



St. Paul Hospital Millennium Medical College Graduate Study Program

**Patient Satisfaction and Associated Factors among Cardiovascular
Surgery multi Cardiac Centers in Addis Ababa, Ethiopia 2023**

By:- Tesfaye Worku

Addis Ababa, Ethiopia

May, 2023



St. Paul Hospital Millennium Medical College Graduate Study Program

Patient Satisfaction and Associated Factors among Cardiovascular Surgery multi Cardiac Centers in Addis Ababa, Ethiopia 2023

Tesfaye Worku

Teshal Biku (Asst. Professor) and

Seada Adem (MSc)

**A Research thesis submitted to school of Nursing; Presented in Partial fulfillment of the
Requirements for the Degree of MSc in Cardiothoracic Nurse Practitioner; St. Paul
Hospital Millennium Medical College**

Addis Ababa, Ethiopia

May 2023

Name of investigator	Tesfaye Worku
Full title of the research project	Patient Satisfaction and Associated Factors among Cardiovascular Surgery multi Cardiac Centers in Addis Ababa, Ethiopia 2023
Duration of the project	July 2022 to June 2023
Study Area	The study will be conducted in six selected hospitals in Addis Ababa, Ethiopia
Total Cost of the project	29000EB
Source of Funding	St. Paul Hospital Millennium Medical College Graduate Study Program
Address of investigator	Cell Phone: 0929351405/0968192150
	Email:tesfaye65574@gmail.com/worktesf27@gmail.com
Name and address of Advisors	Teshal Biku (Asst. Professor),Addis Ababa, Ethiopia and Seada Adem(MSc) Addis Ababa, Ethiopia

Acknowledgements

I would like to express my gratitude to St. Paul's Hospital Millennium Medical College School of Nursing for providing me with this opportunity to develop in my career.

I appreciate the consistent guidance and support from Teshal Biku (Asst. Professor) and Seada Adem (MSc), who served as my advisors.

Finally, my heartfelt thanks go to data collectors, supervisors, study participants, and health institution administrators for their kind cooperation and helpful contributions. My thanks also go to my wife, Selam Agidewu and my families, who provided continuous support and assisted me in all aspects of this research.

Acronyms and Abbreviations

ACH	Addis Cardiac Hospital
ANA	American Nursing Association
BLSH	Black Lion specialized hospital
CCE	Cardiac Center Ethiopia
CVD	Cardiovascular Diseases
CHFE	Children's Heart Fund of Ethiopia
ERAS	Enhanced recovery after surgery
IHD	Ischemic Heart Disease
ICU	Intensive Care Unit
LOS	Length of Stay
NCD	Non communicable disease
SPS	Software Package of Social

Contents

Acknowledgements.....	1
Acronyms and Abbreviations	2
Contents	3
List of Tables and Figures.....	5
List of Tables	5
List of Figures	5
1. CHAPTER ONE	1
1.1. Background.....	1
1.2. Statement of the Problem.....	2
1.3. Significance of the Study	3
2. CHAPTER TWO:	5
2.1. Literature Review.....	5
2.2. Conceptual Framework.....	9
CHAPTER THREE	10
3. Objective	10
3.1. General Objective:	10
3.2. Specific objectives:	10
CHAPTER FOUR.....	11
4. Methodology	11
4.1. Study area:	11
4.2. Study Period.....	11
4.3. Population:	11
4.3.1. Source of population	11
4.3.2. Study population	11
4.3.3. Inclusion criteria	12
4.3.4. Exclusion criteria	12
4.4. Sample Size:.....	12
4.5. Sampling Procedures:	13
4.6. Measurement.....	15

4.6.1. Study Variables	15
4.6.2. Instruments:.....	15
4.7. Data Collection and Procedures:.....	16
4.8. Operational Definitions:.....	16
4.9. Data Quality Control and Management:	17
4.10. Data Analysis Plan and Procedures:.....	17
4.11. Ethical Consideration:.....	18
4.12. Dissemination of Results:.....	18
CHAPTER FIVE:	19
5. RESULT	19
5.1. Socio demographic characteristic	19
5.2. Clinical characteristics of participants	20
CHAPTER SIX:.....	25
6. DISCUSSION	25
CHAPTER SEVEN:	27
7. Strength and limitation.....	27
7.1. Strength.....	27
7.2. Limitation.....	27
CHAPTER EIGHT:	28
8. Conclusion and recommendation.....	28
8.1. Conclusion	28
8.1. Recommendation.....	28
CHAPTER NINE.....	29
9. Reference	29
10. Assurance of Principal Investigator	32
11. Annexes.....	33

List of Tables and Figures

List of Tables

Table 2: surgical factors of patient satisfaction 23

Table 3: Level of patient satisfaction towards cardiovascular surgery 25

Table 4: Factors associated with patient satisfaction towards cardiovascular surgery...27

List of Figures

Fig 1: levels of patient satisfaction and associated factors.....12

Fig 2: Patients admitted for two month in governmental and private cardiac center.....17

Fig 3: patient satisfaction among cardiovascular.....24

Abstract

Background; -Patient satisfaction is defined as a complex, subjective belief with components of the physical, emotional, mental, social, and interpersonal kinds. The measurement of patient satisfaction as a method of monitoring the standard of healthcare delivery in healthcare institutions has drawn more attention globally. When a patient notices a gap between the treatment they expected and what they received, they become dissatisfied.

Objective; -The aim of this study was to assess the level of patient satisfaction and associated factors among patients who underwent cardiovascular surgery.

Methods; - An institutional based cross-sectional analysis was carried out for 226 patients between March and May 2023 at five separate Addis Ababa hospitals where cardiovascular surgery was performed. The investigation was carried out in the cardiovascular surgery ward and intensive care unit. The information was cleaned and transferred to Epi-data version 4.6 before being exported and examined in SPSS version 26. The sample was expressed as percentages and frequencies using descriptive statistics. To assess the relationship between the independent and outcome variables, both bivariate and multivariate analyses were performed. To eliminate confounding variables, a variable that can fit a binary logistic regression model and has a P-value less than or equal to 0.25 in bi-variable logistic regression analysis was subjected to multivariable logistic regression analysis. Statistical significance was declared at a P-value <0.05.

Result: -The level of satisfaction in this study among patients underwent cardiovascular surgery was 72.1%. which was moderate and 35.6% participants were equal to and older than 59 years of age with a mean age of 48.2 + 19.5 years. AOR (95% CI): 3.51(1.76, 7.03). for free service, AOR (95% CI): 0.44(0.22, 0.86) for males and AOR (95% CI): 0.32(0.14, 0.73) for married were respectively associated.

Conclusion and recommendation: - The study found out that the satisfaction levels of cardiovascular surgery patients at cardiac centers of Addis was to be the lowest. Better satisfaction is recorded in explanation of patients' disease condition, treatment options, respects the culture, dignity of patients and the information provided by health professionals about the surgery. There is a major gap in areas of explaining about the surgical procedure, considering the patient's preferences about the surgery.

