data were collected using an interviewer-administered questionnaire on perioperative anaesthesia satisfaction.

Data Collection Methods

For this study, data were collected using an interview form adapted from the Leiden Perioperative Care Patient Satisfaction Questionnaire (LPPSq), a standardized tool for assessing perioperative patient satisfaction with anesthesia care. The LPPSq has been previously validated in comparable settings, including Ethiopia and Eritrea, supporting its applicability in the Tanzanian context.[11,12]

Prior to data collection, the questionnaire was translated from English into Swahili by language experts to ensure linguistic appropriateness. Content validity was then assessed by members of the anaesthesia department's research committee. A pilot study was subsequently conducted among [20] patients from a different sample group to evaluate the clarity, relevance, and reliability of the instrument. Feedback obtained from the pilot participants was used to refine and contextualize the questionnaire items accordingly.

The final questionnaire comprised three sections: patient demographics, preoperative data, and modified LPPSq domains. Responses were rated according to Leiden Perioperative Care Patient Satisfaction Questionnaire (LPPSq) guidelines, capturing patient experiences during the preoperative, intraoperative, and postoperative periods, as well as willingness to return for care. Data were collected through face-to-face interviews with patients in the post-surgical wards at Dodoma Regional Referral Hospital. Additional clinical information, including American society of anaesthesiologist (ASA) status and premedication, was obtained from patients' medical records.

Data Management and Analysis

Data was collected through a mobile-based application. Subsequently, they were transferred to Microsoft Excel for organization and cleansing. Routine checks for data accuracy and resolution of any discrepancies or issues were conducted.

Data analysis was done using the Statistical Package for Social Sciences (SPSS) version 20. It was analysed per each objective. For the demographic characteristics, the categorical variables (i.e gender, education, marital status) were described using proportions and continuous variables (i.e Age) were described in terms of means or media.

The overall patients' satisfaction score was determined based on the Demarcation threshold formula using three LPPSq domains (information provision -6 questions, fear and concern -6 questions and staff patient realationship-14 questions) which incorporates for all stages of preoperative, intraoperative and post-operative.

Demarcation threshold formula = (Total highest score – total lowest score)/2 + total lowest score. For preoperative, intraoperative and postoperative factors were analysed in terms of frequencies and proportions, against the outcome (i.e satisfied and dissatisfied) considering a dichotomized 5-point Likert scale, where satisfied were those considered to have scored greater than or equal to the cut point based on the demarcation threshold formula.[13] The demarcation threshold formular is a commonly used method for categorizing Likert scale data into binary outcomes (satisfied vs. dissatisfied), particularly in patient satisfaction studies where standardized cut-off points are not predefined. Although the LPPSq tool is validated for measuring perioperative satisfaction, it does not provide a universal threshold for categorization; therefore, this approach has been adopted in similar studies to ensure consistent and interpretable classification of satisfaction levels.[13]

The willingness to return to the same hospital following the perioperative anaesthesia care was determined in frequencies and proportions. Categorical variables were compared using Chi-Square, while Continuous variables were compared using Z-Test, *P* values < .05 was considered significant. Dependent outcome variables were graded as satisfied and dissatisfied. Significant independent factors in univariate analysis were included in the multivariate analysis. STROBE checklist for observational studies was used to write this manuscript.[14]

Ethical Consideration

This study was approved by the Muhimbili University of Health and Allied Sciences (MUHAS) Research and Publication Committee (IRB reference number: DA.282/298/01.C/2226). Permission to conduct the study was also obtained from Dodoma Regional Referral Hospital. The research adhered to the ethical principles outlined in the Declaration of Helsinki and the Belmont Report.

Written informed consent was obtained from all participants prior to enrolment. . Illiterate participants received a witnessed informed consent process. Participation was voluntary, and refusal to participate did not affect the provision of care. Participants who experienced any distress during the interview process were provided appropriate support before continuing. Confidentiality and privacy were safeguarded throughout the study; no identifying information is included in this manuscript, and all data were handled securely to ensure anonymity.

