



The Operating Room Global Journal (TORGJ)

<https://torgjournal.org/>

ISSN: 3105-3262



Knowledge and Attitude of Surgical Patients towards Anesthesia and Anesthetists: Institutional Based Cross-sectional Study

Dawit Tafesse Darsema^{1,3*}, Umar Siraj Wodale¹, Haji Ahemed Motma¹, Desalegn Yimam Mohammed², Abas Ali Hassen¹

¹ Werabe University, College of Medicine and Health Science, Department of Anesthesia.

² Werabe Comprehensive Specialized Hospital, Werabe, Ethiopia.

³ The Operating Room Global (TORG).

*Corresponding Author:

Dawit Tafesse Darsema

dawit.tafesse90@gmail.com

Declaration:

Authors' Contribution:

Equal contributions.

Conflict of Interest: No conflict of interest.

Funding: No funding received.

Article History:

Received: 11-07-2026

Accepted: 24-07-2026

Available Online: 31-07-2026

QR access this Article



ABSTRACT

Background: Anesthesia was misconceived as a behind the screen specialty. Despite considerable developments in its scope, anesthesia maintains with a poor public image, clients are not even aware of an anesthetist as a medically qualified health practitioner, particularly in undeveloped nations.

Objective: To assess knowledge and attitude of surgical patients toward anesthesia and anesthetist in WCSH from March 1 to 30, 2025 GC

Method: Institution-based, cross-sectional study was conducted from March 1 to 30, 2025 GC in Werabe comprehensive specialized hospital. Data was collected through interviews using a structured digital questionnaire to gather relevant information and Descriptive statistic and Binary logistic regression analysis was performed to explain the study participants with study variables and to identify the association between the level of knowledge and independent variables.

Result: Of the 151 respondents, 79 people (52.3%) claimed that they knew about the concept of anesthesia. Among them, 86% referred to anesthesia as "putting patients asleep." Almost all (92.1%) the participants were aware of the fact that anesthesia is mandatory for surgeries. On the other hand, less than half (39.7%) of the respondents knew who decides whether a patient is fit for anesthesia or not.

Conclusion: The perception of most patients is that anesthesia is all about 'putting patients to sleep. There was poor knowledge of patients regarding the role of anesthetists beyond the confines of the operating theatre.

Keywords: Knowledge and Attitude, Elective Surgery, Anesthesia, Anesthetist, Ethiopia.

INTRODUCTION

Anesthesia is an essential component of modern healthcare that enables safe and painless surgical procedures and contributes significantly to perioperative care. [1] Apart from the administration of anesthetic drugs, there are many other duties that an anesthetist performs, such as preoperative assessment, intraoperative monitoring, pain control after surgery, critical care, and resuscitation in emergency situations. However, despite all these tasks, anesthesiology is little known among ordinary people as a specialty that only makes patients go to sleep. [2, 3]

Patients' knowledge and perceptions of anesthesia and anesthetists have important implications for perioperative care. Adequate understanding of anesthesia helps reduce fear and anxiety, improves communication between patients and healthcare providers, facilitates informed decision-making, and enhances satisfaction with surgical services. [3-5] Conversely, misconceptions and poor awareness may lead to unnecessary anxiety, lack of trust in anesthetic care, and inadequate appreciation of the contributions of anesthetists. [6, 7]

Studies conducted in different countries have demonstrated substantial gaps in patients' knowledge regarding the roles and responsibilities of anesthetists. [4, 6, 8] Similar findings have been reported in several African and Asian countries, where many patients are unaware that anesthetists are medically trained professionals responsible for monitoring vital functions, determining fitness for anesthesia, and managing complications during and after surgery. [2, 8] In Ethiopia, previous studies have also shown limited public awareness and misconceptions about anesthesia and anesthetists. [9, 10] However, evidence from different regions of the country remains limited and may vary according to socio-demographic characteristics and healthcare settings.

Assessing patients' knowledge and attitudes toward anesthesia and anesthetists is essential for identifying knowledge gaps and designing strategies to improve public awareness and patient-centered perioperative care. Therefore, this study was conducted to assess the knowledge and attitudes of adult patients undergoing elective surgery toward anesthesia and anesthetists at Werabe Comprehensive Specialized Hospital, Central Ethiopia, between March 1 and 30, 2025.