Periodic assessment of health services and further study in other dimensions of patient satisfactions including facility design dimension, which can explore from the user's satisfaction perspective, is recommended as a fundamental initiative in the improvement of the performance of health care delivery in the facility

Keywords; -Cardiovascular surgery, patients' satisfaction

1. CHAPTER ONE

1.1. Background

Satisfaction is a subjective feeling about fulfillment of wishes or the degree of congruence between expectations and accomplishment. Patient satisfaction commonly refers to how well the patient's expectations about the service of medical care have been met. Currently, it is the healthcare system's top priority, especially in developing countries(1). Patients who are satisfied are more likely to have positive interactions with healthcare personnel and feel that their expectations, goals, and preferences have been met to some level. It is described as a complicated and individualized idea influenced by social, cultural, psychological, emotional, and physical variables(2)(3).

A systematic review and meta-analysis methodology used in had large significant effects on reducing post-intervention preoperative anxiety, length of ICU stay, and improving knowledge, but small significant effect sizes on lowering postoperative anxiety, depression, and enhancing satisfaction(4).

Patient satisfaction improves communication, patient-centered attention, and a trusting relationship between patients and healthcare professionals. Good communication between patient and healthcare before and on the day of the operation also has an impact on satisfaction. Patients value being respected and heard by healthcare professionals(5).

Patient satisfaction with nursing care were a crucial determinant of the quality of healthcare services offered in hospitals and as one of the methods for assessing the effectiveness of healthcare services. It is a multidimensional idea that includes the following components: the art of care, the technical quality of care, convenience, affordability, physical and environmental organization, availability of the resource, continuity of care, and outcomes and a valid and reliable instrument should be used in patient satisfaction evaluation surveys to measure the patient's response to the care they got(2).

Assessing patients' views can help healthcare providers to identify their shortcomings. It can also help healthcare management to identify weaknesses in the healthcare system. Moreover, seeking patients' views about their health care has human right implications and is central to patient-centered care(6).

The research on educational strategies for heart surgery patients: a systematic analysis of key aspects and outcomes in 2022 has According to the findings of a comprehensive review, patients that use educational strategies before and after having heart surgery can significantly lower their stress levels and financial burdens while also receiving better treatment and having more information(7).

Patients' satisfaction is the surgical nurses' most significant duty in the preoperative patient information processes. Although more than half of participants (56.2%) were happy with the preoperative information their nurses provided, less than half said they were extremely happy (42.8%). Studies show that participants who has good patients' satisfaction saw a quicker drop in their anxiety levels(8).

Patients have shown great fear of dying during anesthesia, waking up during anesthesia, and experiencing pain or nausea after surgery in previous patient surveys on anesthesia. More acceptable patient expectations and higher satisfaction. It involves teaching the patient about the procedure and should meet their expectations for the anesthesia, prior medication, and fasting.

1.2. Statement of the Problem

The study conducted on patient satisfaction with nursing care in Ethiopia by using systematic review and meta-analysis about one in two patients were not satisfied with the nursing care provided in Ethiopia and may be attributed to several factors(2).

Patient satisfaction is an extremely desirable result of clinical care in hospitals and may even be a component of health status itself. Whatever its strengths and weaknesses, a patient's statement of satisfaction or dissatisfaction is a judgment on the overall quality of hospital care. It is recommended that consideration of patient satisfaction be key when determining how well hospitals are providing care(5).

The study conducted on patient satisfaction predicts both compliances and utilization even be related to improved health and also it is associated with continuity of care, the doctor's communication skills, the degree of his or her patient centeredness and the congruence between intervention desired(9).

The study conducted on recovery of cardiac surgery patients concluded that having a positive experience, getting information increased satisfaction and having expectations that did not match recovery experiences, not being listened to, experiencing unprofessional behavior by care providers, experiencing continued care needs after going home increased dissatisfaction(10).

According to the study conducted to examine the association between patient characteristics and preoperative satisfaction. They conclude that Patient satisfaction was influenced by a variety of important factors, including poor staff-patient relations, a lack of preoperative surgical education and counseling, fear of serious complications, poor service quality, and other socio demographic characteristics. They advise that certain areas need to be improve, such as cutting down on waiting times prior to procedures, offering more information regarding the procedure and the time spent, and enhancing communication skills with a focus on interpersonal skills(11).

The level of postoperative patient satisfaction to patients underwent cardiovascular surgery is unclear and insufficient. In order to achieve better postoperative outcomes and patient satisfaction, this study will reduce information gaps and fear and anxiety(12).

Patient satisfaction was higher when written information was supplemented with verbal information during the pre-operative visit is on informed consent, surgical procedure episode, discharge, and postoperative care and the nurse-to-patient ratio, technical infrastructure (such as the medical records system), and operations of admission and discharge are all significant predictors of patient surgical experience. Patient satisfaction is also significantly influenced by these organizational and structural elements of the perioperative environment(13).

Assessing patient satisfaction towards cardiovascular surgery is crucial to identify whether patients are satisfied or not and to act on them for further improvement in the healthcare system where there are cardiovascular surgery centers.

1.3. Significance of the Study

The study on patient satisfaction among cardiovascular surgery patients in selected governmental and private cardiac centers of Addis Ababa would be of great benefit for different groups

Health profession and other health-related professions: The findings of the study can give insights and awareness about the quality of care given to cardiac patients as basis for care plans,

training and seminars geared towards improving the quality of care and tool for assessment in quality control. The research can give first hand findings from cardiac patients by considering all the genuine feelings of the cardiac patients.

Government and private hospitals where cardiac units were found: This research will serve as a basis for the institution's quality improvements about satisfaction to cardiac patients in the factors, tangibility, and feasibility factors considered in the research. A better understanding of patient satisfaction results in better patient experiences in hospitals, greater satisfaction and improved outcomes of the surgery.

Future Researchers: This research will serve as a reference for future researches that will choose to have similar topics. They will be able to enhance specific points of the study as well as identify variables that can strengthen the implementation of the study.

Generally, this research can enable us to know the level of preoperative patient satisfaction and design better services provision based on clients' comments and suggestions towards the unit services in general.

2. CHAPTER TWO:

2.1. Literature Review

Patient satisfaction is a subjective and complex concept, involving physical, emotional, mental, social, and cultural factors and several studies have been carried out on the issue of patient satisfaction with care in many countries globally (14).

The WHO states that responsiveness is a substitute for satisfaction as a measure for assessing a health system's performance in terms of what service users anticipate from it. According to the WHO, responsiveness is a measurement by which a health system performs in fulfilling the expectations of the patients through the following responsiveness factors: respect for dignity, confidentiality, autonomy, prompt attention, quality of amenities, access to social supports, and provider choice(15).

Patient satisfaction after elective and acute thoracic surgery is associated with postoperative complications was lower in patients with complications rather than those without and about 22% of the variation in general inpatient satisfaction(16).

The standard of nursing care, it is critical for nurses to identify the variables that affect patient satisfaction. Numerous factors, such as patient-related ones (such as residence or prior hospitalization history) and context-related ones (such as the availability of the assigned nurse or nurses, the nurses' behaviors, and the immediate physical environment), can have an impact on a patient's satisfaction with nursing care(7).

The study conducted on Patients' expectation of postoperative course and satisfaction following cardiac surgery in 2023 that took part in an online survey and the overall post-surgical satisfaction was (86%)(17).