RESULTS

Demographic Characteristics

A total of 425 perioperative general surgical patients admitted to Dodoma Regional Referral Hospital were interviewed using the adopted Leiden Perioperative Care Patient Satisfaction (LPPSq) interview guide. The respondence rate was 100%. The majority (32.7%) were in the age range between 25 to 34 years. The mean (SD) age was 34 (16.7) years. Among these, 53.2% were males. In terms of educational attainment, 45.2% had a secondary education level. The majority (77.2%) resided in urban areas. 58.8% of the participants were married. 58.8% of the participants were married, as illustrated in Table 1.

TABLE 1: Demographic Characteristics of the Study Population (n=425)

Demographic variables	Frequency	Percentage (%)
Sex		
Male	226	53.2
Female	199	46.8
Age group (in years)		
<25	101	23.8
25-34	139	32.7
35-44	70	16.5
45-54	50	11.7
>54	65	15.3
Level of education		
No formal education	4	0.9
Primary	114	26.8
Secondary	192	45.2
College/University	115	27.1
Occupation		
Employed	107	25.2
Self employed	165	38.8
Unemployed	98	23.1
Other	55	12.9
Residence/Setting		
Urban	328	77.2
Rural	97	22.8
Marital status		
Married	250	58.8
Single	160	37.6
Divorced	10	2.4
Separated	2	0.5
Widowed	3	0.7
Others		

Overall patient satisfaction with perioperative anesthesia care among surgical patients admitted at Dodoma Regional Referral Hospital, Tanzania

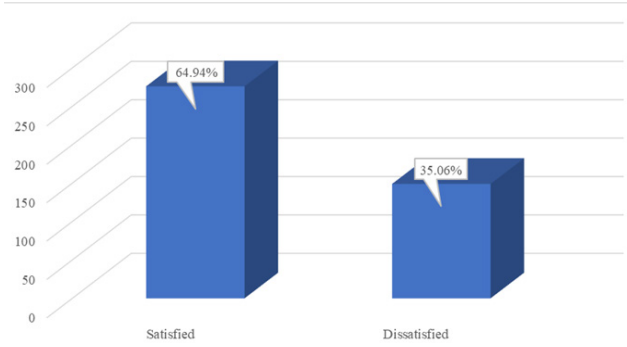
In this study, three components of satisfaction were used to calculate the overall mean satisfaction of patients with perioperative anaesthesia care, including information provision, Fear and concern and patient-staff relationship. The overall mean (SD) satisfaction score was 69 (8.0).

Using the threshold score from the demarcation formula, the majority 64.94% were satisfied and 35.06% were dissatisfied, figure1 below illustrates the information. Patients who scored ≥70 were categorized as satisfied by using the demarcation threshold formula Figure 1.

When preoperative factors were distributed across patients' satisfaction with perioperative anesthesia care, the results show that among the 425 study respondents, the majority (70.1%) of those who had a preoperative anaesthetic visit were satisfied, compared to 62.5% of those who did not have a preoperative visit, with

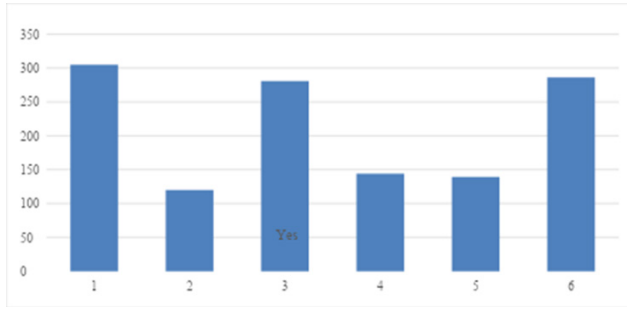
this association being statistically significant (P =.001). Participants with no prior history of using anaesthesia had a higher satisfaction rate (81.8%) compared to those with a prior history of anaesthesia use (67.6%), and this association was also statistically significant (P=.001). Furthermore, it was found that patients classified as American society of anesthesiologists (ASA) three had lower satisfaction (35.7%) compared to those of ASA one (85.8%) and ASA two (75.1%), with the association being statistically significant. Additionally, the provision of explanations about anaesthesia was significantly associated with satisfaction with perioperative anaesthesia care, with the patients who received explanations about anaesthesia being more satisfied (67.5%), compared to those who did not receive (15.8%) explanation about anaesthesia-Table 2.

