



*Trends of Communicating Perioperative Findings for
Patients and Caregivers, and Its Effect on Patient
Satisfaction in Tikur Anbessa Hospital, Addis Ababa,
Ethiopia*

A Prospective Cross-sectional Study, 2024

*A Research submitted to the Department of Surgery, College of Health
Science, Addis Ababa University;*

*In Partial Fulfillment for the Requirement of the Specialty Certificate
in General Surgery*

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APPROVAL SHEET

ADDIS ABABA UNIVERSITY

**COLLEGE HEALTH SCIENCE SCHOOL OF ALLIED SCIENCES DEPARTMENT OF
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I, the undersigned general surgery resident, declare that I have submitted my original work on a title of **Trends of Communicating Perioperative Findings for Patients and Caregivers, and Its Effect on Patient Satisfaction in Tikur Anbessa Hospital, Addis Ababa, Ethiopia - A Prospective Cross-sectional Study, 2024.**

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STATEMENT OF THE AUTHOR

I hereby declare that this thesis is my original work and has not been presented for a degree in any other university and all sources of material used for this thesis have been duly acknowledged.

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LIST OF TABLES / FIGURES

● Table 1. Socio-Demographic Characteristics	21
● Table 2: Admission Characteristics	22
● Table3: Preoperative Counseling	23
● Table 4: Intraoperative Finding Discussion	24
● Table 5: Postoperative Course Discussion	25
● Table 6: Bivariate Analysis - Selected Variables	28
● Table 7: Bivariate Analysis - Excluded Variables	29
● Table 8: Multivariate Analysis	30
● Table 9: Cross tabulation	30
● Figure 1: Conceptual Framework	16
● Figure 2: Overall Patient Satisfaction	26

ABSTRACT

BACKGROUND: Perioperative patient and physician communication skills are essential to provide high-quality care to patients. Tikur Anbessa hospital, being Ethiopia's tertiary referral hospital and a center of different surgical specialties, is an ideal place to study the relationship between patients' perioperative communication and its effect on satisfaction.

OBJECTIVE: To assess the trend of perioperative patient communication and its effect on patient satisfaction in Tikur Anbessa Hospital

METHOD: The study was conducted from May 01 to August 30, 2024 at Tikur Anbessa Specialized Hospital. A prospective cross-sectional study was conducted by collecting primary data from interviews. The sample size of 226 was estimated by using the Cochran formula considering a previous level of satisfaction 84%. Convenience sampling was chosen. Data was entered into SPSS v25. Descriptive and regression analysis done and the outputs presented using tables, graphs, & figures accordingly.

RESULTS: This study shows a mean overall surgical patient satisfaction rate of **67.3%**. And among several possible factors contributing to the overall patient satisfaction, this study showed significant association with patients being informed about the diagnosis of illness preoperatively (AOR: 16.9, C.O.R: 0.017 [95% C.I: 0.002-0.129]) Estimated cost and length of stay preoperatively (AOR: 8.65, C.O.R: 0.041 [95% C.I: 0.006-0.305]) Intraoperative finding and Procedure done, (AOR 11.74, C.O.R: 0.033 [95% C.I: 0.010-.110]) Anticipated postop course, (AOR 7.67, C.O.R: 0.035 [95% C.I: 0.008-0.147])

CONCLUSION: Overall patient satisfaction is fair in Tikur Anbessa Hospital but comparatively lower than the previously reported figures in the literature. Addressing gaps of information with an important focus on preoperative information of patients' diagnosis, the anticipated course and informing the intraoperative findings and procedures will significantly influence the satisfaction rate.

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Later, I would like to thank the Department of Surgery for preparing such an opportunity for residents to exercise research in health related topics and to study the gaps pertaining to our day-to-day surgical activity and bring about helpful recommendations in the field of surgery.

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ACRONYMS

IOF: Intraoperative Finding

Intraop: Intraoperative

Postop: Postoperative

OPD: Outpatient Department

IPD: Inpatient Department

OR: Operation Room

AAU: Addis Ababa University

CHS: College of Health Sciences

LPPSq: Leiden Perioperative care Patient Satisfaction questionnaire

TABLE OF CONTENTS

APPROVAL SHEET	3
STATEMENT OF THE AUTHOR	4
LIST OF TABLES / FIGURES	5
ABSTRACT	6
ACKNOWLEDGMENTS	7
ACRONYMS	8
INTRODUCTION	11
Background	11
Statement of the Problem	12
Significance of the Study	13
Literature Review	14
Conceptual Framework	16
OBJECTIVES	17
General Objectives	17
Specific Objectives	17
METHODOLOGY	18
Study Area	18
Study Design	18
Source Population	18
Study Participants	18
Sample Size Determination	18
Sampling Technique	18
Inclusion Criteria	19
Exclusion Criteria	19
Measurement / Study Variables	19
Data Collection	20
Data Quality Control	20
Analysis	20
Ethical Considerations	20
Operational Definitions	20
RESULTS	21
Socio-Demographic Characteristics	21
Admission Characteristics	22
Preoperative Counseling	22
Intraoperative Finding Discussion	24
Postoperative Course Discussion	25