METHODS

Study area

The study was conducted in the Werabe comprehensive specialized Hospital/WCSH, Central Ethiopia Regional State. WCSH is found in the central Ethiopia, which is 175 km from the capital city, Addis Ababa. The hospital provides healthcare services to more than 1.5 million catchment populations and is a referral center for three primary hospitals and 34 health centers. It gives emergency, outpatient, and in-patient specialized care in medical, surgical, pediatrics, gynecology, obstetrics, Ophthalmology, ENT, psychiatry, adult ICU (Intensive Care Unit neonatal intensive care unit (NICU) and operation theater wings.

Study design and period

An institution-based, cross-sectional study was conducted from March 1 to 30, 2025 GC.

Study Population

Target Population: All adult Surgical Patients undergoing elective surgeries in Werabe Comprehensive Specialized Hospital was the target population.

Source population

Adult elective surgical patients admitted to the Werabe Comprehensive Specialized Hospital

Study population

All consecutive adult elective surgical patients admitted to the general surgical, orthopedic, gynecology, otorhinolaryngology (ENT), and plastic surgery wards.

Inclusion criteria

All patients 18 and above years old, admitted to the surgical, orthopedic, gynecology, ENT wards and plastic ward, and patients who consented to participate in the study in the WCSH were included in the study.

Exclusion criteria

Patients with severe medical or surgical conditions, psychiatric problems, and patients who are unable to speak, or having hearing difficulty was excluded from the study.

Variables of the Study

Dependent variables

- Level of knowledge to ward anesthesia and anesthetist
- Patient attitude toward anesthesia and anesthetist

Independent variables

- Age, sex, level of education, previous anesthetic/surgical experience, residence, and occupation were the independent variables.

Sample Size and Sampling Technique

Sample size determination

For sample size determination single population proportion formula was used. Based on a study conducted in Dilla University referral hospital [10], 42% of patients knew that Anesthetists is the one who give Anesthesia ($P = 0.42$)

We calculated the sample size as: $n = \left(Z \alpha \frac{\infty}{2} \right)^2 p(1 - p) / d^2$

Where, n = sample size, Z = the standard score corresponding to 95% confidence interval (1.96) P = the proportion of the respondent that had good knowledge toward anesthesia (0.42). [10]

D = margin of sampling error to be tolerated (0.05)

$$n = (1.96)^2 \cdot 0.42(1-0.42) / (0.05)^2 = 374$$

The total number of surgical operations that were done through the elective process in the preceding year was less than 10,000 based on the records of surgical registration. Hence, there was use of finite population correction formula for determination of the sample size as below: $N = n / (1 + n/N)$

Where, N = Total number of patients took anesthesia for the last one month ($N = 220$), n = sample size ($n = 374$)

$$N = 374 / (1 + 374/220)$$

$N = 139$ we add 10% non-respondent rate then finally $n = 153$

Data collection techniques

The questionnaire was developed by adapting items from previously published studies [2, 3, 10, 11] and was prepared in both English and Amharic. Participants were interviewed in Amharic by two trained data collectors. The data collection process was supervised by two senior MSc anesthetists to ensure data quality and consistency.

This study also conducted in accordance with the ethical principles outlined in the World Medical Association Declaration of Helsinki for Medical Research Involving Human Subjects. [12] In addition, the study was reported in compliance with the STROBE (Strengthening the Reporting of Observational Studies in Epidemiology) guidelines. [13]

Data quality management

To ensure the quality of data, a pilot study for pre-testing of the data collection tool (the questionnaire) was conducted at Alem Gebaya Primary Hospital, Central Ethiopia Regional State on 10 consecutive elective surgical patients who were not included in the main study. Internal consistency of the survey was evaluated using Cronbach's alpha coefficient. The score of 0.70 or above for Cronbach's alpha coefficient was used as an indication of acceptable reliability. Item-total correlation and "Cronbach's alpha if item deleted" were studied to determine poorly performing items and to evaluate how they affect the internal consistency of the scale.