FIGURE 1: Overall Patient Satisfaction with Perioperative Anesthesia Care



Among study participants, only 66.1% were visited by the anesthetist in the preoperative period. 71.8% reported that the anesthetists had provided explanations about anaesthesia. Only 32.7 % of study patients had a history of previous anesthesia exposure- Figure 2.

FIGURE 2: Shows the Preoperative Factors of General Surgical Patients Who have Undergone Surgery at Dodoma Regional Referral Hospital (N=425)



Intraoperative factors were also distributed across patients' satisfaction with perioperative anesthesia care. Emergency surgeries predominated, accounting for more than half of cases, and the majority of patients underwent major surgeries as shown in Table 3. However, there was no statistically significant association between the type of surgery and patient satisfaction. Additionally, 69.3% of patients who received premedication reported being satisfied with the anaesthesia care, compared to only 59.5% of those who did not receive premedication, with this association being statistically significant. There was no significant association between the type of anaesthesia administered and patient satisfaction.

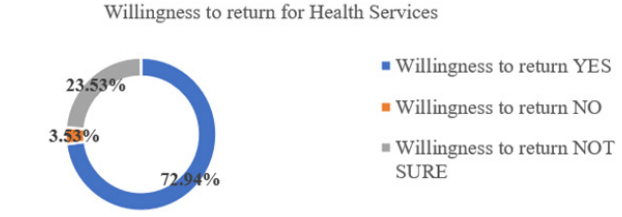
Distribution of intraoperative factors across satisfaction among general surgical patients who have undergone surgery under regional anaesthesia at Dodoma Referral Regional Hospital is shown in Table 4. For patients who received regional anesthesia during intraoperative time, there was a significant association between pain experienced during surgery and overall satisfaction. Similarly, privacy status was significantly associated with patient satisfaction; most patients whose privacy was respected (56.9%) were satisfied, compared to those whose privacy was not respected (46.15%). There was a statistically significant association between privacy status and satisfaction Table 4.

To determine the group difference, the study distributed postoperative factors across patients' satisfaction with perioperative anesthesia care. We found that among the study respondents, 64% of those who experienced postoperative surgical site pain and 72.9% of those who did not experience postoperative surgical site pain were satisfied with their anaesthesia care, with surgical site pain being significantly associated with satisfaction. Additionally, more than half of patients (56.8%) who spent a shorter time in the recovery room were satisfied, compared to 28.8% of those who spent a longer time, with this association being statistically significant.

For patients who underwent surgery under regional anaesthesia, there was a statistically significant association between postoperative headache and satisfaction, with those experiencing headaches being less satisfied (37.5%) compared to those who did not experience headaches (58.1%)-Table 5.

The majority, 73%, were willing to return to hospital for other operation services, 3.5 % refused to return to hospital and 23.5 % were not sure if they could return or not. Figure 3 illustrates the information.

FIGURE 3: The Proportion of Patients Who are Willing to Return



Multivariate logistic regression results are presented in table 6. The results show that patients with whom the preoperative visit was conducted were more likely to be satisfied (AOR 1.9, 95% CI 1.09-3.6, *P*=.023) compared to those whose preoperative visit was not conducted. In terms of American society of anesthesiologists (ASA) classification, respondents with ASA three were less likely to be satisfied (AOR 0.05, 95% CI 0.006-0.44, *P*=.007) compared to those with ASA (four) class. Patients in ASA two class were more than one time likely to be satisfied (AOR 1.9,95% CI 0.9–2.78, *P*= .02) compared to patients in ASA four.