Overall Patient Satisfaction	26
ANALYSIS	27
Bivariate Analysis	28
Multivariate Analysis	29
DISCUSSION	31
RECOMMENDATIONS	32
REFERENCES	33
ANNEX	36
QUESTIONNAIRE	36

INTRODUCTION

Background

Surgery is a medical technique that involves the structural alteration of the human body by tissue incision or destruction. [1] Surgical care has an important role in treating a wide range of disorders and alleviating human suffering. [2] It is necessary at all ages, including newborns with congenital abnormalities and the elderly with cataracts. Surgery can be either preventive, such as circumcision to reduce HIV transmission, or curative, as in many malignancies. Furthermore, surgical care plays a significant role in the diagnosis and treatment of a variety of illnesses. In awareness of these numerous responsibilities, experts and economists today recognize that surgical treatment is a basic component of healthcare and contributes to overall social and economic growth. [3-5] According to John Rose et al., there is a significant need for surgery, with an estimated one procedure for every 21 persons living today and a global surgical rate of 4,664 per 100,000 [6]. As much as there is a need for more surgical services, there is also a need for better surgical services in terms of quality. Patient satisfaction, which can be measured in a number of ways, is one of the main markers of service quality.

A psychological feeling known as satisfaction arises when expectations and reality are confirmed or refuted. [7] In the medical field, patient satisfaction refers to the subjective evaluation of the emotional and cognitive reaction that arises from the interplay between the patient's impression of the care they received and their expectations of the ideal care. [8] Human error, rising care demands, and a failure to use evidence-based approaches have all been identified as barriers to enhancing the current delivery of surgical care. Both patient discontent and subpar care are the outcomes of this.

Globally, there is a growing emphasis on assessing patient satisfaction as a means of monitoring the quality of health care provided in health institutions. Assessing patient satisfaction is critical for determining the quality of care delivered by a health system. [9] Perioperative patient satisfaction has been linked to postoperative pain intensity, patients' expectations of the outcome, patient-health provider relationships, inpatient services, hospital facilities, access to care, waiting time, cost, and the usefulness of treatments received. [10] Patients may select a different health institution and surgeon based on their expectations and overall satisfaction with the care received [11].

Patient happiness, care results, and malpractice prevention all depend on effective communication. [12] Excellent communication skills are essential for doctors and surgeons to provide high-quality care. Important outcomes including patient satisfaction, following treatment recommendations, and chronic disease self-management are all positively impacted by effective communication.

Despite the significance of good communication for surgeons, there are comparatively few studies that describe communication between surgeons and patients; instead, the great majority of the communication literature has concentrated on primary care physicians and internal medicine specialists and their interactions with patients. [13]

Tikur Anbessa hospital, being Ethiopia's tertiary referral hospital and a center of different surgical specialties, is an ideal place to study the relationship between patients' perioperative communication and its effect on satisfaction.

Statement of the Problem

- Patient satisfaction has a paramount importance in determining the quality of care a patient is receiving. This satisfaction rate is dependent on several factors among which the proper communication between the treating physician and patient is the primary factor. In a surgical patient, the ideal communication should be done both prior to surgery as well as postoperatively.
- A surgical patient should be well counseled prior to the surgery about the very small details regarding his treatment course by the most senior treating physician. This communication should include preoperative information regarding the diagnosis of the illness, the planned procedure, estimated cost and length of stay. Following the surgery again the patient should be informed about the exact intraoperative finding and the procedure done. Postoperatively this disclosure should include the anticipated postop course as early postoperatively as possible. Finally, this information should be given by the most senior treating physician and the patient's understanding should be assessed at the same time.
- There are a number of institutional researches done regarding assessment of the level of patient satisfaction in relation to perioperative communication. However, most of these studies lack postoperative patient satisfaction assessment with a primary focus only on the preoperative counseling part, assessing the patients level of understanding and consent to the procedure.
- Furthermore, most of these hospital based satisfaction studies have biased or inaccurate reports of the satisfaction rate, despite the obvious observation of poor perioperative communication in Government hospitals like Tikur Anbessa.

Significance of the Study

- This research aims to assess our current satisfaction rate at Tikur Anbessa Hospital in all patients who have undergone surgery. It will, at the same time, re-evaluate the gaps emphasizing on perioperative communication and the effect on the patient satisfaction. It will provide solid and objective evidence to redirect focus on the problem and serve as a guide both at institutional and national level to devise curriculums and guidelines in improving surgical patient satisfaction.
- The findings deepen our current understanding about surgical patient satisfaction being deeply influenced by patients' understanding of the intraoperative and postoperative factors equally to the preoperative discussion.
- This study more importantly tries to highlight the specific factors affecting the overall surgical patient satisfaction. This is very important for the treating team of physicians and surgeons to focus their attention.
- Finally, the results of the study bring about important contributions to making treating physicians accountable in delivering information for the patient every step of the perioperative course of surgical patients.