Data processing and analysis

First, the data was collected using kobotool box app, and then the data was transferred to and checked in SPSS version 27. Descriptive statistic was used to explain the study participants with study variables. Bivariate analyses have been performed to determine the association between the outcome variable and each independent variable. Only variables with a p-value less than 0.25 during bivariate analysis were entered into the multivariate analysis. Finally, the strength of the association between the independent variables and the level of knowledge and attitude of patients on anesthesia and anesthetists was presented by odds ratio and 95% Confidence interval. A P-value less than 0.05 were considered statistically significant. The goodness-of-fit of the final multivariable logistic regression model was assessed using the Hosmer–Lemeshow goodness-of-fit test. A p-value greater than 0.05 was considered indicative of an adequate model fit. Multicollinearity among independent variables was assessed using the variance inflation factor (VIF), and there was little or no multicollinearity was observed among the independent variables ($VIF < 10$).

RESULTS

Socio-Demographic Characteristics of Study Participants

A total of 151 study participants were involved in this study, two participants with incomplete data was excluded from the study with a response rate of 99%. Of these 72 (47.7) were males and 79 (52.3) were female. About 29 (19.2%), were in the age category between 18 and 24 years, 65 (43.04%) between 25 and 40 years, 57 (37.7%) is greater or equal to 40. The mean age of participants were $38.9 \pm (13.3)$ years.

Regarding educational status 27(17.9%) were illiterate, 39 (25.8%) can read and write, 31 (20.5%) completed elementary school, about 30 (19.9%) joined high school, and the rest 24 (15.9%) were graduated from university/college. 92 (60.9%) were urban residents and 59 (39.1%) live in rural areas.

Most participants make their daily living by private businesses (55, 36.4%), by farming (45, 29.8%), and government employees were 25 (16.6%) and the rest 27 (17.9%) were in the others category which involves housewives, students and even participants with no job.

Previous History of Anesthetic Exposure

Regarding previous anesthesia exposure, 73(48.3%) patients responded that they have received anesthetic drugs for different surgical interventions. Among these thirty-nine (25.8%) took anesthesia once, twenty-eight (18.5%) took it twice and the rest six (4%) took it three or more times. General anesthesia (33, 21.9%) and regional anesthesia (33, 21.9%) was the type of anesthesia received by most patients, about 5 (3.3%) patients were took local anesthesia and about 2 (1.3%) patients did not remember or don't know the type of anesthetic they have taken.

Patient Knowledge of Anesthesia and Anesthetist

Out of 151 participants, 79 (52.3%) of the patients know about anesthetist of this 57 (72%) were knew anesthetists as university graduates who trained to give anesthesia, 12 (15.2%) as assistance of surgeon, 10 (12.7%) as nurses who trained to give anesthesia.

Majority of the patients 139 (92.1%) believed that anesthesia is necessary for surgery.

On the assessment of patient's knowledge about the role of anesthetists, majority 68 (86%) of patients replied that anesthetists put the patients to sleep, monitor vital sign (5, 6.3%), anesthetizing and monitoring (5, 6.3%) and do major surgery (1, 1.2%)

When we assess who will decide on your fitness for anesthesia, 60 (39.8%) patients said the anesthetists will decide, while 63 (41.7%) said the surgeon, 14 (9.3%) were said nurses and the rest 14 (9.3%) don't know.

Majority of patients 54 (35.8%) also thought the Surgeons determines if they could eat before surgery and again 50 (33.3%) thought the anesthetist was responsible for it.

Table 1 Level of knowledge of surgical patients toward Anesthesia and Anesthetist in Werabe Comprehensive Specialized Hospital, Werabe, Ethiopia. (n=151)