Regarding theatre staff considering patients' privacy, patients whose privacy was considered were more than three times likely to be satisfied (AOR 3.2, 95%CI 1.1 – 9.46, *P*= .007) compared to those whose privacy was not considered. Those who experienced post-operative pain were 80% less likely to be satisfied (AOR 0.2, 95% CI 0.1–0.50, *P*=.029), compared to those who did not experience postoperative pain.

In terms of time spent in the recovery room, those who spent less time were more than four times likely to be satisfied (AOR 4.9, 95% CI 2.4 – 9.9, *P*<.001) compared to those who spent longer time in the recovery room. The results above have taken into consideration the control variables (i.e level of education and history of previous operations).

TABLE 2: Distribution of Preoperative Factors Across Patients' Satisfaction with Perioperative Anesthesia Care among General Surgical Patients (N = 425)

Preoperative variables	Total (%)	Satisfaction		*P Value*
		Dissatisfied (%)	Satisfied (%)	
Pre-operative anesthetist visit				
Yes	281(66.1%)	84(29.9%)	197(70.1%)	
No	144(33.9%)	54(37.5%)	90(62.5%)	.001*
History of using anesthetics				
Yes	139(32.7%)	45(32.4%)	94(67.6%)	
No	286(67.3%)	52(18.2%)	234(81.8%)	.001*
ASA condition				
One	141(33.2%)	20(14.2%)	121(85.8%)	
Two	269(62.3%)	67(24.9%)	202(75.1%)	
Three	14(3.3%)	9(64.3%)	5(35.7%)	
Four	1(0.2%)	1(100%)		.001*
Explanation about anaesthesia				
Yes	305(71.8%)	99(32.1%)	206(67.5%)	<.01*
No	120(28.84%)	101 (84.17%)	19(15.8%)	

TABLE 3: Distribution of Intraoperative Factors Across Patients' Satisfaction with Perioperative Anesthesia Care among General Surgical Patients (N = 425)

Intraoperative variables	Total (%)	Satisfaction		*P Value*
		Dissatisfied (%)	Satisfied (%)	
Surgery status				
Emergency	293(69%)	82(27.9%)	211(72.1%)	
Elective	132(31%)	90(38.6%)	42(60.4%)	.152
Pre-medication given				
Yes	257(60.5%)	79(30.7%)	178(69.3%)	
No	168(39.5%)	68(40.5%)	100(59.5%)	.001*
Type of anaesthesia administered				
General	262(61.9%)	56(21.4%)	206(78.6%)	
Regional	163(38.1%)	42(25.3%)	121(74.7%)	.349
Type of surgery				
Major	346(81.4%)	76(22.0%)	270(78.0%)	
Minor	79(18.6%)	21(26.6%)	58(73.4%)	.378

TABLE 4: Distribution of intraoperative factors across satisfaction among general surgical patients who have undergone surgery under regional anaesthesia at Dodoma Regional Referral Hospital, (N = 163)

Intraoperative variables	Total (%)	Satisfaction		*P Value*
		Dissatisfied (%)	Satisfied (%)	
Pain during surgery				
Yes	119(73%)	45(37.8%)	74(62.2%)	
No	44(27%)	30(68.2%)	14(31.8%)	.000*
Pain due to anaesthetic				
Yes	33(20.2%)	14(42.4%)	19(57.57%)	
No	130(79.8%)	51(39.2%)	79(60.7%)	.077
Privacy status				
Provided	144(89.6%)	62(43%)	82(56.9%)	
Not provided	19(10.3%)	13(53.8%)	6(46.15%)	.008*

TABLE 5: Distribution of Postoperative Factors Across Patients' Satisfaction with Perioperative Anesthesia Care Among General Surgical Patients (N = 425).