Literature Review

It is well established from clinical practice and backed by research of many kinds that improved communication between doctors and patients would improve patient satisfaction and compliance. Communication between doctors and patients is also widely recognized as a crucial component of therapeutic procedures. [14]

Patients obtain information from a number of sources, including their treating team (preoperative counseling), friends and family, the media, printed materials, and the internet, to name a few, regarding the type of surgery, the specifics of the procedure, what to expect after the procedure, and the outcome of the surgery. Research seems to indicate a growing tendency for patients to rely on health information from sources other than healthcare providers [15].

According to a systematic review by Erin O'Rorke, patient satisfaction is strongly correlated with the surgeon's manner, interpersonal skills, and clear communication. Providing information at the right level, avoiding medical jargon and explaining complex terms, assessing patient comprehension during the conversation, and talking about important subjects like the risks of surgery, alternate treatment options, and postoperative care instructions are all examples of clear communication. In terms of patient involvement, surgeons who encouraged questions and gave sufficient answers, started a conversation by getting the patient's opinion on different aspects of their condition and care, and assisted the patient in making treatment decisions had higher patient satisfaction scores. Several studies discovered that even among patients who favored less decisional autonomy, greater patient involvement in treatment choices was associated with higher levels of satisfaction with care. Finally, with respect to surgeon demeanor and interpersonal skills, increased patient satisfaction occurred when surgeons gave appropriate greetings (eg, handshake, addressing the patient by name), appeared relaxed and not rushed, were attentive and made good eye contact, utilized self-disclosure when appropriate, and demonstrated culturally competent behaviors. [16]

According to a study by P. Meredith, patients' concerns or dissatisfaction with surgical communication were linked to their own feelings of inadequacy in terms of communication skills just as much as they were to the surgeon's effort or skill. Patients may feel more satisfied with their communication efforts if they have written information, according to questions regarding the benefits of written information. For instance, this study found that up to one-third of patients having laparotomies, appendectomies, cholecystectomy, or arterial surgery believed they would have benefited from printed information about their conditions but did not receive it. [17]

Overall perioperative patient satisfaction among orthopedic patients was found to be 86.7% in a survey that evaluated the English adaptation of the LPPSq to examine how orthopedic patients perceive various aspects of perioperative care, specifically the quantity

and quality of information, fears and concerns, staff-patient relationship, and some common undesirable adverse effects of anesthetics. Information and the staff-patient connection received good overall patient satisfaction ratings. This demonstrates how crucial information sharing and patient-staff interactions are in assessing how satisfied patients are with their care. Overall patient satisfaction scores, however, were unaffected by the kind of anesthetic [18].

Research involving patients at Saudi Arabia University Hospital revealed an 89.6% patient satisfaction rate. [19]

According to a research conducted at Nigeria's Uyo Teaching Hospital, 86.85% of patients were happy with the care they received there. High patient satisfaction is associated with shorter consultation wait times, better electrical supplies, and more hygienic and comfortable patient amenities. [20]

98.1% of patients in Ethiopia expressed satisfaction with the perioperative surgical care they got, according to a research done at the University of Gondar Referral Hospital. [21]

According to a survey conducted in the western Amhara Regional State of Ethiopia by Mekdes Alemu et al., 68.7% of surgical patients expressed satisfaction with their experience. Patient satisfaction with surgical services was significantly correlated with factors like age >58 years, those without formal education, those with only a primary or secondary school education, those without a history of prior surgical admission, length of hospital stay <7 days, and elective surgical admission. [22] Nevertheless, there was no explicit evaluation of the satisfaction rate with respect to the issue of perioperative communication.

Compared to patients who had surgery as an emergency admission, patients who underwent surgery as an elective hospitalization were 1.75 times as likely to be satisfied. Studies from Italy and Australia [23, 24] corroborated this evidence. This could be because elective patients are more likely to be fully informed about their condition and the procedure they would be undergoing [25].

A cross-sectional study conducted at St. Paul's Hospital Millennium Medical College on adult surgical patients who signed informed consent and had surgery revealed that while the majority of patients (87.3%) were aware of the reason for their surgery, only 41.6% were aware of the type of surgery, 17.9% were aware of the complications, and only 1% were aware of the post-operative care [26].

According to a 2022 institutional-based cross-sectional study by Dereje Derese et al., which evaluated patient satisfaction with regard to just the impact of preoperative education in three public hospitals in Addis Ababa, 83.6% of participants responded well to preoperative education and patients were satisfied [27].