Study conducted in Britain on general patient satisfaction after elective and acute thoracic surgery is associated with postoperative complication is about 78% and concludes that postoperative complications were associated with a lower patient satisfaction following thoracic surgery in our group of patients(16).

The study evaluated the Patient Satisfaction with Cardiology Services in Georgia hospital and concluded that there was a moderate level of satisfaction with the accessibility of healthcare services(17).

Patient satisfaction is one of the established standards to evaluate achievement of the services being provided in the hospitals and it was concluded that ambient artificial light, music, the visibility of medical equipment, the substance of the floor, and nature all had an impact on patient satisfaction. The findings indicate that patients who stayed in rooms with plants were satisfied with their accommodations than those who stayed in rooms without plants(18).

Study conducted at Bahawal Victoria hospital, Bahawalpur in 2019 by Dr. Muhammad Ali Sial with Descriptive cross sectional study on 100 sample size about 99% of the patients were satisfied with the services provided at the Cardiac care unit of Bahawal Victoria Hospital whereas only 1% showed dissatisfaction(19).

The study conducted on patients' satisfaction with primary health care services at capital health region, Kuwait by using cross sectional survey method in 2003. Overall, around 99.6% of patients were satisfied(9).

In Iftikhar Ahmad's 2011 study, those patients who were female reported higher levels of treatment and management satisfaction than patients who were male. Patients from the suburbs were happier with hospital management, middle-class those were happier with the facility's general atmosphere, and patients 60 and older were happier with the management.(20).

In 2013, studies in Kashihara, Japan, revealed that 3.9% of people were dissatisfied with anesthesia treatments, and that patient involvement in decision-making improved satisfaction with the services. In comparison to men, women expressed more dissatisfaction(21).

Studies on Greek (Athens) patients undergoing cardiac surgery have measured early postoperative complications and length of stay under the impact of different factors. but none of the studies so far had investigated the effect of a nurse led programs on patients' satisfaction(22).

A study conducted by randomized controlled study to evaluate, the in open heart surgery patients reduced anxiety and improved postoperative outcomes and they found that patients in the

intervention group had much lower levels of anxiety and depression, and a slightly shorter length of stay after open heart surgery(23).

The study on patient and family satisfaction levels in the intensive care unit after elective cardiac surgery providing information about postoperative care in the intensive care unit (ICU) to patients and families lead to lower anxiety levels, and increased satisfaction with healthcare(24).

Multicenter prospective cross-sectional study was conducted in all general hospitals found in North Shewa Amhara Regional, Ethiopia in April 2021 to assess perioperative adult surgical patient satisfaction and its predictors following surgery and anesthesia services in three general Hospitals in a low-income country. The overall patient satisfaction was 64% about 411 patients have participated in the study(25).

Factors affecting patient satisfaction

Patient satisfaction were greatly influence by the availability of information and education. Additionally, educating patients about their diseases is essential in helping them get over their fear of the unknown. Another reason why patient satisfaction could vary depending on social norms is that tolerance and maturity levels rise with age. Additionally, it found that higher educational attainment was substantially associated with discontent, with patients with lower levels of education being the most satisfied.(26).

Patient education has numerous advantages, such as enhancing continuity of care, lowering anxiety, reducing problems, promoting adherence to the care plan, maximizing freedom, and empowering patients. The effectiveness of preoperative instruction in encouraging postoperative outcomes was shown to be high, with 98.4% of patients not developing postoperative complications(27).

In the care of surgical patients, reducing preoperative anxiety, reduced functional status, and postoperative pain is essential for effective recovery and patient satisfaction(28).

Institution-based cross-sectional study was conducted from December to January 2017/8 on elective surgical inpatient satisfaction with perioperative anesthesia service with 88.3% of the patients were satisfied and conclude the overall patients satisfaction, in Ayder comprehensive specialized hospital with perioperative anesthesia service is low(29).

Patient characteristics Socio-demographic factors

Such as gender, age, educational status, and health proficiency rate influence the educational needs of the patients. Also, the patients' mental states influence the patient's communication with health care experts, which can impact information awareness(27).

Health professional factor

Hospital staff competency and techniques, their medical effectiveness, the environment they create and the support they offer, the overall attitude and service proceedings are determinants of Patient Satisfaction(30).

Institutional factor

The hospital's physical benefit incorporates the cleanliness and maintenance of the facility, the accessibility of physical facilities, such as resident rooms, technological capability, diagnostic test rooms, beds, ambulance services, waiting rooms, and operation theaters. Several studies have already attempted to ascertain the impact of the physical services in quality service delivery(30). The different attributes of satisfaction from environment are: comfortable environment, cleanliness, facilities & services, building and convenient location of the hospital(11).

The study was conducted to assess the Level of Patient Satisfaction with Inpatient Services and its determinants. A total of 46.2% of patients were satisfied by the services they received in the hospital(31).

According to a study conducted in 2014 at the Debre Markose Referral Hospital in North West Ethiopia, patient expectations, medical conditions, health status, psychosocial factors, and physician interpersonal skills all had a greater impact on patient satisfaction and cognition than did the amount of information and instructions given(32).

The study conducted at governmental hospitals in Addis Ababa, Ethiopia about 84.6% of survey participants reported being satisfied with services. Preoperative patient satisfaction was negatively predicted by preoperative anxiety, prior surgery, and preoperative information about surgery(5).

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,

whereas 70.8% as “dissatisfied” to availability of sign and direction indicators to ease the way in the hospital(33).

2.2. Conceptual Framework

This conceptual framework had developed from reviewing different literature. As indicated by different studies socio demographic such as age, sex, marital status, educational level, and history and type of anesthesia, previous operations, type of operations, duration of hospital stay, pre and postoperative pain and anxiety are assess the patient’s satisfaction and identify the institutional or environmental factors(34).