Knowledge of patients toward anesthesia and anesthetists		Frequency	Percentage
Is anesthesia necessary for surgery	Yes	139	92.1%
	No	12	7.9%
Which type of do you prefer for your surgery	General anesthesia	87	57.6%
	Regional anesthesia	43	28.5%
	Local anesthesia	12	7.9%
	I don't know	9	6%
Do you know risk of anesthesia	Yes	53	35.1%
	No	98	64.9%
In monitoring vital sign during surgery	Anesthetist	77	51%
	Surgeon	55	36.4%
	Nurses	13	8.6%
	I don't know	8	4%
Who do you think estimates and transfuse blood in OR when it required	Anesthetists	45	29.8%
	Nurses	50	33.1%
	Surgeons	26	17.2%
	I don't know	30	19.9%
Do anesthetists have role in managing non-surgical pain?	No	5	6.3%
	Yes	70	88.6%
	I do not know	4	2.6%
If you face breathing difficult either in PACU or ward, do you think the anesthetist has role in managing it?	No	6	7.5%
	Yes	72	91.1%
	I don't know	1	1.2%

The bi-variable logistic analyses showed that; age, residency, previous anesthesia exposure and literacy level was associated with the patient's knowledge of anesthesia and anesthetists.

On multivariate analysis, when we compare patients who can't read or write plus patients who can only read or write with patients completed high school or college, they are 86.4% less likely to know about anesthesia and anesthetists. [AOR 0.136 (0.046 - 0.397) P =0.00]

Similarly, when we compare patient who had no previous anesthesia exposure with those patients who had previous anesthesia exposure, they are 75.5% less likely to know about anesthesia and anesthetists. [AOR: 0.245 (0.109 - 0.551) $P = 0.001$]. Other variables like the gender, occupation, and age of the patients were not significantly related with the level of knowledge about Anesthesia and Anesthetists.

Table 2 Factors associated with level of Knowledge of surgical patients toward anesthesia and anesthetist in Werabe Comprehensive Specialized Hospital, Werabe, Ethiopia. (n=151)

Variable		Knowledge level		Crude Odds Ratio	Adjusted Odds Ratio	P-value (AOR)
		Good	Poor			
Gender	Male	40 (55.6%)	32 (44.4%)	1.243(0.657-2.353) $P > 0.2$		
	Female	39 (49.4%)	40 (50.6%)			
Age	18 – 40	54 (60.0%)	35 (40.0%)	2.220 (1.148-4.294) $p < 0.018$	0.575 (0.226 - 1.459)	0.244
	>40	25 (42.3%)	37 (66.1%)			
Residency	Rural	20 (33.3%)	39 (66.7)	0.280 (0.141-0.555) $P < 0.001$	0.898 (0.355 - 2.271)	0.822
	Urban	59 (64.1%)	33 (35.9%)			
Literacy level**	Can't read or write + Only can read	18 (27.3%)	48 (72.7%)	0.200 (0.070 - 0.574) $P < 0.01$	0.136 (0.046 - .397)	0.000
	Elementary	17 (56.7%)	13 (43.3%)			
	High school/college	44 (80%)	11 (20%)			
Occupation	Farmer	9 (20%)	36 (80%)	0.200 (0.070 - 0.574)	.350 (0.100 - 1.221)	0.100
	Gov't/private business	55 (68.8%)	25(31.2%)			
	Student/uneemployed	15 (55.6%)	12(44.4%)			
Previous anesthesia exposure**	Yes	51 (69.9%)	22 (30.1%)			0.000
	No	51 (65.4%)	27 (34.6%)	0.242 (0.122 - 0.477)	0.245 (0.109 - 0.551)	0.001

Keys: COR: Crude Odd Ratio (unadjusted); AOR Adjusted Odd Ratio (controlled for other variables) and **, key significance association ($p < 0.05$)

Attitude of the patient toward Anesthesia

Assessment of patient's attitude toward Anesthesia were addressed as agree, disagree or neither of the two. Majority of patients 149 (98.7%) agreed to meet the anesthetist peri-operatively. 115 (76.2%) patients think the surgeons tells all the necessary information they need to know while, 28 (18.5%) disagreed, the rest 8 (5.3%) don't know who is going to tell them the information.

Ninety (59.6%) patients were more nervous about the surgery than anesthesia. 75 (49.7%) patients also agreed that anesthetists do explain what is going to happen peri-operatively, while 64 (42.4%) disagreed. For question 'how do you feel about your safety when you put under anesthesia' seventy-seven (51%) replied I feel safe, 60(39.7%) not sure about their safety and the rest 9.3% replied 'I don't feel safe.