Conceptual Framework

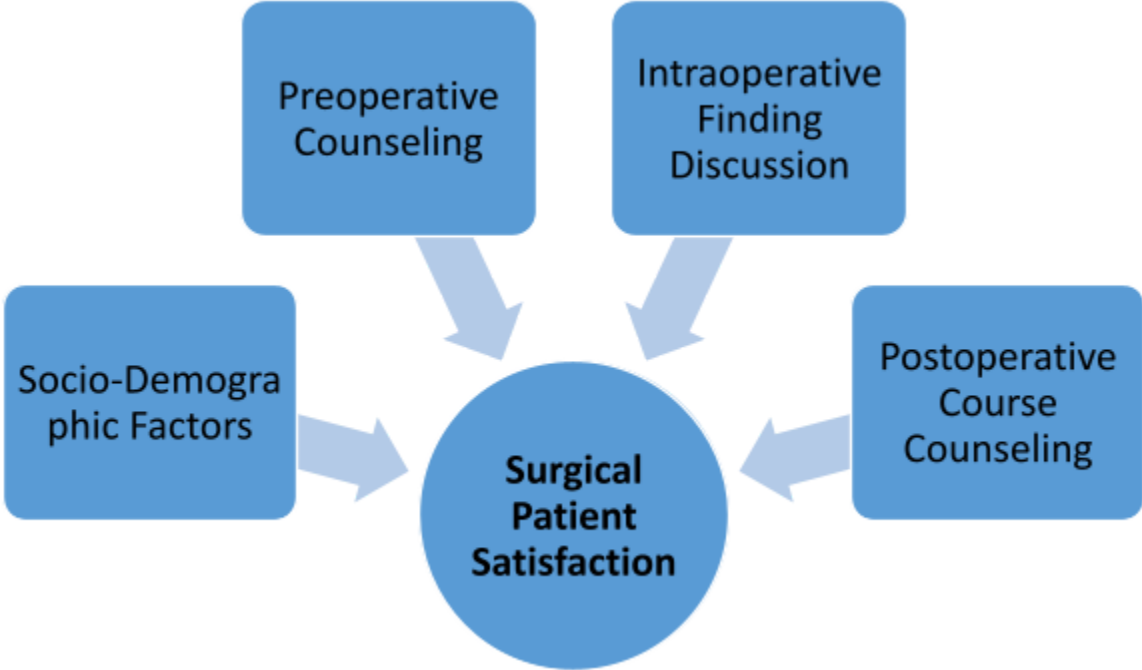


Figure 1: Conceptual Framework

OBJECTIVES

General Objectives

- To assess the trend of perioperative patient communication and its effect on patient satisfaction in Tikur Anbessa Hospital

Specific Objectives

1. To determine the overall patient satisfaction among surgical patients in Tikur Anbessa Hospital
2. To evaluate the trend of preoperative counseling in Tikur Anbessa Hospital
3. To evaluate the trend of intraoperative finding discussion in Tikur Anbessa Hospital
4. To evaluate the trend postoperative course discussion in Tikur Anbessa Hospital
5. To assess the effect of perioperative patient counseling on patient satisfaction in Tikur Anbessa Hospital

METHODOLOGY

Study Area

- The study was conducted from May 01 to August 30, 2024 at Tikur Anbessa Specialized Hospital.
- Tikur Anbessa Hospital is a specialized hospital in Addis Ababa, Ethiopia, established in 1964. It is a main teaching hospital for both preclinical and clinical training of most disciplines in the School of Medicine of Addis Ababa University. [28]
- It has 200 doctors, 700 beds, 379 nurses and 115 other health professionals offering health care services. The hospital consists of 950 permanent contract administrative staff that supports the hospital activities. Under School of Medicine, the hospital spans various departments, faculties and residents [28]

Study Design

- A prospective cross-sectional study was conducted by collecting primary data from interviews

Source Population

- All surgical patients who underwent surgery in Tikur Anbessa Hospital

Study Participants

- Patients who underwent surgery in Tikur Anbessa Hospital between May 01 – August 30

Sample Size Determination

- The sample size was estimated by using the Cochran formula. Considering the following parameters

- **n** = the required sample size

$$n = \frac{Z^2 p(1 - p)}{e^2}$$

- **p** = previous level of satisfaction **84%**

- **e** = margin of sampling error tolerated (5%) = 0.05

- **Z** = z value, collected from the z-table confidence interval (95%)

- **$n = (1.96)^2 (0.84) (0.16) / (0.05)^2 = 206$**

- With 10% non-response rate the sample size was: **$206 + 206 (0.1) = 226$**

Sampling Technique

- Convenience sampling

Inclusion Criteria

- All randomly selected elective adult patients who had undergone surgery in Tikur Anbessa of Addis Ababa, Ethiopia

Exclusion Criteria

- Patients who refused to give consent
- Pediatrics patients
- Patients with non-surgical management
- Patients who are not awake, communicating or unable to respond
- Patients who require critical care and follow-up postoperatively

Measurement / Study Variables

Dependent Variables

- Surgical patient satisfaction

Independent Variables

- Demographic factors
 - Age, sex, educational level, residence, admission type, department
- Preoperative counseling
 - Patients' information of their own diagnosis, procedure, length of stay, cost of treatment
 - Time and place of preoperative counseling [OPD, after admission]
 - Who gave the preoperative counseling [operating surgeon, assistant, nurse, intern, other]
 - Time of preoperative informed consent
 - Who took the preoperative informed consent
- Intraoperative finding discussion
 - Patients' information of the intraop finding
 - Who discussed the findings [operating surgeon, assistant, nurse, intern, other]
 - When was the finding discussed
 - Patients understanding of the finding [Good / Poor]
- Postoperative course discussion
 - Patients information of the postop course
 - Time of discussing the postoperative course
 - Who discussed the anticipated course [operating surgeon, assistant, nurse, intern, other]
 - When was the postoperative course discussed
 - Patients understanding of the postoperative course [Good / Poor]

Data Collection

- Primary data was collected by interviewing post-operative patients using a structured questionnaire before their discharge.