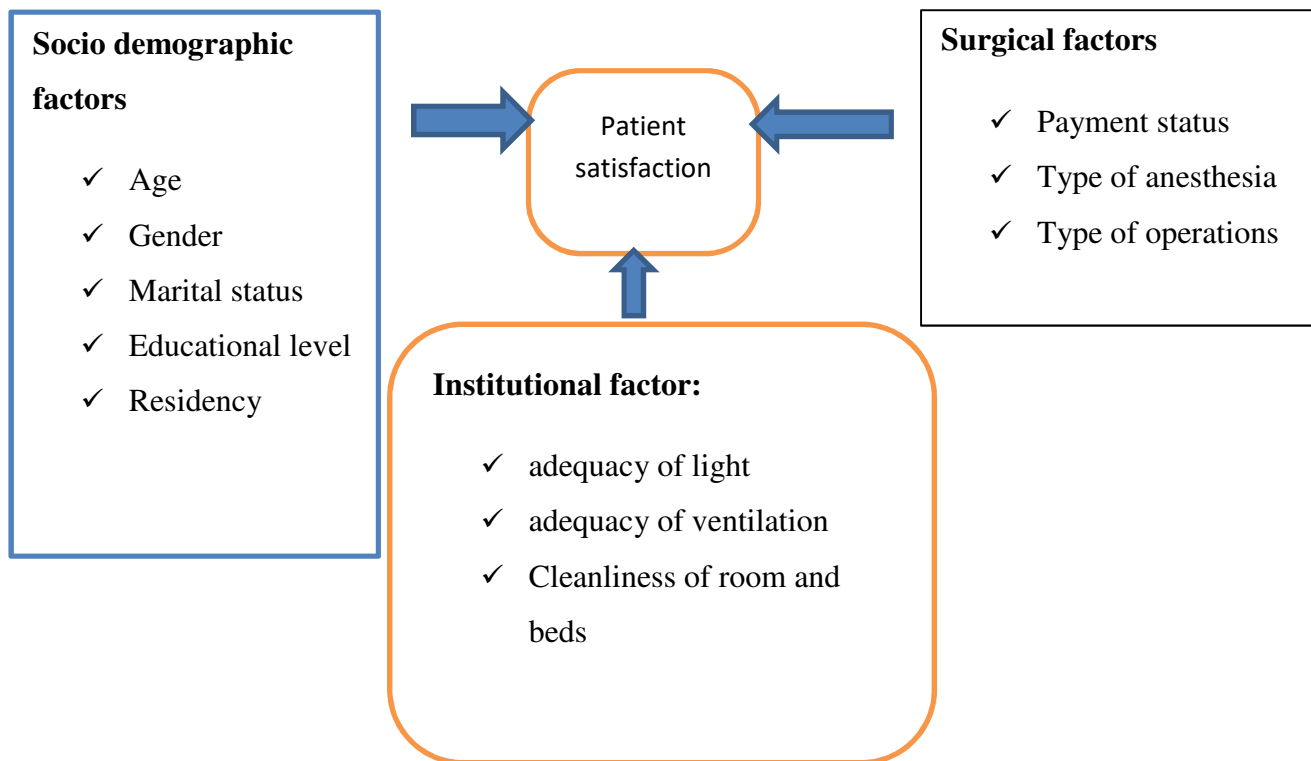


Fig.1: Conceptual framework assesses the levels of patient satisfaction and associated factors

CHAPTER THREE

3. Objective

3.1. General Objective:

To assess the level of patient's satisfaction and associated factors among patients underwent cardiovascular surgery in governmental and private Cardiac Centers, Addis Ababa, Ethiopia 2023

3.2. Specific objectives:

- 3.2.1. To assess the level of patients satisfaction towards patients underwent cardiovascular surgery in selected Cardiac Centers of Addis Ababa, Ethiopia 2023
- 3.2.2. Identify factors associated with patient satisfaction among patients underwent cardiovascular surgery in selected Cardiac Centers of Addis Ababa, Ethiopia 2023

CHAPTER FOUR

4. Methodology

4.1. Study area:

Addis Ababa is the capital city of Ethiopia and the capital of the African Union and more than 100 International embassies. According to the Central Statistics Census data of (2007), the total population of Addis Ababa is 3.5 million with an annual growth rate of 2.7 percent. The total area of Addis Ababa is 530 km² located in an altitude range of 2200-3000 meters above sea level. Related to the location of most of the hospitals, patients from all over the country are traveling to Addis Ababa to get medical services. The cardiac units were found in Addis Ababa and the cardiac patients were forced to travel to Addis Ababa to get the services. There are 45 hospitals in the city overall, 13 of which are governmental and 32 private. Due to their availability of cardiac ICUs, wards, and cardiovascular surgery, the two public hospitals Black Lion (Tikur Anbessa) Specialized Hospitals (BLSH) and St. Peters Hospital, as well as the three private hospitals Gesuned cardiac center, Cardiac Center Ethiopia (CCE), and TAZEMA Medical and Surgical Specialized Cardiac Center, are chosen purposely because they have cardiovascular surgery.(35).

4.2. Study Period

Institutional based Cross-sectional study design was conducted from March 15/2023 to May 15/2023.

4.3. Population:

4.3.1. Source of population

All elective patients for cardiovascular surgery in the selected five cardiac hospitals, in Addis Ababa, Ethiopia during the study period

4.3.2. Study population

All postoperative patients that stayed in the hospital at ICU and surgical ward more than 12 hours and those fulfill the inclusion criteria during the study period.

4.3.3. Inclusion criteria

All cardiac patients age above or equal to 18 years old and who stay more than 12 hrs. in the hospital after the procedure.

4.3.4. Exclusion criteria

Patients who are seriously ill and unable to communicate were excluded from this research.

4.4. Sample Size:

The sample size was estimated by using a single proportion formula and assuming the level of significance (α) equals 0.05 and marginal error of 5% and proportion of 84%.

$$n = \frac{(Z_{\alpha/2})^2 \times p(1-p)}{d^2}$$

Where, n = the required sample size

α = confidence interval (95%)

p = proportion level of patient satisfaction 84%=0.84 (from related research topic)(5).

d= is the margin of sampling error tolerated (5%) =0.05

$$n_i = \frac{(1.96)^2(0.84)(1-0.84)}{(0.05)^2} = \frac{3.8416 \times 0.84 \times 0.16}{0.0025} = \mathbf{206}$$

Adding 10% for those who, incomplete and the sample size were:

$$\text{Sample size} = 206 + 206(0.1) = \mathbf{226}$$

The total number of patients having surgery in five cardiac center hospitals for the last two months was around 226 patients.

4.5. Sampling Procedures:

A total of 05 hospitals were identified in Addis Ababa city, two governmental and three private hospitals. They were selected purposely because they have cardiovascular surgery, cardiac ICU and cardiac wards.

According to records from each facility; Black Lion (Tikur Anbessa) Specialized Hospitals (BLSH), Peters Hospital, Gesund cardiac center, Cardiac Center Ethiopia (CCE) and TAZEMA Medical and surgical specialized cardiac center were saw, respectively, 20, 59, 78, 78 and 29 patients per two months. The numbers of participants were then estimated using the Proportional allocation formula. The number of participants was equal to $N_i \times n/N$, where N_i is the number of patients who visit the hospital per two months for services, n is the sample size of 226, and N is the sum of the total number of patients who visit each hospital for two months of services.

Black Lion (Tikur Anbessa) Specialized Hospitals (BLSH) $20 \times 226 \div 264 = 17$

Peters Hospital $59 \times 226 \div 264 = 50$

Gesund cardiac center $78 \times 226 \div 264 = 67$

Cardiac Center Ethiopia (CCE) $78 \times 226 \div 264 = 67$

Tazema cardiac center $29 \times 226 \div 264 = 25$

According to the aforementioned calculation, there are 17, 50, 67, 67 and 25 participants from (BLSH) and Pateros Hospital and 03 private Hospitals; Cardiac Center Ethiopia (CCE), Gesuned cardiac center and TAZEMA Medical and surgical specialized cardiac center respectively as shown below.

