

# Assessment of Patient Satisfaction with Preoperative Anesthetic Evaluation and Associated Factors at Menelik II Referral Hospital Addis Ababa, Ethiopia

Mohammed Suleiman Obsa<sup>1</sup> Abateneh Melekamayhu wahidi<sup>2</sup> Woseneyeleh Admas<sup>2</sup>  
Bedilu Girma Woji<sup>1</sup>

1. Wolaita Sodo University School of medicine, department of anesthesia Wolaita, Ethiopia

2. Addis Ababa University School of medicine, department of anesthesia, Addis Ababa, Ethiopia

## Abstract

**Background:** Patient Satisfaction- refers to a state of pleasure or happiness with an action or service especially one that was earlier desired. Patient satisfaction is progressively appreciated measure of outcome for health care procedures and it was a measure of success in this hospitals. It was affected by anesthetist's patient interaction, in the preoperative anesthetic evaluation. No prior study conducted in our setup. **Objective:** The purpose of this study was to evaluate inpatients' satisfaction with preoperative anesthetic evaluation and associated factors at Menelik II Referral Hospital Addis Ababa Ethiopia. **Methods-** Institutional based cross sectional study was conducted at Menelik II Referral Hospital from Jan 6 to Feb 6, 2016, All patients who remained for elective surgery were included in the study period and interview 24 hours after operation. Data were collected using pretested standard questionnaires. All items in the structured questionnaire were scored on five point Likert scale. Data was entered and analyzed using Statistical Package for Social Sciences (SPSS) version 20. Binary logistic regression was used to measure statistical significance between dependent and each independent variable. P-value 0.05 and 95% CI was used as cut off point. **Results:** Two hundred and seventy-five patients were operated upon under anesthesia during the study period. Of these, a total of 224 patients were included in this study with a response rate of 81.5 %, with the overall proportion of patients who said they were satisfied with anesthesia services was 72.3 %.the major factors that take patient dissatisfaction were 68.1% of patient explain anesthetist were not introduce him or herself to the patient, information on postoperative analgesia were 99.1% and postoperative nausea vomiting management were accounts 84.8%. **Conclusion and recommendation:** Patient satisfaction with anesthesia services was low 72.3 % in our setup compared with many previous studies, and females more dissatisfied 42.4 % than males 57.6 %. Factors that affected patient satisfaction negatively may be preventable or enhanced. Further study should be done and patient satisfaction give an emphasis.

## Background

Patient satisfaction is a subjective feeling about gratification of wishes or the degree of similarity between expectations and achievement. Patient satisfaction is the degree of gratifying patients' anticipation, which is an important component and quality indicator in the preoperative anesthetic evaluation. Patient satisfaction commonly refers to how well the patient's expectations about the service of medical care have been met.1 when applied to medical care; patient satisfaction can be considered in the context of patient's judgment of their desires and expectations of health care.2

Patient satisfaction is thus, a multidimensional concept and a subjective phenomenon that is linked to perceived needs, expectations and experience of care.3 Patient satisfaction is a highly desirable outcome of clinical care in the hospital and may even be an element of health status itself. A patient's expression of satisfaction or dissatisfaction is a judgment on the quality of hospital care in all of its aspects whatever its strengths and weakness. Patient satisfaction is a suggestion that should be crucial to the assessment of the quality of care in hospitals.4

Measuring satisfaction has become an ongoing health care challenge. Individual patient attitude, expectations, and demographics clearly influence patient satisfaction levels. Given the same quality of care, two individuals may have radically different perceptions and, different satisfaction levels. Patients' perception of medical care is increasing importance to educators, researchers and clinicians. The emphasis on patient satisfaction is reliable with the trend towards holding health professionals accountable to their patient.5 the effectiveness in health care is determined to some degree by patient satisfaction with services provided.