Data Quality Control

- The data will be collected by the primary investigator which will add to the quality and accuracy of the data collected
- The data collection process involves patient chart review regarding accuracy of patients understanding of the diagnosis, procedure and postoperative course. The patient card number is used to check validity and completeness of the information.

Analysis

- Data was entered using a prepared form on Google Forms® by the principal investigator and completeness of the data was checked every day
- Data was entered into SPSS v25 application
- Descriptive analysis computed as frequency, percentages of different variables were determined
- Later regression analysis done between the dependent and independent variables
- Finally, the outputs of processed presented using tables, graphs, & figures accordingly

Ethical Considerations

- Ethical approval will be obtained from the Department of Research and Ethics Review Committee (DRERC) of Addis Ababa University College of Health Sciences, Ethical Review Committee Office (ERCO) and Addis Ababa Health Bureau IRB (Internal Review Board).
- A letter informing Tikur Anbessa Hospital will be collected from the Ethical committee of the Departmental Research and Ethics Review Committee (DRERC) about the study. All eligible charts will be retrieved and patients will be interviewed
- All the information obtained from the study subjects were coded to maintain confidentiality

Operational Definitions

- **Patient satisfaction:** The overall subjective score out of 10 given by the patient in describing his / her satisfaction rate, which will be converted into 100%
- **Satisfaction:** Defined as patient's subjective satisfaction score > 5 out of 10
- **Dissatisfaction:** Defined as patient's subjective satisfaction score ≤ 5
- **Good understanding:** Defined as accurate patient's understanding of the clinical parameter subjectively assessed by the evaluator
- **Poor understanding:** Defined as wrong patient's understanding of the clinical parameter subjectively assessed by the evaluator

RESULTS

Socio-Demographic Characteristics

- Out of the 226 patients, 55.5% were male. Patients' age range from 18-39 years in 46%; 38.9% of patients' age range from 40-60 years and 15% of patients' age were above 60. 30% of patients had educational status in primary school; while 23.8% of patients had a secondary school background; 21.1% patients had educational level of university and above while 24.7% have no educational background. 26.9% of patients live in the rural country while 73.1% of patients live in the urban cities.

Variables	Categories	Frequency	Percent [%]
Sex	Male	125	55.5
	Female	101	44.7
Age	18-39	104	46.0
	40-60	88	38.9
	> 60	34	15.0
Educational Status	Primary	69	30.5
	Secondary	53	23.5
	University and above	48	21.2
	None	56	24.8
Residence	Urban	165	73.0
	Rural	61	27.0

Table 1. Socio-Demographic Characteristics

Admission Characteristics

- 90.7% of patients were admitted as an elective case while 9.3% of patients were emergency cases. 24.8% of these patients were colorectal patients, while 19% were hepatobiliary, 12.4% were endocrine, 14.6% were General surgery, 9.3% were Urology, 8.4% were Upper GI cases, and 7.1% of them were in cardiothoracic surgery. The remaining 4.5% of the patients were vascular surgery patients.

Variables	Categories	Frequency	Percent [%]
Department	HPB	43	19.0
	Endocrine	28	12.4
	Upper GI	19	8.4
	General	33	14.6
	Colorectal	56	24.8
	Urology	21	9.3
	Cardiothoracic	16	7.1
	Vascular	10	4.4
Admission type	Elective	206	90.7
	Emergency	21	9.3

Table 2: Admission Characteristics

Preoperative Counseling

- Out of the 226 respondents 92% patients were informed about the diagnosis of their illness, 83.2% patients about the planned procedure preoperatively while 79.2% patients were not informed about estimated cost and length of stay preoperatively. In 90.7% of the patients, counseling was given at the OPD and in the rest 9.3% counseling was given after admission. The preoperative counseling was given by a surgeon in 46.9% of patients, 25.7% by residents, 1.8% by interns and 25.7% of patients don't know the counseling physician. Informed consent for the surgery was taken a day before admission in 73.9% of patients; on the day of surgery in 22% of patients and at admission in 4% of patients. The informed consent was taken by interns in 60.2 % of patients, by residents in 35 % of patients, by surgeons in 1.8% of patients and 3.1% of patients don't know the physician. 54% of patients have good understanding of the treatment course and 46% of them had poor understanding of the perioperative course as judged by the investigator.