For a variety of reasons, including prolonged sleep in the postoperative period (12, 7.9%), waking up during surgery (25, 16.6%), not waking up after anesthesia (54, 35.8%), and other issues including postoperative discomfort (10, 6.6%), the majority of patients (101, 66.9%) are afraid of anesthesia.

Table 3 the attitude of surgical patients towards Anesthesia and Anesthetists in Werabe Comprehensive Specialized Hospital, Werabe, Ethiopia. (n=151)

Attitude of Patients towards anesthesia and anesthetists		Frequency	Percentage
A good operation needs a teamwork from both anesthetist and surgeon	Disagree	5	3.3%
	Agree	144	95.4%
	Neither agree nor disagree	2	1.3%
How do you think the relationship between the anesthetist and surgeon	The anesthetists perform his job under the surgeon's order	40	26.5%
	The surgeons perform his job under anesthetist's order	12	7.9%
	Each has different roles	69	45.7%
	I don't know	30	19.9%
how do you feel about your safety when you put under anesthesia	I feel safe	77	51%
	I'm not sure about my safety	60	39.7%
	I don't feel safe	14	9.3%
Do you afraid of anesthesia	No	50	33.1%
	Yes	101	66.9%
The reason for the fear toward anesthesia	Not waking up after anesthesia	54	35.8%
	Postoperative pain	10	6.6%
	Prolonged sleep on postoperative period	12	7.9%
	Waking up in the middle of surgery	25	16.6%
	disagree	0	0

I would like to meet the Anesthetist peri-op	agree	149	98.7%
	Neither agree nor disagree	2	1.3%
All I need to know is what my surgeon tells me	Disagree	28	18.5%
	Agree	115	76.2%
	Neither agree nor disagree	8	5.3%
I am more nervous about anesthetic than surgery	Disagree	90	59.6%
	Agree	37	24.5%
	Neither agree nor disagree	24	15.9%
Anesthetists don't explain what is going to happen	Disagree	75	49.7%
	Agree	64	42.4%
	Neither agree nor disagree	12	7.9%

DISCUSSION

Anesthesia is one of the key specialties that make major and advanced surgeries possible. Health awareness is on the increase worldwide, and even Ethiopia is not an exception. Astonishingly, only slightly more than half (52.3%) of the respondents knew about anesthetists, while 58.94% have good attitudes towards anesthesia and anesthetists.

A large proportion (86%) believed anesthetists are mainly responsible for putting patients to sleep, which aligns closely with findings from a study conducted in Singapore (88%) [14] and this may be due to a general belief among people that anesthesia is all about putting patients to sleep and waking them up. Only 39.7% of patients in our study recognized that anesthetists assess whether a patient is fit for anesthesia. This gap in knowledge may be attributed to the limited interaction patients have with anesthetists, who are often occupied in the operating theatre with little time for pre or post-operative communication.

We assessed several factors for their association with patients' knowledge about anesthesia and anesthetists. Educational status (patients who can only read or write versus patients completed high school or college), and previous anesthetic exposure were significantly associated with knowledge of anesthesia and anesthetists at p-value of < 0.05, which was almost similar finding with study done in university of Gondar [11], Debre Tabor University Referral Hospital [3] and Korle-Bu Teaching Hospital Ghana [2]. In contrast to earlier research done in Tikur Anbessa Hospital [9] and India [15], which showed no relationship between the previous surgical or anesthetic experience of the patient and his knowledge about anesthetist, our research has shown a positive correlation. According to the authors of the studies mentioned above, the reason for such a result was in the limited duration of pre-anesthetic consultations that do not allow patients to realize the presence of an anesthetist. The relatively longer preoperative visit time of patients with anesthetists, in this study setup may contribute to significant increase on knowledge of the patients.

The general public, particularly in low- and middle-income countries, frequently misunderstands the role of anesthesia and is highly unaware of the responsibilities of an anesthetist within and outside the operating room. This knowledge gap is starkly evident in our study, where a mere 6.3% of patients recognized that anesthetists monitor patients intra-operatively under anesthesia. Furthermore, this role confusion extends to other critical perioperative tasks. Specifically, only 29.8% of patients correctly identified anesthetists as the individuals responsible for administering blood transfusions, while 41.7% of patients mistakenly attributed these vital responsibilities anesthetist (determining fitness for anesthesia) to surgeons.