The evaluation of patient satisfaction is a core aspect of the continuous quality improvement in anesthesia service that can be affected by the preoperative anesthetist visit. This visit enables the anesthetist to know about the patient's general health status and the nature of surgery, to choose the type of anesthesia, and to discuss perioperative complications and their management with the patient.6

Preoperative anesthetist visits and preparation is important parts of anesthetic provision. It is useful to know about the patient's general status and nature of surgery and to choose the type of anesthesia. This creates a chance for the patients to get to know the anesthetist, to learn about 2 anesthesia options, and to discuss

postoperative pain, nausea, and vomiting management and other possible complications. In addition, preoperative assessment decreases patient anxiety, minimizes the cancellation of surgery by surgeons and anesthesiologists, improves the patient's experience of their hospital stay, and may reduce complication rates and mortality.<sup>7, 8</sup>

In clinical settings such as anesthesia using patient satisfaction as an indicator to monitor the quality of clinical care has potential merit. For patient, it represents an evaluation of the health care experiences based on their own values, perception and interaction with the environment. For the service provider, patient satisfaction can reflect many facets of care such as bedside skills, efficient attention to needs, participation in decision making, adequate communication and information.<sup>9</sup>

Recently, recording of patient satisfaction has been considered by the medical community as an important parameter in the analysis of administered health care services.<sup>10,11</sup> It is considered to be conclusive for two reasons: first, it may enable the tracing and correction of health care system impotencies and problems; and second, this approach can meet patients' desires and expectations, resolve their speculations, and consequently, increase their trust and cooperation in the national health care system policy and practice.<sup>12</sup> Traditionally, the perceived role of the anesthesiologist has been restricted to the immediate preoperative and intraoperative periods.<sup>13</sup> Whereas anesthesiologists are now considered to have greater involvement in preoperative preparation and postoperative care.<sup>14, 15</sup> This should allow earlier detection and treatment of postoperative complications.

In an Italian hospital "kindness regard of caregivers" along with "information given by the anesthesiologist" and "feeling safe" was good indicators for predicting patient satisfaction. They also concluded that surgical patient's value emotional and relational factors most in order to be satisfied.<sup>12</sup> Health care providers should work towards improving the communication skill of their professionals along with having technically competent workers which could possibly affect the perception of the patient about all of the variables that will be identified as predictors of patient satisfaction in this study. Health care professionals are also expected to control their patients' expectations and understanding of treatment to provide the highest level of satisfaction.<sup>16</sup> In fact to improve patient satisfaction health care professionals would be advised to pay more attention to patient understanding and expectations even at the expense of improving patient outcome. The close relationship between patient expectations and adequate informed consent cannot be ignored.<sup>17</sup>

Therefore, it is important to assess the opinion of local people, as well as their degree of satisfaction with available resource service to improve quality and efficiency of health services which can make public health services more responsive to people's needs and expectations.

### **Methods and Materials**

**Study area and period:** The study was conducted at Menelik II Referral Hospital, Addis Ababa, Ethiopia from Jan, 6- Feb, 6, 2016. It is one of the oldest public hospitals in the country located in north east Addis Ababa in Yeka Kefleketa, which provides health services with a surgical bed capacity of 135 from the catchment population of about one million six hundred thousand people. Surgery department is one of the major departments and it has three wards with separate female and male wards in each, two referral clinic, and one operation room which is contained three major operation tables and one intensive care unit. According to the annual report of anesthesia department, 1900 patients were operated upon under anesthesia in 2015.

**Study Design:** Institution based cross sectional descriptive study was used.

**Source population:** All Surgical inpatients that were undergo elective surgery during the study period were included.

**Study population:** Selected surgical inpatients that were undergo elective surgery at M-II RH within specified data collection period. <sup>14</sup>

### **Inclusion Criteria**

All voluntary surgical inpatients were included in the study

### **Exclusion Criteria**

Very seriously ill patient who was not have somebody to attend them because of the difficulty of interviewed such cases (getting the consent, lack of tolerance the pain or illness).

Children who are under 18 years who are alone.

Cognitive dysfunction or any other inability to finish the interview

Postoperative admission in the intensive care unit was also excluded.

Patient was discharged before 24 hrs.

