The Research of Medical Science Review
ISSN: 3007-1208 & 3007-1216 Volume 3, Issue 4, 2025

SUBJECTIVE ASSESSMENT OF PATIENT SATISFACTION ON PERIOPERATIVE ANAESTHESIA SERVICE: A SURVEY OF PATIENTS UNDERGOING ELECTIVE SURGERIES IN THE INDUS HOSPITAL, KARACHI

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DOI: https://doi.org/10.5281/zenodo.17300008

Keywords
Patient satisfaction, Perioperative care, Anesthesia services, Elective surgery,

Article History
Received: 10 February 2025
Accepted: 28 March 2025
Published: 14 April 2025

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Abstract

Objective

To evaluate patient satisfaction regarding perioperative anaesthesia service undergoing elective surgery and to assess the factors responsible for satisfaction during perioperative anaesthesia care at The Indus Hospital.

Methodology

This cross-sectional investigation was carried out at The Indus Hospital in Karachi, focusing on individuals aged 18 to 65 who were scheduled to undergo elective surgical procedures utilizing either general or regional anesthesia. Using consecutive sampling, 92 participants were enrolled after informed consent. Data on demographics, anesthesia type, and postoperative symptoms were collected 24 hours post-surgery using the Heidelberg Peri-anaesthetic Questionnaire. Associations between satisfaction and perioperative factors were analyzed using the chi-square test in SPSS version 26, with significance set at $p < 0.05$.

Results

Among 104 patients (mean age 43 years; 55.8% female), the majority had primary or no formal education. Overall, 82.7% reported satisfaction with perioperative anesthesia care. There was a statistically non-significant association was noted between satisfaction and sore throat ($p=0.439$), shivering ($p=0.747$), perioperative pain ($p=0.651$), and nausea and vomiting ($p=0.548$).

Conclusion

This study revealed high levels of patient satisfaction with perioperative anesthesia services during elective surgeries at The Indus Hospital, Karachi A statistically insignificant correlation was identified between patient satisfaction and postoperative manifestations, including sore throat, shivering, pain, or nausea and vomiting. The results suggest a positive patient experience to a greater extent, but it indicates the need to further scholarly investigation to address additional variables that can influence satisfaction with anesthesia services.

INTRODUCTION

Patient satisfaction is a vital component of healthcare quality assessment, particularly in perioperative settings, where it reflects the extent to which healthcare services align with patient expectations and needs [1,2]. Anesthesia services—whether general, regional, or a combination of both—are integral to surgical care, and patient satisfaction with these services is a crucial quality metric [3]. Regular evaluation of anesthesia care can guide improvements in clinical protocols and ensure patient-centered care delivery.

Satisfaction among patients is by definition subjective and hardly certain sociodemographic and clinical factors can affect it. Due to aspects like age, sex, education level, ASA (American Society of Anesthesiologists) status, type of anesthesia, quality of communication, perioperative pain management, and postoperative symptoms such as nausea and vomiting, the patient tends to have a perception of the care they received [46]. In addition, the experiences of people with each other and the availability of sufficient information will be offered prior to and after the surgery contribute considerably to the patient experience [8]. Regional anesthesia has been demonstrated to result in increased satisfaction by the patient, as compared to patients undergoing general anesthesia [7]. Moreover, patients with a higher level of information and the process of right follow-up receive appropriate attention and are typically more satisfied [8]. Perceptions also depend on gender and educational differences, where women and people with better levels of education can report a lower height of satisfaction since their expectations are higher [5, 6].

The literature of different countries has different degrees of patient satisfaction. An Ethiopian study had a high satisfaction rate of 74 percent [1], other studies in other regions illustrate the disparities that show satisfaction is not merely clinically dependent but rather, happens through organizational, cultural and contextual realities [10, 11]. This underlines the significance of localized evaluation to draw the finer expectations and experience of various people groups of patients. Quality experts in anesthesia put more stress on satisfying patients by making experiences live within the expectations of the patients. As expectations are not met, there are chances of dissatisfaction on such occasions regardless of the standard of clinically adequate care [10,11]. Therefore, patient feedback that was predominantly considered as one of the key determinants of the quality of anesthesia services has now been established [4, 12]. In the presented context, the proposed study will examine the level of patient satisfaction with perioperative anesthesia services among patients being treated at The Indus Hospital, Karachi, who underwent elective procedures. The results will become an aid in clinical practice enhancement in line with recent international guidance and standards.

METHODOLOGY

This cross-sectional study was conducted in the surgical, orthopedic, and gynecologic wards of The Indus Hospital, Korangi Crossing, Karachi. The study aimed to evaluate patient satisfaction with perioperative anesthesia care among individuals undergoing elective surgical procedures. Elective surgeries were defined as non–life-threatening conditions requiring planned operative interventions, including degenerative joint disorders (e.g., osteoarthritis), benign gynecologic conditions (e.g., uterine fibroids), and uncomplicated abdominal hernias.