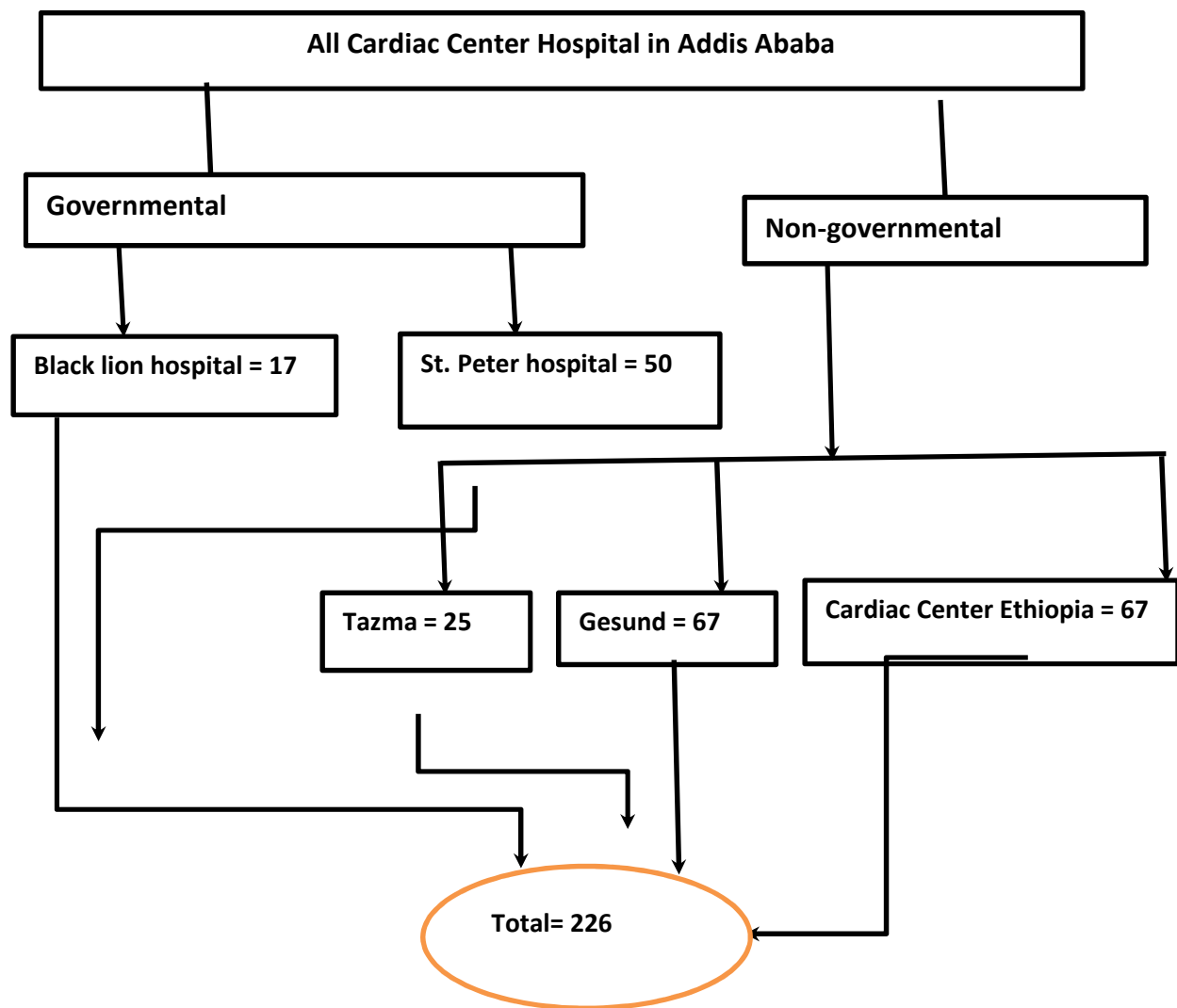


Fig. 2. Proportional Allocation of patient satisfaction towards cardiovascular surgery at five cardiac hospitals Addis Ababa, Ethiopia 2023

4.6. Measurement

4.6.1. Study Variables

Dependent Variables

- Patient satisfaction

Independent Variables

Socio-demographic characteristics are gender, age, marital status, educational level and Place of residence has an effect on patients satisfaction.

A surgical factor includes; the type of anesthesia, previous history of operations, type of operations and duration of hospital stay and methods of payment for the procedure has effect on patient's satisfaction.

Quality of infrastructure/Tangibility; tangibility criteria such as cleanness of the room, adequacy of light, adequacy of ventilation and comfortable beds increase patients happiness and satisfaction.

4.6.2. Instruments:

The study questionnaires were adopted from previous research study and used to accomplish the aim of the current study, and these tools were slightly modified by the researcher for the purpose of data collection by using two tools(36).

Socio-demographic characteristics:

Socio-demographic characteristics of respondents such as gender, age, qualification, occupation, marital states, residency, type of operation, anesthesia type and payment status included in the questionnaire is adopted to assess patient satisfaction.

Patient Satisfaction Questionnaire:

Questionnaires are used with slight modification as done by researchers, that include; information provision and staff-patient relationship has around 29 items.

4.7. Data Collection and Procedures:

Three B.Sc. and two M.Sc. trained nurses they do not involve in ICU and ward care did data collection. They have better experience in data collection and had training for a day with regarding the approaches to the patients and data collection methods. The questionnaire was designed to obtain information on socio demographic characteristics of respondents and patients satisfaction level with cardiovascular surgery service.. The questionnaires were first prepared in English, translated to the local language Amharic, and again back to translation to English to check for consistency.

During the actual data collection, the data collectors approached the patients with a high level of ethics based on the training provided consent form developed and annexed with this proposal. In their first entry to the patient's room, data collectors provided their warm greetings to the patients, explaining the purpose of the research, your participation is voluntary, only coded information was gathered and we strictly keep confidentiality of participants. Participating in this study did not result in any harm to the patients.

Each item on the questionnaire was given a rating between 1 and 5, and all response formats were converted to percentages. Accordingly, the 5-point Likert scale, where 1 was very dissatisfied and 5 was very satisfied, was converted as follows: 1 equal 0%, 2 = 25%, 3 = 50%, 4 = 75%, and 5 = 100%, respectively (6).

4.8. Operational Definitions:

- **Patient satisfaction** is the extent to which patients are happy with their healthcare. It is a participant's response to the circumstances, procedures, and outcomes of the services received.
- **Satisfaction:** The individual response for each satisfaction question was computed and the score greater than mean (50%) was considered as satisfaction.
- **Dissatisfaction:** The individual response for each satisfaction question was computed and then the mean score < 50 percentage considered as dissatisfaction.
- **Likert scale:** the scale that measures level of satisfaction and dissatisfaction (8).

4.9. Data Quality Control and Management:

Careful modification of the data collection tool according to Ethiopian situation, pre-test of data collection tool, training of data collectors, frequent checking of data collection procedures by principal investigator for coding and data cleaning can qualify the data.

Pre-test conducted with 5% of sample size at International cardiovascular and medical center before final data collection to assure clarity of the interview questions for respondents, after which correction of statements and not necessary variables like religion and ethnicity the respondents were removed.

Trained professional data collectors with close supervision collected data and daily information exchange including by telephone was used as a means to correct problems in the course of the data collection.

Consistency of items was tested and verified. The questions were prepared in English and translated into Amharic language and then back to English to keep its consistency and avoid language barriers of the data collectors and respondents.

Cronbach's Alpha will be calculate to know the reliability of data

4.10. Data Analysis Plan and Procedures:

The completed questionnaires were reviewed for consistency once data collection was complete, cleaned, revised, coded, entered, and entered into Epi-data version 4.6 then exported to SPSS statistical software (version 26) for analysis.