Postoperative variables	Total (%)	Satisfaction		*P Value*
		Dissatisfied (%)	Satisfied (%)	
Surgical pain after operation				
Yes	151(35.5%)	54(35.8%)	97(64.23%)	
No	274(64.5%)	74(27.1%)	200(72.9%)	.001*
Vomiting after surgery				
Yes	87(20.5%)	36 (41.4%)	51(56.6%)	
No	338(64.6%)	164 (48.5%)	174(51.5%)	.234
Time spent in recovery room				
Long	59(14%)	42(71.2%)	17(28.8%)	
Short	366(86%)	158(43.6%)	208(56.8%)	.000*
	Surgery under regional anaesthesia (n=163)			
Headache after surgery				
Yes	32(36.2%)	20(62.5%)	12(37.5%)	
No	131(63.7%)	55 (41.9%)	76(58.1%)	.033*
Back pain after surgery				
Yes	26(21.4%)	15 (57.6%)	11(42.3%)	
No	137 (78.58%)	60 (43.8%)	77(56.2%)	.523

TABLE 6: Multivariable Logistic Regression Analysis of Factors Associated with Satisfaction of Participants (N = 425)

Variable/Category	COR (95% CI)	*P Value*	AOR (95% CI)	*P Value*
Preoperative				
Anaesthetist visit				
No	1 (Ref)	–	1 (Ref)	–
Yes	2.1 (1.40–3.23)	.001*	1.9 (1.09–3.60)	.023*
Previous anaesthetic exposure				
No	1 (Ref)	–	1 (Ref)	–
Yes	1.99 (1.32–2.90)	.001*	2.5 (1.28–4.90)	.008*
ASA status				
IV	1 (Ref)	–	1 (Ref)	–
I	0.14 (0.02–0.77)	.024*	0.07 (0.01–1.16)	.064
II	0.60 (0.45–3.04)	.18	1.90 (0.91–2.78)	.02*
III	0.004 (0.002–0.30)	.003*	0.05 (0.02–0.44)	.007*

Continue

TABLE 6: Multivariable Logistic Regression Analysis of Factors Associated with Satisfaction of Participants (N = 425)

Variable/Category	COR (95% CI)	*P Value*	AOR (95% CI)	*P Value*
Intraoperative				
Privacy (respected)				
No	1 (Ref)	–	1 (Ref)	–
Yes	1.6 (1.23–4.57)	.029*	3.2 (1.1–9.46)	.029*
Pain during surgery				
No	1 (Ref)	–	1 (Ref)	–
Yes	2.9 (1.7–5.0)	.12	2.06 (0.87–4.87)	.097
Postoperative				
Surgical site pain				
No	1 (Ref)	–	1 (Ref)	–
Yes	0.40 (0.31–0.79)	.001*	0.20 (0.12–0.50)	.003*
Recovery time				
>90 min	1 (Ref)	–	1 (Ref)	–
<90 min	3.2 (2.0–3.45)	.009*	4.9 (2.4–9.9)	<.001*
Demographic				
Education level				
College/University	1 (Ref)	–	1 (Ref)	–
No formal education	0.14 (0.015–1.45)	.10	0.45 (0.013–1.64)	.119
Primary	0.47 (0.27–0.81)	.006*	0.37 (0.19–0.71)	.003*
Secondary	0.45 (0.27–0.76)	.003*	0.34 (0.19–0.61)	<.001*
History of previous operation				
Yes	1 (Ref)	–	1 (Ref)	–
No	1.4 (0.95–2.08)	.089	0.63 (0.33–1.18)	.15

DISCUSSION

The present hospital-based study involved general surgical patients who underwent anaesthesia care and were admitted at Dodoma Regional Referral Hospital aimed at determining patients' satisfaction with perioperative anaesthesia care and its associated factors among these patients.