Patient who was not completed preoperative evaluation

## Study variables

### Independent variables

- Age, Sex, Marital status, Residence, Income, Educational status, health coverage, Frequency of visit, Comorbidities and ASA status

**Dependent variable:** Patients satisfaction

## Data collection and management

Well-structured questionnaire was filled up via a face to face interview by two B.Sc. trained nurses they did not involve in anesthesia care. The questionnaire is designed to obtain information on socio demographic characteristics of respondents and their satisfaction level with the different components of the pre anesthetic evaluations. The questionnaire was prepared in English first and translated to the local language Amharic and again back to translation to English to check for consistency. The key elements of socio-demographic characteristics of the patients attended in the preoperative anesthetic evaluation clinic patient satisfaction regarding on physical facility, Anesthetist communication skills and quality of the services. All respondents were interviewed. Postoperatively after twenty-four hours, on an average of 20 minutes was used for interview of each patient. Responses to questioners were standardized to a five point Likert Scale revealed to be optimal for surveys of patient satisfaction. The initial question and dimension set was reviewed by members of ASA Committee on Performance and Outcomes Measurement, strongly disagree (1) disagree (2) neutral (3) agree (4) strongly agree (5) Finally, the five scale measurement was changed to dicomatus strongly agree and agree outcomes was used as satisfied and strongly disagree, neutral and disagree was put in dissatisfied one to adjusted for analysis.

## Data Quality Assurance

The quality of data was warranted through trained data collectors by categorized according to the language they were interviewed. Completed questionnaire was submitted and reviewed daily to avoid loss of data. Close supervision and daily information exchange included by telephone was used as a means to correct problems in the course of the data collection. Data uniformity and completeness were completed throughout the data collection and analysis; pretest was doing on 5% of sample size at black lion specialized hospital.

## Data processing and analysis

The data was analyzed and recorded on computer using SPSS version 20 data analyzer software. 5% of the questionnaire was analyzed using descriptive statics' and logistic regression analysis and the p-value was used to identify the association between dependent and independent variables ( $P < 0.05$  was used as statistical significant. Data was entered into SPSS Version 20 for analysis and cleaned. P values and 95% C.I was used to judge significant of association.

## Ethical Consideration

Ethical clearance and support letter for the study was obtained from Addis Ababa University College of Health Science Ethical Review Committee.

Support letter were found from Department of anesthesia to menelik referral hospital and Addis Ababa health bureau. Permission was obtained from menelik II Referral Hospital medical director's office and written informed consent were obtained from each study participants after explaining the benefits and risks of the study. For children below 18 years of age, parental consents were obtained. Any information concerned the participants were confidential

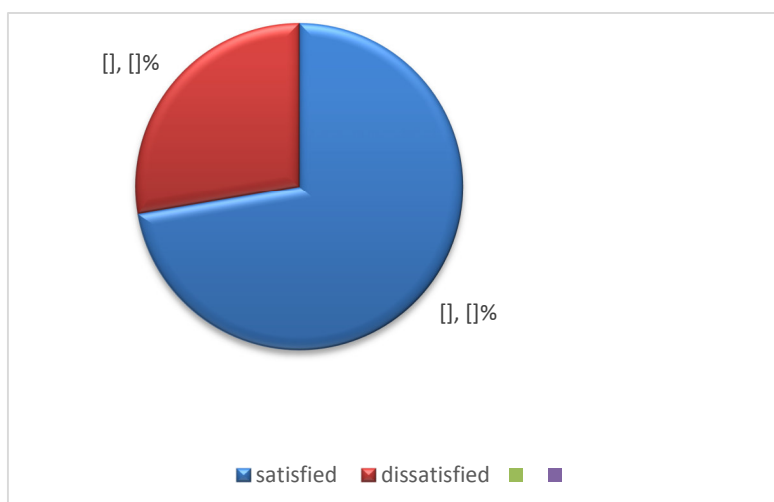
## Result

### Chapter Five: Result

Two hundred and twenty-four consecutive patients over one month were originally enrolled in the study period. Of these, 0.36 % refused, 17.45 % were emergency, 3 (1.09 %) were transferred to Surgical intensive care unit. Satisfaction was identified in 72.3% of patients at the time of preoperative evaluation. (Figure 1)