This figure is drastically lower than the awareness levels reported internationally, such as the 80% found at Victoria University Hospital in Ireland [16], 25% in Hong Kong [8], and 18.8% in a Korean study. [17] The limited awareness of

anesthetists observed among patients in the current study may be attributed to the relatively low educational attainment of the study population, as nearly half of the participants had a lower level of education compared with those included in the previously cited studies.

CONCLUSION

This study revealed that patients have very limited knowledge and good attitudes regarding anesthesia and the role of anesthetists. Most patients associate anesthesia solely with “putting patients to sleep,” indicating a narrow and superficial understanding of the field. There is a significant lack of awareness about the critical and multifaceted roles anesthetists play in ensuring safe and comprehensive healthcare delivery.

Improving public understanding of anesthesia can lead to several benefits. First, well-informed patients are less likely to experience fear and anxiety, contributing to better surgical outcomes and greater appreciation for anesthetic services. Second, increased recognition can enhance the job satisfaction of anesthetists. Lastly, it can help attract more students to the profession, addressing the severe shortage of anesthetists in Ethiopia.

RECOMMENDATIONS

Pre-anesthetic counseling in hospitals needs to be improved through face-to-face consultation between each surgical patient and an anesthetist prior to undergoing surgery. The anesthesiologists need to enhance their communications with patients by explaining clearly the roles played by anesthetists in surgery, the methods of anesthesia employed and the risks and benefits involved in anesthesia. The Ministry of Health and policy makers need to promote public awareness on anesthesia by conducting media campaigns, community awareness programs and educating the public on the importance of anesthesia as part of national health education strategies.

ETHICAL CONSIDERATION

Before starting of data collection, a written support letter was obtained from Werabe University, Department of Anesthesia and submitted to respective Hospital administrative offices. Before the starting of data collection, a written informed consent was obtained, and participant information was protected by concealing identities through coding and maintaining rigorous confidentiality protocols during data collection.

OPERATIONAL DEFINITION

Attitude: the way the participants (patients) think or understand anesthesia and anesthetists. A patient was considered as having positive attitude if he/she answered more than half of correct behavior questions (out of 9 score points).

Knowledge: the facts known by the participants (patients) gained by experience or learning, and participants are considered to have a good knowledge if they correctly answer half or more of the questions regarding anesthesia and anesthetists (out of 7 score points).

ACKNOWLEDGEMENTS

Not applicable.

FUNDING

This case report was not funded by any person or institution.

DECLARATION OF COMPETING INTEREST

The authors have no conflicts of interest to disclose in relation to this work.