Participants were selected using a non-probability consecutive sampling technique. Adult patients aged between 18 and 65 years, scheduled for elective surgery under either general anesthesia (administered via endotracheal intubation or laryngeal mask airway) or regional anesthesia, were approached for participation. Patients were excluded if they were unable to communicate effectively, undergoing emergency surgery, had prior surgical experience at the same institution, classified as American Society of Anesthesiologists (ASA) physical status IV to VI, or required postoperative admission to an intensive care unit.

The sample size was calculated using OpenEpi software, based on a 95% confidence interval, a desired precision of 9%, and an expected satisfaction

rate of 74% from prior literature. This resulted in a required sample size of 92 patients.

The Institutional Review Board of The Indus Hospital provided ethical approval. Before being included in the study, each subject gave their verbal informed consent. Age, gender, marital status, educational attainment, and ASA physical state were among the demographic factors that were documented. Anesthesia-related details were also recorded, including the kind of anaesthesia used, when it was given, and any past exposure to anaesthesia.

Patient satisfaction was defined operationally as the subjective evaluation of perioperative anesthesia care, measured using the Heidelberg Peri-anaesthetic Questionnaire. This validated tool consists of multiple items scored on a five-point Likert scale, where higher scores indicate greater satisfaction. Additionally, adverse perioperative experiences—including sore throat, shivering, pain, nausea, and vomiting—occurring within the first 24 hours postoperatively were recorded.

Data collection was conducted 24 hours after surgery. Literate patients completed the questionnaire independently, while non-literate patients were assisted by trained interviewers. To ensure confidentiality, all responses were coded anonymously. Of the 98 patients initially approached, 92 consented and completed the survey, resulting in the final study sample.

The data analysis was performed using SPSS version 26. Clinical and demographic characteristics were summarised using descriptive statistics. To assess the relationships between perioperative variables and patient satisfaction, the chi-square test was utilised. Statistical significance was determined as a $p \leq 0.05$.

RESULTS

The investigation encompassed 104 individuals with a mean age of 43.06 ± 13.33 years (95% CI: 40.47–45.65) and an average of 7.29 ± 5.22 years of formal education (95% CI: 6.27–8.30). The distribution of gender revealed a marginally elevated percentage of females (55.8%) in comparison to males (44.2%). Regarding educational status, 20.2% of the participants were illiterate, 23.1% had primary education, 14.4% had secondary education, 12.5% had completed matriculation, 10.6% had intermediate-level education, and 19.2% had higher education. Most participants were married (72.1%), while 19.2% were unmarried, 5.8% were widows, and 2.9% were widowers. Based on ASA (American Society of Anesthesiologists) classification, 51.0% of the patients were ASA I, 40.4% were ASA II, and 8.7% were ASA III. The surgeries were performed across various specialties: general surgery (24.0%), gynecology and obstetrics (19.2%), orthopedics (25.0%), urology (25.0%), and ENT (6.7%). In terms of anesthesia, 59.6% received general anesthesia while 40.4% underwent regional anesthesia (TABLE I).

The analysis of factors influencing patient satisfaction with perioperative anesthesia care among 104 participants revealed that the majority (n=86) reported satisfaction, while 18 did not. The presence of a sore throat postoperatively was reported by 22.1% of satisfied patients and 16.7% of unsatisfied patients; however, this difference was not statistically significant (95% CI: 0.371–5.416, p=0.439). Similarly, 34.9% of satisfied patients and 38.9% of unsatisfied patients experienced shivering, showing no significant association with satisfaction (95% CI: 0.296–2.397, p=0.747). Regarding perioperative pain, 72.1% of satisfied patients reported mild pain compared to 61.1% of those unsatisfied, while moderate and severe pain was slightly more common among the unsatisfied group. However, the differences in pain levels also did not reach statistical significance (95% CI: 0.656–2.854, p=0.651). Nausea and vomiting occurred in 14.0% of satisfied and 11.1% of unsatisfied patients, with no significant effect on satisfaction (95% CI: 0.264–6.371, p=0.548). Overall, none of the assessed perioperative factors showed a statistically significant association with patient satisfaction (TABLE II).

Table I: Demographic and Clinical Characteristics of Study Participants (n=104)	
Mean ± Standard Deviation	**95% Confidence Interval**
Age in years = **43.06 ± 13.33**	40.47–45.65

Years of Schooling = **7.29 ± 5.22**		6.27–8.30
Frequency (%)		
Gender	Male	46 (44.2)
	Female	58 (55.8)
Educational Status	Illiterate	21 (20.2)
	Primary	24 (23.1)
	Secondary	15 (14.4)
	Matric	13 (12.5)
	Intermediate	11 (10.6)
	Higher	20 (19.2)
Marital status	Married	75 (72.1)
	Unmarried	20 (19.2)
	Widow	9 (8.7)
ASA status	ASA I	53 (51.0)
	ASA II	42 (40.4)
	ASA III	9 (8.7)
Specialty	ENT	7 (6.7)
	General Surgery	25 (24.0)
	Gynecology & Obstetrics	20 (19.2)
	Orthopedics	26 (25.0)
	Urology	26 (25.0)
Type of Anesthesia Given	General	62 (59.6)
	Regional	42 (40.4)