In the present study the overall patient satisfaction score was relatively low compared to the one calculated from the demarcation threshold formula. However, this finding was closely similar to a study conducted in Eritrea and Saudi Arabia.[5,15] Possible explanation might be similarities in socio-demographic profiles, such as age distribution, education levels, and economic status, which can influence patient expectations and perceptions of healthcare services. Further, utilization of the same assessment tools and similar healthcare infrastructure, including the availability of medical equipment, facilities, and resources dedicated to perioperative care. In contrast to this study, a study conducted in UK and Australia found a higher satisfaction of patients in the perioperative period.[16,17] This difference could be due to more advanced infrastructure, advanced pain management protocols and techniques and emphasis on patient-centered care, which focuses on meeting individual patient needs, preferences and values.

The relatively low overall patient satisfaction score with perioperative anesthesia care found in this study suggests that there are significant areas for improvement in the perioperative care provided. Factors contributing to this lower satisfaction score likely include issues in preoperative preparation, intraoperative management, and postoperative care. It is crucial for the hospital to address these areas comprehensively to enhance the patient's experience and outcomes. A cross-sectional study reported that gender is an independent risk factor for patient satisfaction, with males being more satisfied, which aligns with the findings of this study.[4,6] However, in the present study, gender was not a significant associator of patient's satisfaction. A possible reason for this discrepancy could be the difference in analytical methods. Previous studies primarily used descriptive analysis, while in this study, we conducted logistic regression analysis to test the strength of the association between the dependent and independent variables.

This study found that patients being pre-visited by anesthetists before operation, history of anaesthesia exposure and American society of anesthesiologists (ASA) status would significantly influence patients' satisfaction. Preoperative visits by anesthetists significantly increased patient satisfaction by providing vital information, addressing concerns, and building rapport, suggesting that routine preoperative visits should be implemented. Patients with previous anesthetic exposure reported higher satisfaction due to reduced anxiety and a better understanding of the process, highlighting the need for thorough patient education and preoperative counselling, especially for first-time surgical patients. Findings were similar to those reported by Makoko et al from South Africa.[18]

Additionally, the ASA status of patients significantly impacted satisfaction, with healthier patients being more satisfied, indicating the importance of tailored perioperative care plans for patients with higher ASA

statuses to improve their experiences and outcomes. This is contrary to the results reported by Fetene et al which showed ASA was not significantly associated with satisfaction,[4] indicating a need for a tailored approach to patients' severity which is the case in Eritrea.[5] A study conducted by Sun reported that patients with a history of anesthesia exposure were more satisfied than those without prior exposure, [1] findings that align to these study findings.

The study found that pre-medication provision was significantly associated with satisfaction. Studies have reported that preventing postoperative nausea and vomiting is a significant factor for perioperative patient satisfaction following anaesthesia care, [4,19,20] which aligns with the present study. In our study, pre-medication provision was significantly associated with satisfaction. Additionally, a study in Saudi Arabia found that emergency procedures had greater odds of patient satisfaction than in elective surgeries.[8,15]

Findings from this study indicated that pain due to surgery was a major contributor to patient satisfaction for those who underwent regional anesthesia, a result not commonly observed in other similar studies from Ethiopia and Saudi Arabia.[4,8] These findings underscore the need to strengthen pain management approaches using multimodal analgesia, regional techniques, and protocol-based pain assessment.

In this study, experiencing postoperative pain was found to be significantly associated with patient dissatisfaction, consistent with the findings of previous research.[21] Postoperative pain is a critical determinant of overall patient satisfaction with perioperative anesthesia care. Effective pain management not only enhances patient comfort but also reduces the risk of chronic pain development and accelerates recovery.

Studies have consistently shown that inadequate pain control can lead to negative postoperative experiences, resulting in decreased patient satisfaction.[1,18] Therefore, it is important to prioritize pain management strategies tailored to individual patient needs to improve overall satisfaction with anaesthesia care.