REFERENCES

1. George, S., *Anesthesia: Principles, Clinical Practice, and Recent Advances*. Journal of Society Medicine, 2025. **4**(12): p. 401-408.
2. Djagbletey, R., et al., *Patients' knowledge and perception of anaesthesia and the anaesthetist at a tertiary health care facility in Ghana*. Southern African Journal of Anaesthesia and Analgesia, 2017. **23**(1): p. 11-16.
3. Fentie, Y. and T. Simegnaw, *Awareness and its associated factors towards anaesthesia and anaesthetists' among elective surgical patients in Debre Tabor Comprehensive Specialized Hospital, North Central Ethiopia 2021: Cross-sectional study*. Annals of medicine and surgery, 2021. **68**: p. 102640.
4. Irwin, M., S. Fung, and S. Tivey, *Patients' knowledge of and attitudes towards anaesthesia and anaesthetists in Hong Kong*. 1998.
5. Vahabi, S., et al., *Assessment of knowledge of general and local anesthesia among patients undergoing elective surgery*. The Open Anesthesia Journal, 2024. **18**(1).
6. Smith, A. and S. Mannion, *Irish patients knowledge and perception of anaesthesia*. 2013.
7. Djagbletey, R., et al., *Patients' knowledge and perception of anaesthesia and the anaesthetist at a tertiary health care facility in Ghana*. Southern African Journal of Anaesthesia and Analgesia, 2017. **23**(1): p. 18-23.
8. Hussein, A.M., et al., *Patients' knowledge and perception of anesthesia and the anesthesiologist at a tertiary hospital in Mogadishu, Somalia*. BMC anesthesiology, 2025. **25**(1): p. 460.
9. Naod, B., W. Admasu, and Y. Ahmed, *Patients' knowledge and attitude towards anesthesia in Tikur Anbesa specialized hospital*. Int J Anesth Res, 2016. **4**(5): p. 229-235.
10. Hailu, S., T. Girma, and T. Regasa, *Assessment of patient's perception and knowledge towards anesthesia services at Dilla University Referral Hospital, South Ethiopia, 2021: a cross-sectional study*. IJS Global Health, 2022. **5**(5): p. e79.
11. Arefayne, N.R., et al., *Patients' knowledge and perception of anesthesia and the anesthetists: cross-sectional study*. Annals of medicine and surgery, 2022. **78**: p. 103740.
12. Association, W.M., *World Medical Association Declaration of Helsinki: ethical principles for medical research involving human subjects*. Jama, 2013. **310**(20): p. 2191-2194.
13. Cevallos, M. and M. Egger, *STROBE (STrengthening the Reporting of OBservational studies in Epidemiology). Guidelines for reporting health research: a user's manual*, 2014: p. 169-179.
14. Wang, J., S. Wang, and R. Zeng, *Knowledge and attitude of surgical patients and their families toward anesthesia*. Frontiers in Medicine, 2024. **11**: p. 1371785.
15. Khan, S., M. Amin, and R. Najeeb, *Patients' knowledge And Perception Of Anesthesia And The Anesthetists At A Tertiary Health Care Facility, Gmc Srinagar-A Cross Sectional And Prospective Study*. 2023.
16. Care, S.I., et al., *A survey of patients' knowledge of anaesthesia and perioperative care*. Orthopaedics, 1998. **23**: p. 74.
17. Almutairi, N.G., et al., *Public knowledge and perception of anesthesia, anesthesiologists' expertise, and their role among Saudi citizens residing in Saudi Arabia*. Cureus, 2023. **15**(8).

CITE THIS ARTICLE:

- **APA (7th edition):** Darsema, D.T., Wodale, U.S., Motma, H.A., Mohammed, D.Y. and Hassen, A.A., 2026. *Knowledge and attitude of surgical patients towards anesthesia and anesthetists: Institutional based cross-sectional study. The Operating Room Global Journal (TORGJ)*, 2(3). Published 31 July. Available at: <https://doi.org/10.64573/torgj2607003>
- **Harvard:** Darsema DT, Wodale US, Motma HA, Mohammed DY, Hassen AA. Knowledge and attitude of surgical patients towards anesthesia and anesthetists: Institutional based cross-sectional study. *The Operating Room Global Journal (TORGJ)*. 2026 Jul 31;2(3). <https://doi.org/10.64573/torgj2607003>
- **Vancouver:** Darsema, Dawit Tafesse, et al. "Knowledge and Attitude of Surgical Patients towards Anesthesia and Anesthetists: Institutional Based Cross-Sectional Study." *The Operating Room Global Journal (TORGJ)*, vol. 2, no. 3, 31 July 2026, <https://doi.org/10.64573/torgj2607003>
- **MLA (9th edition):** Darsema, Dawit Tafesse, et al. "Knowledge and Attitude of Surgical Patients towards Anesthesia and Anesthetists: Institutional Based Cross-Sectional Study." *The Operating Room Global Journal (TORGJ)*, vol. 2, no. 3, 31 July 2026, <https://doi.org/10.64573/torgj2607003>
- **Chicago (Author-Date):** Darsema, Dawit Tafesse, Umar Siraj Wodale, Haji Ahemed Motma, Desalegn Yimam Mohammed, and Abas Ali Hassen. 2026. "Knowledge and Attitude of Surgical Patients towards Anesthesia and Anesthetists: Institutional Based Cross-Sectional Study." *The Operating Room Global Journal (TORGJ)* 2 (3), July 31. <https://doi.org/10.64573/torgj2607003>