Table II: Factors Affecting Patient Satisfaction with Perioperative Anesthesia Care (n=104)

Factors Affecting Satisfaction		Patient Satisfaction		95% C. I	P-Value
		Yes (n=86)	No (n=18)		
Sore Throat	Yes	19 (22.1)	3 (16.7)	0.371–5.416	0.439
	No	67 (77.9)	15 (83.3)		
Shivering	Yes	30 (34.9)	7 (38.9)	0.296–2.397	0.747
	No	56 (65.1)	11 (61.1)		
Peri-Operative Pain	Mild	62 (72.1)	11 (61.1)	0.656–2.854	0.651
	Moderate	17 (19.8)	5 (27.8)		
	Severe	7 (8.1)	2 (11.1)		
Nausea and Vomiting	Yes	12 (14.0)	2 (11.1)	0.264–6.371	0.548
	No	74 (86.0)	16 (88.9)		

DISCUSSION

This study demonstrated that 82.7% of patients undergoing elective surgeries at The Indus Hospital, Karachi, reported satisfaction with perioperative anesthesia services. This finding is consistent with earlier research conducted in similar healthcare settings, such as Ethiopia and Pakistan, where satisfaction rates of 74% and 84.2% were reported, respectively [1,4]. The high satisfaction observed in this study reinforces a broader trend suggesting that

most patients undergoing elective procedures generally perceive anesthesia care favorably when core expectations are met.

Importantly, no statistically significant associations were observed between patient satisfaction and postoperative symptoms such as sore throat, shivering, perioperative pain, or nausea and vomiting. Such results are consistent with the report on Ethiopia and Eritrea, in which satisfaction was high despite the presence of minor postoperative pain or discomfort [1,5,10]. This implies that though these symptoms can interfere with comfort, they would not have a tremendous impact on the way a patient assesses anesthesia services in general. Rather, satisfaction is influenced more by wider factors related to the quality of provision, education of patients, trust in practitioners, and interpersonal contact. The expectation management, preoperative counselling, and perceived care provide empathy are some examples of non-clinical factors predictive of satisfaction that generally have a stronger influence on satisfaction than only the physical outcomes [2,3,9]. As an example, Ting et al. identified that despite postoperative complaints, patient satisfaction in Hong Kong was high as care was always delivered consistently and providers communicated clearly [3]. Equally, it has been reported in a multicentric study done in Saudi Arabia that admission type and institutional setting proved to be significant factors in patient perceptions. This finding made the study methodologically stronger since the instrument was standard and validated. This is an instrument that has been employed effectively in various global situations. Indicatively, in a Brazilian survey conducted with the same instrument on more than 1,200 ambulatory patients, it was proven to be robust in measuring aspects of satisfaction, such as staff responsiveness, preoperative information, and intraoperative experience [13,14]. These results confirm the relevance of the use of the Heidelberg questionnaire in diverse medical environments in low- and middle-income countries. Interpersonal factors, including mood-state and trust of the providers, have been found by other authors as major determinants of satisfaction, particularly in regional anesthesia [8,15]. It is important to note that Langauer et al. shared results of more than 90 percent satisfaction in remote pre-anesthesia assessment, underlining the importance of communication quality, regardless of the mode of delivery [16]. This applies mostly to resource-limited settings where the provision of quality interactions might reduce structural or clinical constraints.

Despite its strengths, this study has limitations. It was conducted at a single institution using non-probability sampling, which limits generalizability. Additionally, patients with ASA classifications IV to VI and those requiring ICU admission were excluded, narrowing the sample to relatively low-risk cases. Sociocultural factors that may influence satisfaction responses, such as health literacy, language, and cultural norms around authority, were not explored. Finally, as a cross-sectional study, it does not allow for causal inferences.

Based on these findings, it is recommended that healthcare institutions implement regular evaluations of anesthesia services using validated tools such as the Heidelberg questionnaire. Emphasis should be placed on strengthening preoperative education, improving communication strategies, and fostering trust between patients and anesthesia providers. Future studies should explore satisfaction across diverse populations, including high-risk groups, and incorporate qualitative approaches to understand underlying expectations and emotional responses better. Multicenter and mixed-methods studies may further help to develop culturally sensitive, patient-centered models of anesthesia care.

CONCLUSION

This study revealed high levels of patient satisfaction with perioperative anesthesia services during elective surgeries at The Indus Hospital, Karachi A statistically insignificant correlation was identified between patient satisfaction and postoperative manifestations, including sore throat, shivering, pain, or nausea and vomiting. The results suggest a positive patient experience to a greater extent, but it indicates the need to further scholarly investigation to address additional variables that can influence satisfaction with anesthesia services.

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