Baseline characteristics of this study subjects most of the respondents were 26.3% in the age group of 29–38 years and the mean age of the study subjects was 44.49 years  $\pm$  14.886 with minimum and maximum value 14 and 84 years respectively. 56.2%, of the participants were males and the rest 43.8 % were females, of this the majority of participant, 60.3 % were married. (Figure 2)

On education 20.4% were illiterate ,11.1 % were read and write ,15.4 % were elementary school ,19.8 % were secondary school, 22.2 % were diploma and 11.1% were degree and above and the majority of the participant were urban 66.7%. (table 1)



**Figure 5.1.** Distribution of overall satisfaction of patient in preoperative assessment at menelik II Referral Hospital, Addis Ababa, Ethiopia 2016.

**Table-5.1: General socio-demography of study participant preoperative anesthetic services satisfaction at Menelik II Referral Hospital, Addis Ababa, Ethiopia, 2016.**

Characteristics		Frequency	%	Satisfied		Dissatisfied	
				Frequency	%	Frequency	%
Age in years	≤18 years	5	2.2	2	40	3	60
	19–28 years	24	10.7	19	79.2	5	20.8
	29–38 years	59	26.3	33	55.9	26	44.1
	39–48 years	48	21.4	34	70.8	14	29.2
	49–58 years	41	18.3	31	75.6	10	24.4
	59–68 years	33	14.7	32	97	1	3
	≥69 years	14	6.3	11	78.6	3	21.4
Sex	Male	129	57.6	91	70.5	38	29.4
	Female	95	42.4	71	74.7	24	25.3
Marital Status	Single	61	27.2	40	65.6	21	34.4
	Married	172	60.3	98	72.6	37	27.4
	Divorced	15	6.7	14	93	1	6.7
	Widowed	13	5.8	10	76.9	3	23.1
Educational status	Illiterate	37	16.5	33	89.2	4	10.8
	Read and writes	21	9.4	18	85.7	3	14.3
	Elementary	37	16.5	25	67.6	12	32.4
	Secondary	46	20.5	32	69.6	14	30.4
	Diploma	47	21.0	36	76.6	11	23.4
Residency	Degree and above	36	16.1	18	50	18	50
	Urban	158	70.5	108	68.4	50	31.6
	Rural	66	29.	54	81.8	12	18.2
Occupation	House wife	39	17.4	34	87.2	5	12.8
	Farmer	41	18.3	34	82.9	7	17.1
	Gov. employee	64	28.6	42	65.6	22	34.4
	Private employee	49	21.9	33	67.3	16	32.7
	Student	17	7.6	10	58.8	7	41.2
	Merchant	9	4.0	6	66.7	3	33.3
	Other	5	2.2	3	60.0	2	40.0
	Income	Less than 1000 birr	66	29.5	53	80.3	13
Payment	1000-2000	117	52.2	89	76.1	28	23.9
	Greater than 2000	41	18.3	20	48.8	21	51.2
Frequency of visit	Paying	155	69.2	107	69.0	48	31.0
	Free	69	30.8	55	79.7	14	20.3
Frequency of visit	New	182	81.3	131	72.0	51	28.0
	Repeat	42	18.8	31	73.8	11	26.2

Disease and ASA status of the patient were operated during the study period and out of the total patients 58 % were ASA<sub>1</sub>, 37.7% were ASA<sub>2</sub>, 3.1% were ASA<sub>3</sub> and 1.2% were ASA<sub>4</sub>. Of these patient 9.9% were Asthmatic. 35.2 % have hypertension, 19.7% have Diabetes Mellitus 1.4%, have Psychiatric disorder, 18.5 % were renal failure, 7% have others 1.1% have asthmatics with hypertension, 12.7 were DM with Hypertension and 4.2 %have DM with asthmatics.