Descriptive statistics were utilized to express the sample. The outcome of the descriptive statistics was expressed as percentages and frequencies. Associations between independent and dependent variables were analyzed first using bi-variable analysis to identify factors that were associated with the outcome variable. Those factors which were found to have an association with the outcome variable at $P < 0.25$ and which fitted for binary logistic regression model were entered to multivariable logistic regression analysis to control the confounding factors. The magnitude of the association between the different independent variables in relation to dependent was measured using adjusted odds ratios (AOR) and 95% confidence interval and P values below 0.05 were

statistically significant. Results were present in tables and figures and conclusion was drawn based on the findings.

4.11. Ethical Consideration:

Ethical approval and clearance has been obtained from St. Paul's hospital millennium medical college ethical review committee and supportive letter was obtained from the Department of Nursing for the study area. After obtaining permission to collect the data and a cooperation letter from the study area then, data collectors obtained written informed consent from each study participant after explaining the objective of the study.

Participants were informed as they have full right to withdraw from the research process if they feel discomfort. During the data collection process, norms, values and morals of patients were respected by the data collectors and data was collected after the willingness of the participants.

4.12. Dissemination of Results:

The result of this study will be submitted to St. Paul's Hospital Millennium Medical College, department of nursing. A copy of the results will be disseminated to the hospitals those data collection takes place. To publish it in different journals, present it in workshops and conferences, further effort to be made.

CHAPTER FIVE:

5. RESULT

5.1. Socio demographic characteristic

222 out of 226 people were included in the study, with a 98% response rate, while 4 participants did not complete the questionnaire. Of those 117 (52.7%) are males.

In terms of age, the majority of participants (35.6%) were equal to and older than 59 years of age, while 51 (23%) were between the ages of 18 and 28. Participants' ages ranged from 18 to 88 years, with a mean age of 48.2 ± 19.5 years. From the total postoperative cardiac responses, 151 (68%) were married, 66 (29.7%) were not married, and 5 (2.3%) were divorced.

See Table.5.1. Socio-demographic characteristics of patients attending selected cardiac centers in Addis Ababa, Ethiopia, 2023

Variable	Category	Frequency	Percentage
Age	18-28	51	23
	29-38	28	12.6
	39-48	40	18
	49-58	24	10.8
	≥ 59	79	35.6
Sex	Male	117	52.7
	Female	105	47.3
Marital status	Married	151	68
	Unmarried	66	29.7
	Divorced	5	2.3
Educational Level	unable to read and write	79	35.6
	primary school	74	33.3
	High school	43	19.4
	Above college	26	11.7
Residency	Rural	57	25.7
	Urban	165	74.3

Occupation	Farmer and house wife	68	30.6
	Merchant	89	40.1
	Teacher	28	12.6
	health professional	21	9.5
	student	16	7.2

5.2. Clinical characteristics of participants

More than three times as many participants 174 (78.4%) had catheterization-type surgeries as open-heart surgeries 48 (21.6%). Most participants 174 (78.4%) were experiencing local anesthesia, while the remaining 48 (21.6%) were undergoing general anesthesia. Of them, 115 (51.8%) had paid, while the remaining 107 (48.2%) received free care.

Variable	Category	Frequency	Percentage
Type of surgery	Catheterization	174	78.4
	Open heart surgery	48	21.6
Type of Anesthesia	General anesthesia	48	21.6
	Local anesthesia	174	78.4
Payment status	free	107	48.2
	paid	115	51.8

Table .5.2.surgical factors of patient satisfaction towards

5.3. Level of patient satisfaction towards cardiovascular surgery

As fig.5.3 shows the overall level of patients' satisfaction was categorized into two categories: satisfied and dissatisfied. Patient's satisfaction among cardiovascular surgery patients was 160 (72.1%). About 123 (55.4%) of the participants reported being satisfied, with 57 (25.7%) being completely satisfied and 66 (29.7%) reporting being satisfied, while 99 (44.6%) were unsatisfied with the health professional's explanation about disease conditions and treatment options for the patients.

To know the reliability of data the Cronbach's Alpha was calculated and it is 0.916 after age was removed.

Reliability Statistics

Cronbach's Alpha	Cronbach's Alpha Based on Standardized Items	N of Items
.916	.892	35

Intra class Correlation Coefficient

	Intra class Correlation	95% Confidence Interval		F Test with True Value 0			
		Lower Bound	Upper Bound	Value	df1	df2	Sig
Single Measures	.237 ^a	.203	.278	11.884	221	7514	.000
Average Measures	.916 ^c	.899	.931	11.884	221	7514	.000

Two-way mixed effects model where people effects are random and measured effects are fixed.

a. The estimator is the same, whether the interaction effect is present or not.

b. Type C intraclass correlation coefficients using a consistency definition-the between-measure variance is excluded from the denominator variance.

c. This estimate is computed assuming the interaction effect is absent, because it is not estimable otherwise.

About 47.3% satisfied while 52.7% unsatisfied with the medical care provided in order to make them physically and psychologically ready for surgery.

Regarding explain the laboratory results and any imaging treatments about 45.5% of patients were satisfied, while 54.5% of participants expressed dissatisfaction

level of patient satisfaction among cardiovascular surgery

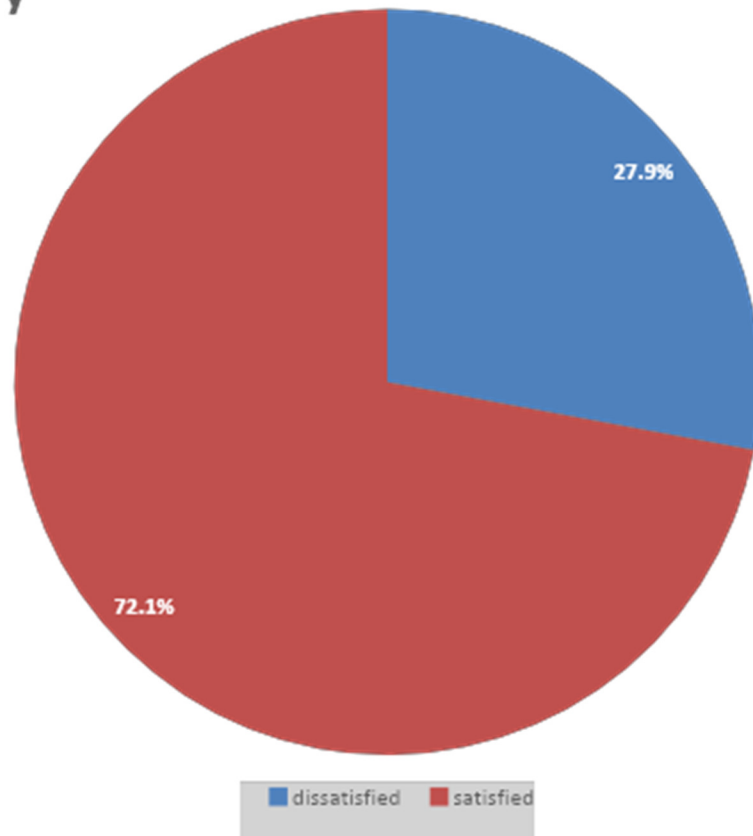


Fig. 5.3: Level of patient satisfaction for cardiovascular surgery patients attending selected cardiac centers in Addis Ababa, 2023

5.4. Factors associated with patient satisfaction

As shown in table 5.4 below that age of the participants, marital status and educational level were categorized into two for binary analysis.