Variables	Categories	Frequency	Percent [%]
Patient Informed about diagnosis of illness preoperatively	Yes	208	92.0
	No	18	8.0
Patient informed about the planned procedure preoperatively	Yes	188	83.2
	No	38	16.8
Patient informed about estimated cost and length of stay preoperatively	Yes	47	20.8
	No	179	79.2
When was the preoperative counseling given?	At OPD	205	90.7
	After admission	21	9.3
Who gave the preoperative counseling	Surgeon	106	46.9
	Resident	58	25.7
	Intern	4	1.8
	Don't Know	58	25.7
When was informed consent taken?	At Admission	9	4.0
	A day before surgery	167	73.9
	On the day of surgery	50	22.1
Who took the preoperative consent	Resident	79	35.0
	Intern	136	60.2
	Don't know	7	3.1
	Surgeon	4	1.8
How well the patient understood the anticipated postop course?"	Good	122	54.0
	Poor	104	46.0

Table3: Preoperative Counseling

Intraoperative Finding Discussion

- Out of the 226 patients, 55.3% of them were not informed about the intraop finding and procedure done. Among those informed, 39% of them were informed during ward rounds; 32.4% of them were informed just after the procedure and 29.5% of them were informed on the day of surgery. Most of this information was given by the operating surgeon in 43.8%; assistant surgeon in 33%, residents in 13.3%; OR nurse and intern contribute for 1% each and 16.2% of the patients don't know the informing individual. Overall patient understanding of the intraop finding and procedure was poor in 50.7% of the patients.

Variables	Categories	Frequency	Percent [%]
Patient / attendants informed about the IOF and Procedure done?	Yes	101	44.7
	No	125	55.3
When was the patient / attendants informed about the finding?	Just after the procedure	34	32.4
	In the day of surgery	31	29.5
	During ward rounds	41	39
Who informed the intra-op finding?	Operating Surgeon	46	43.8
	Assistant Surgeon	33	31
	OR Nurse	1	1
	Intern	1	1
	Resident	14	13.3
	Don't Know	17	16.2
How well the patient understood the intraop finding and procedure done?	Good	111	49.3
	Poor	114	50.7

Table 4: Intraoperative Finding Discussion

Postoperative Course Discussion

- Out of the 226 patients, 64.2% of them were not informed about the anticipated course. Of the informed patients 68.6% of them were informed during the ward rounds; 19.8% of them on the day of the surgery and only 11.6% of them just after the procedure. Most of this information was given by the operating surgeon in 48.2%; followed by assistant surgeon in 22.4%, ward resident in 16.5%, interns in 3.5%; and 9.4% of the patients don't know the informing health professional. Overall understanding of the patients regarding the postoperative course was poor in 63.7% of the patients.

Variables	Categories	Frequency	Percent [%]
Patient informed about the anticipated postop course?	Yes	81	35.8
	No	145	64.2
When was the patient / attendants informed?	Just after the procedure	10	11.6
	In the day of surgery	17	19.8
	During ward rounds	59	68.6
Who informed the post-op course?	Operating surgeon	41	48.2
	Assistant surgeon	19	22.4
	Ward intern	3	3.5
	Ward Resident	14	16.5
	Don't Know	8	9.4
How well the patient understood the anticipated postop course?	Good	82	36.3
	Poor	144	63.7

Table 5: Postoperative Course Discussion

Overall Patient Satisfaction

- The overall patient satisfaction is 10/10 in 6.2% of patients; 9/10 in 15.5% of patients; 8/10 in 18.1% of patients; 7/10 in 17.3% of patients; 6/10 in 15% of patients; 5/10 in 13.7% of patients; 4/10 in 8% of patients; 3/10 in 4% of patients; 2/10 in 0.9% of patients and 1/10 in 1.3% of patients. The mean result of the overall satisfaction of the patients is calculated to be 6.73/10 which is **67.3%**. The median and the mode result of the overall patient satisfaction are 7 and 8 respectively.