(Table 2)

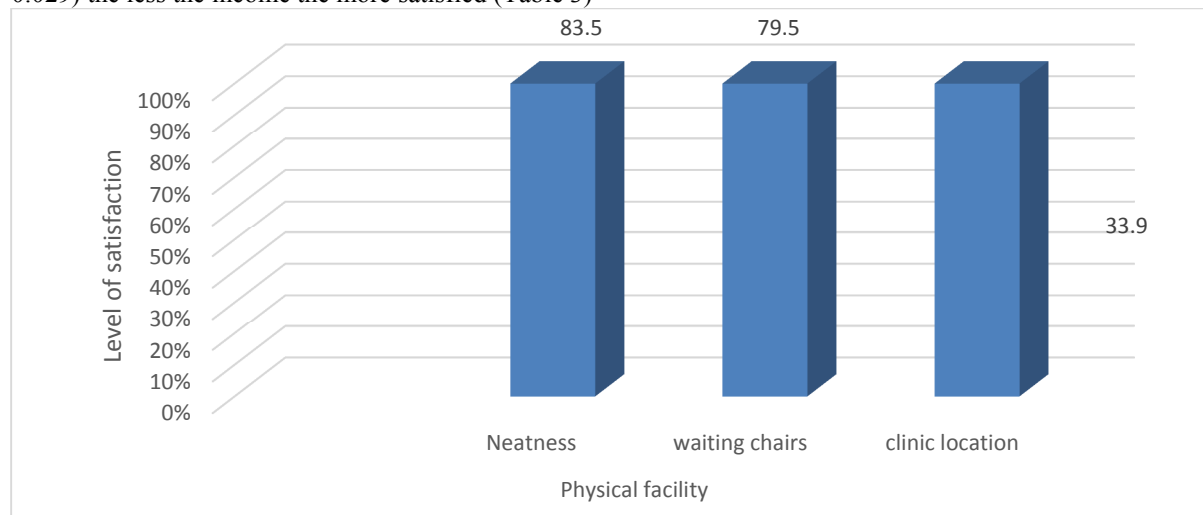
**Table 5.2: Socio-demography of study participant preoperative anesthetic services satisfaction in Relation to disease and ASA Status at Menelik II Referral Hospital, Addis Ababa, Ethiopia,2016.**

Characteristics		Satisfied		Dissatisfied	
		Frequency	%	Frequency	%
Comorbid	Yes	71	76.3	22	23.7
	No	91	69.5	40	30.5
comorbid has	Asthma	7	53.8	6	46.2
	HPN	25	69.4	11	30.6
	DM	14	82.4	3	17.6
	Psychiatric	1	100	0	0
	Renal failure	6	100	0	0
	Others	5	71.4	2	28.6
	Asthma & HPN	1	100	0	0
Patient disease	DM & HPN	9	90	1	10
	DM & asthma	3	100	0	0
	I	94	68.6	43	31.4
ASA Status	II	61	77.2	18	22.8
	III	5	83.3	1	16.7
	IV	2	100	0	0