In order to identify the variables associated with patient satisfaction for cardiovascular surgery patients, both bi-variable and multivariable logistic regression analyses were conducted. The gender of participants, residence, educational level, surgery types and method of payment has been found to be correlated with overall patient satisfaction at p values less or equal to 0.25. With COR (95% CI) values of 0.42(.23, 0.78), 1.43(0.71, 2.9), 1.32(0.72, 2.42), 1.08(0.53, 2.19) and 4.24(2.19, 8.21) respectively.

Multivariate logistic regression found that marital status, genders of the participants and the way of payment were significantly associated with the patient's satisfaction.

Participants with free service for surgery were three times more likely to have satisfaction when compared to participants with payment for surgery, AOR (95% CI): 3.51(1.76, 7.03). The Participants who are females were 56% more likely to have satisfaction when compared to those who were males AOR (95% CI): 0.44(0.22, 0.86) and regarding marital status, those who were 68% less likely to have satisfaction when compared those who were not married AOR (95% CI): 0.32(0.14, 0.73)

In contrast, regardless of the educational level, type of surgery, residency and occupation of the participants were not associated with patient satisfaction.

Tabel.5.4. Factors associated with postoperative cardiac surgery level of satisfaction among patients attending selected hospitals in Addis Ababa, 2023

Variables	Category	Satisfaction level		P value	COR	P Value	AOR
		satisfied	dissatisfied				
Marital status	Married	98(64.9%)	53(35.1%)	.001*	.27(.12,.58)	.007**	.32(.14,.73)
	Unmarried/divorce	62(87.3%)	9(12.7%)		1		1
Gender	Male	75(64.1%)	42(35.9%)	.006*	.42(.23,.78)	.017**	.44(.22,.86)
	Female	85(81.0%)	20(19.0%)		1		1
Payment	Free	92(86.0%)	15(14%)	.000*	4.24(2.2, 8.21)	.000**	3.51(1.76, 7.03)
	Paid	68(59.1%)	47(40.9%)		1		1

Education	Can't read and write	54(68.4%)	25(31.6%)	.359	.75(.41,1.38)	.068	.49(.23,1.05)
	can read and write	106(74.1%)	37(25.9%)		1		1
Residency	Rural	44(77.2%)	13(22.8%)	.319	1.43(.71,2.88)	.169	1.87(.76,4.56)
	Urban	116(70.3%)	49(29.7%)		1		1
Surgery	Catheterization	126(72.4%)	48(27.6%)	.829	1.08(.53,2.19)	.817	.912(.42,1.99)
	Open heart surgery	34(70.8%)	14(29.2%)		1		1

P value < 0.05, at 95% CI

CHAPTER SIX:

6. DISCUSSION

In this study, patients undergoing cardiovascular surgery in Addis Ababa were evaluated for their degree of patient satisfaction and other factors associated. About 222 respondents were involved in the current study; of them, 160 (72.1%) expressed satisfaction and 62 (27.9%) expressed dissatisfaction.

The overall patient satisfaction in the current study is moderate 72.1%, which is comparable to a study done on Patient Satisfaction with Cardiology Services at Georgia hospital and conclude that there was a moderate level of satisfaction with the accessibility of healthcare services(17) at public hospitals, the patient satisfaction rate was 72%. The similarity resulted from the study design and basically comparable characteristics of society(37).

This result is consistent with Study conducted in Britain on patient satisfaction after elective and acute thoracic surgery. It is associated with postoperative complications about 78%(16) this is because of the same study design and small sample size. The current study's findings are also consistent with research done at two referral hospitals in Eritrea, where it was shown that 68.8% of patients were generally satisfied with the perioperative education program(38). There was a similarity because of the study's methodology and the participants' similar socioeconomic status.

The results of the current study were a bit smaller than the study that assessed adult elective surgical patients' satisfaction with services and surgical care at government hospitals in Addis Ababa, Ethiopia. The satisfaction rate was around 84% among survey respondents.(5). The results of the present study differed from the study that evaluated patient satisfaction with perioperative surgical services and related characteristics at the University of Gondar teaching hospital, where 98.1% of patients reported being satisfied with their care(39).The difference could be due to the sample size and/or the questionnaire or other instrument used in the investigations.

This study was smaller than to determine the level of satisfaction of patients with respect to the services provided in the Cardiac Care Centre of Bahawal Victoria Hospital, Bahawalpurof Bahawal Victoria Hospital and about 99% of the patients reported being satisfied(19). The study conducted on patients' satisfaction with primary health care services at the Capital Health Region,

Kuwait, around 99.6% of patients were satisfied(9). The reason of discrepancy with the present study will be due to differences in the standard of care provided, in the study setting, in the sample size, in the questionnaire or tool used in the studies, and/or in the sociocultural backgrounds of study participants or in differences in the educational levels of study participants in the study areas.

The patient satisfaction rate in the current study was 54% of the participants' satisfaction with the information given by healthcare providers about the procedure, which is somewhat comparable to the result (45%) of the study carried out at two National Referral Hospitals in Asmara, Eritrea(38). The reason was due to similar socioeconomic status.

In these studies, Participants who were females were 56% more likely to have satisfaction when compared to those who were males AOR (95% CI): 0.44(0.22, 0.86). Whereas these findings contradict, with the study done on patient satisfaction with preoperative Care and Its Relationship with Patient characteristics, male patients were more satisfied(36).

The reason for the discrepancy might be due to study setting, cost, sample size, the sociocultural backgrounds of study participants or in differences in the educational levels of study participants in the study areas.

Participants with free service for surgery were three times more likely to have satisfaction when compared to participants with payment for surgery, AOR (95% CI): 3.51(1.76, 7.03) and patient's satisfaction was affected by the payment status.

However, the level of education, type of surgery, occupation, gender and residency of the patients were not associated with patient satisfaction with cardiovascular surgery.

Patient satisfaction was crucially influenced by physicality, which has emerged as an important fundamental element in healthcare organizations. Each cardiac hospital evaluated factors like cleanliness of the room, adequate lighting, adequate ventilation, comfortable beds, and spaces between beds. In the current study, 48.6% of participants said they were satisfied with the cleanliness of the rooms and floors. When compared to a study carried out at a Super Specialty Hospital in India to know the satisfaction level of patients, and regard to the cleanliness in the hospital, 50% of patients were highly satisfied(40). This difference was due to study setting, sample size and questionnaire used.

CHAPTER SEVEN:

7. Strength and limitation

7.1. Strength

- The study used primary data that increases the reliability of the data.
- Standard and valid questionnaires used in other studies were adopted.
- Pretest was done before actual administration of the prepared tool at actual subjects.
- Since this research is specific to cardiac patients, it can be used as a reference

7.2. Limitation

- Patient who are less than 18 years of age and who are not fully conscious were in the hospital during the data collection are excluded from the research
- Lack of previous specific studies on cardiac patient satisfaction in Ethiopia which limits to discuss with previous results
- Since the research was conducted in line with common routine activities, time was a challenge
- Cross sectional study makes determining causality impossible.