Overall Patient Satisfaction

226 responses

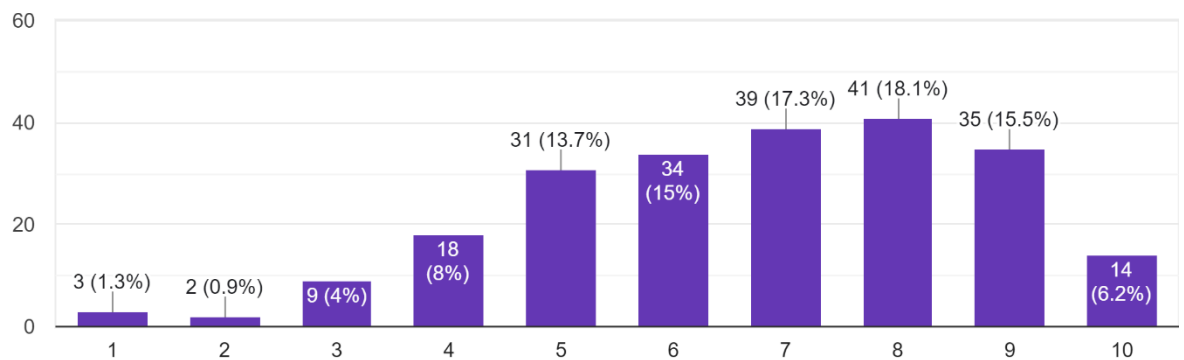


Figure 1: Overall Patient Satisfaction

ANALYSIS

- The correlation between the dependent and independent variables was analyzed using Binary Logistic regression. The significantly related variables with p value cutoff **< 0.25** were selected. These include
 - Educational Status, (C.O.R: 0.774 [95% C.I: 0.6-0.997])
 - Residence, (C.O.R: 0.389 [95% C.I: 0.208-0.727])
 - Admission Type, (C.O.R: 0.477 [95% C.I: 0.190-1.195])
 - Information about the diagnosis of illness preoperatively (C.O.R: 0.017 [95% C.I: 0.002-0.129])
 - Information about the planned procedure preoperatively (C.O.R:0.132 [95% C.I: 0.062-0.281])
 - Information about estimated cost and length of stay preoperatively (C.O.R: 0.041 [95% C.I: 0.006-0.305])
 - Who gave the preoperative counseling, (C.O.R: 0.674 [95% C.I: 0.534-0.851])
 - How well the patient understood the anticipated postop course, (C.O.R: 0.164 [95% C.I: 0.084-0.318])
 - Patient / attendants informed about the IOF and Procedure done, (C.O.R: 0.033 [95% C.I: 0.010-.110])
 - Who informed the intra-op finding, (C.O.R: 0.827 [95% C.I: 0.664-1.030])
 - How well the patient understood the intraop finding and procedure done, (C.O.R: 0.071 [95% C.I: 0.030-0.166])
 - Is the patient informed about the anticipated postop course, (C.O.R: 0.035 [95% C.I: 0.008-0.147])
 - How well the patient understood the anticipated postop course, (C.O.R: 0.053 [95% C.I: 0.016-0.176])
- Later, Multivariate analysis was done with the dependent variable and the significant independent variables using Binary Logistic Regression. The result showed significant association between patients' satisfaction rate and patients being informed about
 - The diagnosis of illness preoperatively (AOR: 16.9, C.O.R: 0.017 [95% C.I: 0.002-0.129])
 - Estimated cost and length of stay preoperatively (AOR: 8.65, C.O.R: 0.041 [95% C.I: 0.006-0.305])
 - Intraoperative finding and Procedure done, (AOR 11.74, C.O.R: 0.033 [95% C.I: 0.010-.110])
 - Anticipated postop course, (AOR 7.67, C.O.R: 0.035 [95% C.I: 0.008-0.147])
- There was no significant relation of overall patient satisfaction and the rest of the independent variables.

Bivariate Analysis

Selected Variables

	B	S.E.	Wald	df	Sig.	C.O.R	95% C.I. for EXP(B)	
							Lower	Upper
Educational Status	-.257	.129	3.941	1	.047	.774	.600	.997
Residence	-.944	.319	8.745	1	.003	.389	.208	.727
Admission Type	-.741	.469	2.498	1	.114	.477	.190	1.195
Are you informed about the diagnosis of your illness preoperatively	-4.092	1.042	15.409	1	.000	.017	.002	.129
Are you informed about the planned procedure preoperatively	-2.027	.387	27.408	1	.000	.132	.062	.281
Are you informed about estimated cost and length of stay preoperatively	-3.194	1.023	9.747	1	.002	.041	.006	.305
Who gave the preoperative counseling	-.394	.119	11.031	1	.001	.674	.534	.851
How well the patient understood the anticipated postop course?"	-1.811	.339	28.581	1	.000	.164	.084	.318
Patient / attendants informed about the IOF and Procedure done?	-3.406	.613	30.893	1	.000	.033	.010	.110
Who informed the intra-op finding?	-.190	.112	2.866	1	.090	.827	.664	1.030
How well the patient understood the intraop finding and procedure done?	-2.646	.433	37.393	1	.000	.071	.030	.166
Is the patient informed about the anticipated postop course?	-3.356	.735	20.824	1	.000	.035	.008	.147
How well the patient understood the anticipated postop course?	-2.934	.612	22.988	1	.000	.053	.016	.176

Table 6: Bivariate Analysis

Excluded Variables

	B	S.E.	Wald	df	Sig.	C.O.R	95% C.I. for EXP(B)	
							Lower	Upper
When was the preoperative counseling given?	-.038	.508	.006	1	.941	.963	.356	2.604
When was informed consent taken?	-.055	.310	.031	1	.859	.947	.516	1.737
Who took the preoperative consent	.009	.244	.002	1	.969	1.009	.626	1.628
When was the patient / attendants informed about the finding?	.063	.258	.060	1	.806	1.065	.643	1.766
When was the patient / attendants informed?	-19.437	5924.597	.000	1	.997	.000	.000	.
Age(1)	.294	.457	.414	1	.520	1.342	.548	3.286
Department(1)	-.119	.763	.024	1	.876	.888	.199	3.960
Who informed the post-op course?(1)	.000	15566.703	.000	1	1.000	1.000	.000	.