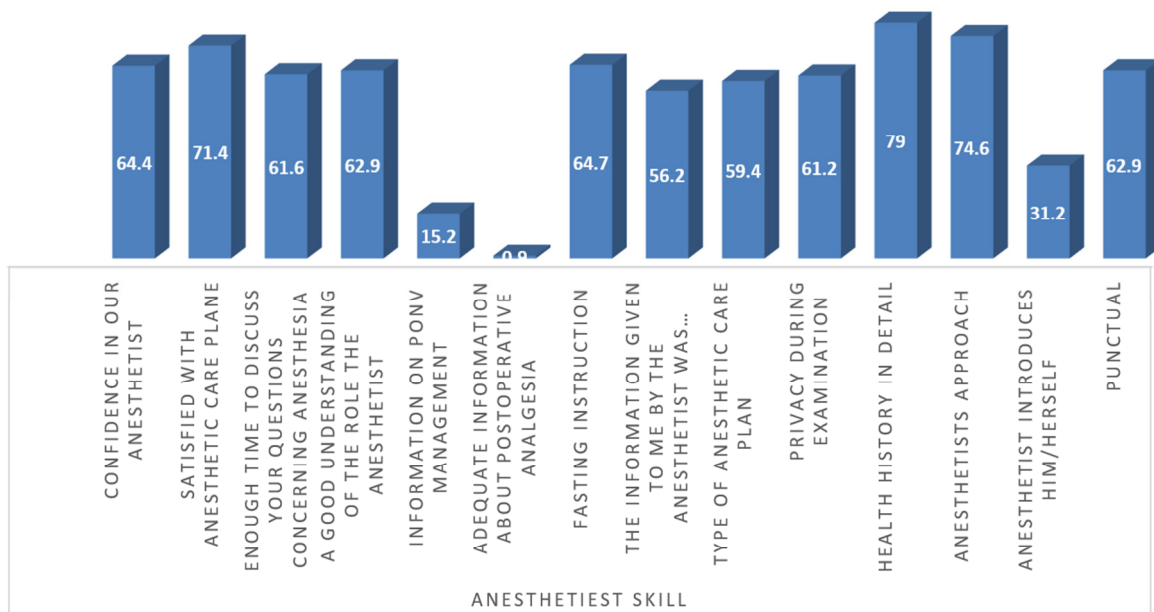
### Preoperative anesthetic evaluation

The overall satisfaction of patient regarding physical facility 65.74% of the respondent were satisfied 53.9%, were found anesthetist communication skills were satisfied and the quality of the services found 73.8% at menelik hospital. (Figure 3,4 and 5).

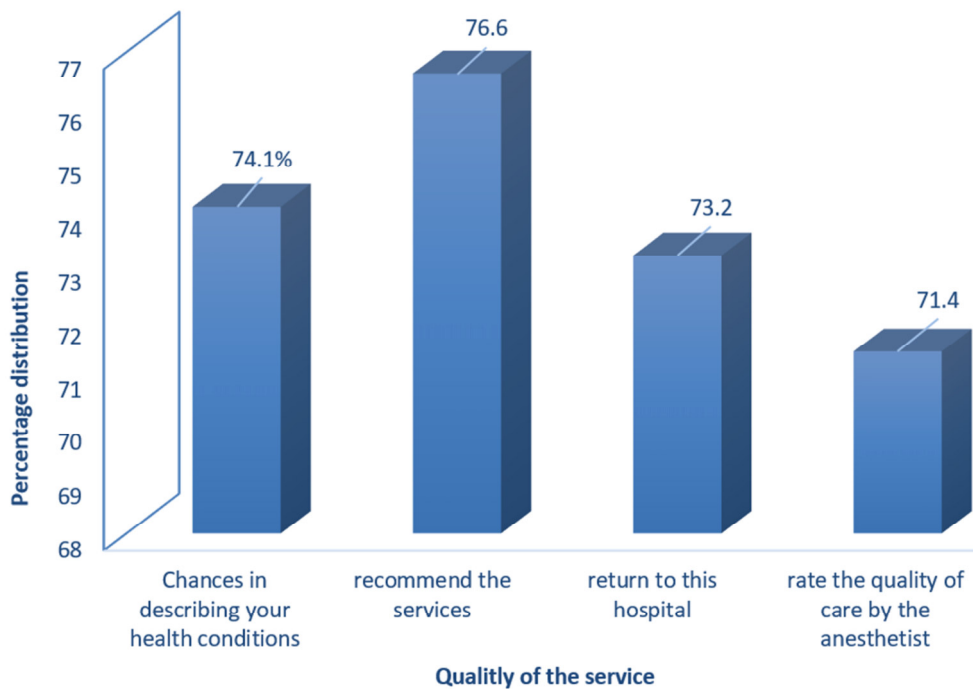
In the binary analysis, satisfaction level was associated with age (P =0.030) with at the group of 29 to 38 years old (AOR =0.005) in 95% CI 0.00-0.594 and family incomes of the patient significantly associated (P = 0.029) the less the income the more satisfied (Table 3)



**Figure 5.2. Level of satisfaction of the patients at Menelik II Referral Hospital in relation to the physical facility Addis Ababa, Ethiopia2016.**