Furthermore, a significant factor influencing patient satisfaction in this study was the time spent in the recovery room. Prolonged recovery room stays can be distressing for patients, potentially leading to increased anxiety and discomfort. Efficient management of the recovery process is essential to ensure a smooth transition from anesthesia to full recovery. Previous studies have indicated that lengthy recovery room times are often associated with increased pain, nausea, and overall discomfort, which negatively impact patient satisfaction. By optimizing recovery room protocols and ensuring prompt and effective postoperative care, healthcare providers can enhance patient experiences and satisfaction levels.[17]

This study found that most patients (73%) were willing to return for future procedures despite relatively moderate satisfaction, reflecting the "satisfaction paradox." This may be explained by the greater influence of clinical outcomes, perceived safety, and confidence in healthcare providers, even when some aspects of care are suboptimal. While many studies report that negative perioperative experiences discourage return visits and promote negative word-of-mouth,[1,15,22] few have examined willingness to return after anesthesia care; thus, this finding provides a useful baseline and highlights that willingness to return should be interpreted as a complementary indicator of satisfaction and trust in healthcare services

The study has identified significant areas for improvement in preoperative preparation, intraoperative management, and postoperative care. Notably, factors such as preoperative visits by anesthetists, prior anesthesia exposure, and ASA status were key influences on satisfaction, highlighting the need for improved patient education and communication in the perioperative setting.

Study Strength, Limitation and Mitigation

This study has a significant strength in that it provided a thorough evaluation of patient satisfaction, covering multiple aspects of the perioperative anaesthesia experience, from preoperative information to postoperative recovery, and provides valuable baseline data that can be used for future research and comparisons, helping to track improvements and changes over time.

Further, this study assessed the willingness to return, which reflects the level of patient satisfaction, an aspect not previously explored in similar studies.

One limitation of this study was that data was collected before participants were discharged, which may have restrained them from freely expressing their views due to their dependency on care. This challenge was addressed by conducting exit interviews and by fostering trust through reassurance, strong rapport, clear communication, empathy, and responsiveness to participants' concerns.

Additionally, conducting the study at a single center (Dodoma Regional Referral Hospital) limits the generalizability of the findings to other healthcare settings with different patient populations and service structures. To partly address this, we increased the sample size to include a broader range of participants, thereby enhancing representativeness. Furthermore, the internal consistency reliability of the questionnaire was not assessed using Cronbach's alpha, which may limit the strength of inferences regarding the reliability of the measurement tool in this specific context. Future studies should incorporate such reliability testing to strengthen methodological rigor.

Another limitation is that patient satisfaction was assessed only within 24 to 48 hours postoperatively, which may not reflect long-term satisfaction or capture delayed complications. Future research should include multiple follow-up time points to better evaluate sustained outcomes and late adverse events. Additionally, the use of face-to-face interviews may have introduced social desirability bias, whereby participants could have provided responses perceived as favourable to the interviewer. To minimize this, future studies could utilize anonymous surveys, validated self-administered tools, or digital data collection methods.

Finally, this study did not assess patient prognosis or the frequency of postoperative complications, both of which may influence satisfaction with perioperative anesthesia care. Future research integrating clinical outcomes with

patient-reported experiences would provide a more comprehensive evaluation.

CONCLUSION

The overall perioperative satisfaction with anesthesia care at Dodoma Regional Referral Hospital is relatively low compared to the Leiden Perioperative Care Patient Satisfaction and some previous studies. However, higher proportion of patients expressed the willingness to return for similar care at the hospital, indicating a baseline of patient satisfaction that warrants further investigation to understand the reasons behind this acceptance.

Key factors significantly associated with perioperative satisfaction include effective postoperative pain management and respect for patient privacy during surgery. Additionally, preoperative anesthesia visits and patients' ASA status also influence satisfaction levels. To enhance patient satisfaction, factors contributing to dissatisfaction must be addressed, and active involvement from all stakeholders is crucial.

Future research should consider including patients' willingness to return as a key measure of perioperative satisfaction and investigate the reasons behind patient dissatisfaction that includes evaluation of other aspects of patient satisfaction and discharge criteria.

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