Table 7: Bivariate Analysis - Excluded Variables

Multivariate Analysis

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Are you informed about the diagnosis of your illness preoperatively(1)	2.829	1.052	7.227	1	.007	16.926	2.152	133.113
Are you informed about estimated cost and length of stay preoperatively(1)	2.158	1.067	4.087	1	.043	8.653	1.068	70.109
Patient / attendants informed about the IOF and Procedure done?(1)	2.464	.638	14.922	1	.000	11.746	3.365	40.995
Is the patient informed about the anticipated postop course? (1)	2.038	.774	6.926	1	.008	7.672	1.682	34.987
Constant	-2.833	1.029	7.581	1	.006	.059		

Table 8: Multivariate Analysis

		Overall Patient Satisfaction			
		Dissatisfied		Satisfied	
		Count	Column N %	Count	Column N %
Are you informed about the diagnosis of your illness preoperatively	Yes	46	73.0%	162	99.4%
	No	17	27.0%	1	0.6%
Are you informed about estimated cost and length of stay preoperatively	Yes	1	1.6%	46	28.2%
	No	62	98.4%	117	71.8%
Patient / attendants informed about the IOF and Procedure done?	Yes	3	4.8%	98	60.1%
	No	60	95.2%	65	39.9%
Is the patient informed about the anticipated postop course?	Yes	2	3.2%	79	48.5%
	No	61	96.8%	84	51.5%

Table 9: Cross tabulation

DISCUSSION

- This study shows a mean overall surgical patient satisfaction rate of **67.3%**. And among several possible factors contributing to the overall patient satisfaction, this study showed significant association with patients being informed about
 - The diagnosis of illness preoperatively (AOR: **16.9**, C.O.R: 0.017 [95% C.I: 0.002-0.129])
 - Estimated cost and length of stay preoperatively (AOR: **8.65**, C.O.R: 0.041 [95% C.I: 0.006-0.305])
 - Intraoperative finding and Procedure done, (AOR **11.74**, C.O.R: 0.033 [95% C.I: 0.010-.110])
 - Anticipated postop course, (AOR **7.67**, C.O.R: 0.035 [95% C.I: 0.008-0.147])
- This result is comparable but slightly lower than the study done by Mekdes Alemu et.al in western Amhara Regional State, Ethiopia, which revealed a satisfaction rate of 68.7%. [22] However, the satisfaction rate in the later study was not specifically assessed regarding the consideration of perioperative communication.
- Again this result is significantly lower than a study conducted at the University of Gondar which revealed that 98.1% of patients were satisfied with the perioperative surgical service they received. The variables that had association with good outcome were: Information about the disease and operation, operation theater staff attention of the patients complains [21].
- In this study, even though there were good number of patients being informed about their diagnosis and planned procedure [91%, 83% respectively], 78% of patients were not informed about the cost of the procedure and the estimated length of stay. This has brought a significant effect on the patient satisfaction result.
- There's overall patient understanding of the intraop finding and procedure was poor in nearly half of the patients (50.7%); this factor was also found to have significant association with the poor satisfaction of the surgical patients.

RECOMMENDATIONS

- The surgical department and staff should make it a trend to give patients the information regarding their diagnosis, estimated cost and length of ward stay and anticipated postop course. This practice should again be monitored using regular assessment and monitoring methods.
- The rate of preoperative counseling and the involvement of surgeons was remarkably good. The surgical staff should be encouraged to continue providing this constant level of care.
- Postoperative findings should be notified to patients by the operating team as early in the postop course of the procedure. More importantly the informing health professional should make sure the patient is well informed.

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ANNEX

QUESTIONNAIRE

Socio-Demographic		Remark
Age	18-39	
	40-59	
	>60	
Sex	Male	
	Female	
Educational Status	None	
	Primary	
	Secondary	
	University and above	
Residence	Urban	
	Rural	
Preoperative Counseling		
Informed about the diagnosis [Yes / No]		
Informed about the planned procedure [Yes / No]		
Informed about estimated cost and length of stay [Yes / No]		
When was the preoperative counseling given?	OPD	
	After admission	
Who counseled the patient?	Surgeon	
	Resident	
	Intern	
When was informed consent taken?	At admission	
	A day before surgery	
	The day of surgery	
Who took the consent?	Surgeon	
	Resident	
	Intern	
Intra-op Finding Counseling		
Patient / attendants informed about the IOF and Procedure done? [Yes / No]		
When was the patient / attendants informed about the finding?	Just after the procedure	
	In the day of the surgery	
	During ward rounds	
Who informed the intra-op finding?	Operating surgeon	
	Assistant surgeon	
	OR nurse	
	Ward Intern	
How well the patient understood the intraop finding and procedure done?	Good	
	Poor	

Postop Course Discussion		
Is the patient informed about the anticipated postop course? [Yes / No]		
When was the patient / attendants informed?	Just after the procedure	
	In the day of the surgery	
	During ward rounds	
Who informed the post-op course?	Operating surgeon	
	Assistant surgeon	
	OR nurse	
	Ward Intern	
How well the patient understood the anticipated postop course?	Good	
	Poor	
Overall Satisfaction [1-10]		