**Figure5. 3. Overall satisfaction of the patient in the skill of anesthetist at Menelik II hospital Addis Ababa Ethiopia,2016.**



**Figure 5. 4. Level patients of satisfaction in relation to Quality of services at Menellik II Hospital, Addis Ababa, Ethiopia, 2016.**



**Table-5.3. Association between various determinants and total satisfaction among patients who planned to undergo elective surgery and take preoperative assessment in AOR at M II Referral Hospitals, Addis Ababa, Ethiopia, 2016.**

Characteristics		Satisfied		Dissatisfied		AOR	P-Value
		Frequency	%	Frequency	%		
Age in years	≤18 years	2	40	3	60	0.00	0.999
	19–28 years	19	79.2	5	20.8	0.10	0.126
	29–38 years	33	55.9	26	44.1	0.005	0.030
	39-48 years	34	70.8	14	29.2	0.031	0.111
	49–58 years	31	75.6	10	24.4	0.76	0.237
	59-68 years	32	97	1	3	31277468	0.998
	≥69 years	11	78.6	3	21.4		
Educational status	Illiterate	33	89.2	4	10.8	0.016	0.089
	Read and writes	18	85.7	3	14.3	0.010	0.094
	Elementary	25	67.6	12	32.4	0.047	0.112
	Secondary	32	69.6	14	30.4	0.032	0.058
	Diploma	36	76.6	11	23.4	0.735	0.797
	Degree and above	18	50	18	50		
Address	Urban	108	68.4	50	31.6	0.065	0.090
	Rural	54	81.8	12	18.2		
Income	< 1000 birr	53	80.3	13	19.7	30.4	0.029
	1000-2000	89	76.1	28	23.9	2.544	0.401
	Greater than 2000	20	48.8	21	51.2		
Patient has comorbid disease	Asthma	7	53.8	6	46.2	0.000	0.999
	HPN	25	69.4	11	30.6	0.000	0.999
	DM	14	82.4	3	17.6	0.000	0.999
	Psychiatric	1	100	0	0	0.274	1.000
	Renal failure	6	100	0	0	0.486	1.000
	Others	5	71.4	2	28.6	0.000	0.999
	Asthma & HPN	1	100	0	0	0.123	1.000
	DM & HPN	9	90	1	10	0.000	0.999
	DM & asthma	3	100	0	0		

## DISCUSSION

The preoperative evaluation of a surgical patient by an anesthetist is crucial interaction between the patient and the anesthetist. This evaluation allows the anesthetist to assess the patient's medical condition; evaluate the patient's overall health status; determine risk factors related to anesthesia; discuss the techniques of anesthesia and available options for postoperative management.<sup>6</sup>

All these processes can improve anesthesia safety, which contributes highly to enhance outcome for surgical patients. Patient satisfaction is also considered an important indicator of the quality of health care delivery.

In this study anesthetist introduced him/her- self to the patients 31.2%, approaches of the anesthetists to the patient were 74.6 % and 50.6 % of the respondents were not given adequate information about anesthesia, 56.2% of the respondent did explained their type of anesthetic care plan, 61.6% did have enough time to discuss questions concerning anesthesia with the anesthetist and 59.4% showed that the overall proportion of patients who said they were satisfied with anesthesia services at menelik second referral hospital was 72.3 %. This finding was very low compared to a study conducted in Greek showed that the overall patient satisfaction in anesthesia services rates in the range of 96.3%.<sup>35</sup> And the study conducted in 2013 at Gondar university Hospital, North West Ethiopia anesthetist introduced him/her- self to patients 51.3 %, approaches of the anesthetists to the patient were 98.1 % and 50.6 % of the respondents were not given adequate information about anesthesia, 73.1 % of respondents were not given a chance to choose type of anesthesia and 76.3 % of respondents were not given a chance to ask questions about anesthesia and Overall patient satisfaction with the preoperative anesthetist visit was low (64.7%) in Gondar university Hospital.<sup>48</sup>

This could be due to different socio-demographic characteristics and study Design.

In this study, the level of satisfaction of males was 70.5 % and that of females was 74.7 % ASA 3-4 patient was significantly less satisfied than ASA 1-2 and 22.1% of college diploma level was satisfied linked to the study conducted in Saudi Arabia showed that education level and anesthesia severity score classification ASA found that female dissatisfaction was significantly higher than male. Also, patients with ASA I–II were

significantly less satisfied than ASA III patients, and university-level educated patients were less satisfied than others. 42.

This inconsistency might be due to a difference in study design. We interviewed patients after operation which could enable to explore the problem properly but self-administered questionnaire was used in Saudi Arabia.

In this study the age group 29-38 years old was significantly satisfied with the P Value of 0.030 but the study conducted in Maniac, Mozambique and Japan as age increases patient satisfaction rate decreased, this change might be due to large number of aged patients were included in our study in Japan they included small number of aged patients 21,38

In our study, the fact that only a 59.4 % of patients were informed about the type of anesthesia and the possible postoperative complications and their management options, postoperative analgesia 0.9 %, and PONV 15.2 % was very low when compared to the study done in 2014 Gondar university hospital, with a response rate of 87.9%.<sup>6</sup> A study conducted in Australia, patient satisfaction and other predetermined outcomes such as nausea; vomiting, pain and complication were assessed. The overall level of satisfaction was high (96.8 %).<sup>30</sup>

In this study 83.5 % were responded as satisfied to cleanliness of preoperative room where as 66.1% were as satisfied to find the preoperative clinics was low in this hospitals compared the study conducted in 2013 at Bahirdar Felege Hiwot Referral Hospital, North West Ethiopia revealed that 93.2% were responded as “satisfied” to cleanliness of service delivery rooms, where as 70.8% as “dissatisfied” to availability of sign and direction indicators to ease the way in the hospital.<sup>47</sup> In Indian 2010 study done on measuring patient satisfaction at public health Facilities found that 65% satisfied patients with respect to cleanliness and 49% patients were unsatisfied about sitting arrangement.<sup>41</sup>(Table 3).

Patient satisfaction is the essential indicators that reflects the services quality at any level of health services.

The study on patient satisfaction is an effective means of evaluating the performance of the hospital from the sight of the patient.

Overall patient satisfaction with the preoperative anesthetist visit was low (73.4%) at menelik the second referral hospitals.

On anesthetist skill the patient had 54.7 % of patient were satisfied from the anesthetist was given fasting instruction clearly

Anesthetic care plane, the low satisfaction was just from introduction of anesthetist and permission before anesthetist’s examination, adequate Information about postoperative analgesia and PONV management.

According to the result the patient highest percentage were health cost covered by the patients and patient visited in the hospital was new patients.

According this finding had not comorbid diseases take the majority of the percentage and ASA one patient were account the majority.

## CONCLUSION

In this study majority of the participant reported that it is important to discuss with anesthetist in the preoperative anesthetic evaluation.

It will be helpful in keeping knowing the problem of the patient and improving the quality of the services.

## RECOMMENDATIONS

Patient satisfaction assessment should be regular conducted at least once in the year.

It will be helpful in keeping knowing the problem of the patient and improving the quality of the services.

Continuous effort should be made by the hospital administrative

The hospital administrator’s post a clear location symbol.

Training should be given to anesthetists in the areas of the communication skills.

**Funding:** Addis Ababa University

## Competing interests

We declared that we had no competing interests.

## Authors’ contributions

MS and AM have contributed to conception, design of the study, data acquisition, data entry, data analyses, result interpretation, manuscript development and revision. WA and BG has contributed to conception, initial design of the study, data acquisition, data analyses, result interpretation and manuscript development. All authors read and approve the final manuscript.

## Acknowledgements

Our acknowledgement goes to Addis Ababa University for their financial support.



Then, we would like to thank Menelik II Referral Hospitals administrators and staffs for their cooperation. Then, we would like to thank to authors of articles, and on-line information for the valuable works, we have read and cited in our paper.

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