CHAPTER EIGHT:

8. Conclusion and recommendation

8.1. Conclusion

The study found out that the satisfaction levels of cardiovascular surgery patients at cardiac centers of Addis was to be the lowest. Better satisfaction is recorded in explanation of patients' disease condition, treatment options, respects the culture, dignity of patients and the information provided by health professionals about the surgery. There is a major gap in areas of explaining about the surgical procedure, considering the patient's preferences about the surgery.

8.1. Recommendation

Improving patient satisfaction is one of the key indicators of quality of care and indicator of quality health service

We recommend the following strategies to improve patient satisfaction in the hospital.

Health providers should know and realize that the patients have the right to know what is going on regarding their treatment procedures and health situation as well as the health care provider has a good interaction way of communication and respect the patient's culture, idea, dignity and explain the disease condition with treatment.

The hospital managers should routinely assess the patients' satisfaction status and provide tailored on-the-job training to their professionals in the facility in order to improve their skill for enhancing patients' satisfaction.

Periodic assessment of health services and further study in other dimensions of patient satisfactions including facility design dimension, which can explore from the patients satisfaction perspective, is recommended as a fundamental initiative in the improvement of the performance of health care delivery in the facility

CHAPTER NINE

9. Reference

1. Mengistu Alemu AB. A Prospective Study on Surgical Inpatient Satisfaction with Perioperative Anaesthetic Service in Jimma University Specialized Hospital, Jimma, South West Ethiopia. *J Anesth Clin Res*. 2015;06(03).
2. Mulugeta H, Wagnew F, Dessie G, Biresaw H, Habtewold TD. Patient satisfaction with nursing care in Ethiopia : a systematic review and. 2019;1–12.
3. Obi IE, Ndu AC, Agu KA, Omotowo BI, Agunwa CC, Idoko AC. Patient satisfaction with services at a tertiary hospital in south-east Nigeria. *Malawi Med J*. 2018;30(4):270–5.
4. Report P, Neuronursing DIN, Varghese J. A STUDY TO ASSESS THE PATIENT SATISFACTION WITH QUALITY NURSING CARE IN NEURO MEDICAL UNIT , SCTIMST . Submitted by Code No : 5896. 2009;(November).
5. Deressa D, Gebreyohannis T, Boka A. Satisfaction with preoperative education and surgical services among adults elective surgical patients at selected public hospitals in Addis Ababa , Ethiopia. 2022;
6. Anaba P, Anaba EA, Abuosi AA. Patient satisfaction with perioperative nursing care in a tertiary hospital in Ghana. *Int J Health Care Qual Assur*. 2020;33(6):463–75.
7. Shahmoradi L, Rezaei N, Rezayi S, Zolfaghari M, Manafi B. Educational approaches for patients with heart surgery : a systematic review of main features and effects. *BMC Cardiovasc Disord* [Internet]. 2022;1–24. Available from: <https://doi.org/10.1186/s12872-022-02728-0>
8. Ayele TT, Negash TT, oumer KE, Mekuanint A, Teshome D, Fenta E, et al. Patients' satisfaction and associated factors towards preoperative informed consent process: A cross-sectional study. *Ann Med Surg* [Internet]. 2022;79(June):104104. Available from: <https://doi.org/10.1016/j.amsu.2022.104104>
9. Al-eisa IS, Al-mutar MS, Radwan MM, Al-terkit AM. Patients' Satisfaction with Primary Health Care Services at Capital Health Region, Kuwait. *Middle East J Fam Med*. 2005;3(3):10–6.
10. Doering L V, Angeles L, Mcguire AW, Rourke D, Angeles L. Recovering From Cardiac Surgery: What Patients Want You To Know. 2002;(February 2014).
11. Iftikhar A, Allah N, Shadiullah K, Habibullah K, Muhammad RA, Muhammad HK. Predictors of patient satisfaction. *Sciences. Gomal J Med*. 2011;9(2):183-188.
12. The FOR. ASSESSMENT OF PATIENT SATISFACTION WITH PREOPERATIVE menelik. 2016;
13. Trinh LN, Fortier MA, Kain ZN. Primer on adult patient satisfaction in perioperative settings. *Perioper Med*. 2019;8(1):1–13.
14. Caljouw MAA, Beuzekom M Van, Boer F. Patient ' s satisfaction with perioperative care : development , validation , and application of a questionnaire. *Br J Anaesth* [Internet]. 2008;100(5):637–44. Available from: <http://dx.doi.org/10.1093/bja/aen034>
15. Who H. Books & Electronic Media. 2000;78(8):1064–5.
16. Cairns A, McLennan Battleday F, Velikova G, Brunelli A, Bell H, Favo J, et al. General patient satisfaction after elective and acute thoracic surgery is associated with postoperative complications. *J Thorac Dis*. 2020;12(5):2088–95.
17. Verulava T, Jorbenadze R, Karimi L, Dangadze B, Barkalaia T. The Open Public Health

- Journal. 2018;201–8.
18. Han KT, Ruan LW, Liao LS. Effects of Indoor Plants on Human Functions: A Systematic Review with Meta-Analyses. *Int J Environ Res Public Health*. 2022;19(12).
 19. Ali M, Unit C, Bahawal OF, Hospital V, Sial MA, Butt LQ, et al. LEVEL OF SATISFACTION OF PATIENTS ATTENDING CARDIAC Corresponding author : 2020;07(01):720–9.
 20. FROM DOPS, SERVICES HC, Din S, Pakhtunkhwa K. Dynamics of Patient Satisfaction from Healthcare Services DYNAMICS OF PATIENT SATISFACTION FROM. 2011;(June).
 21. Kasper J, Heidegger T, Flierler WJ. Original Article. 2013;713–22.
 22. Kalogianni A, Georgiadis G, Kadda O, Sotiropoulou A. *Health & Research Journal*. 2019;2(1):46–62.
 23. Guo P, East L, Arthur A. A preoperative education intervention to reduce anxiety and improve recovery among Chinese cardiac patients: A randomized controlled trial. *Int J Nurs Stud*. 2012;49(2):129–37.
 24. Ka V, Lai W, Lee A, Leung P, Chiu CH, Ho KM, et al. Patient and family satisfaction levels in the intensive care unit after elective cardiac surgery : study protocol for a randomised controlled trial of a preoperative patient education intervention. 2016;
 25. Fetene MB, Bayable SD, Wendimu ES, Belehun KD, Almaw AA, Dula PK, et al. Perioperative patient satisfaction and its predictors following surgery and anesthesia services in North Shewa, Ethiopia. A multicenter prospective cross-sectional study. *Ann Med Surg [Internet]*. 2022;76(January):103478. Available from: <https://doi.org/10.1016/j.amsu.2022.103478>
 26. Karaca A, Durna Z. Patient satisfaction with the quality of nursing care. *Nurs Open*. 2019;6(2):535–45.
 27. Reports I, Majid N, Lee S, Plummer V. The effectiveness of orthopedic patient education in improving patient outcomes : a systematic review protocol. 2015;13(1):122–33.
 28. Bradshaw P, Hariharan S, Chen D. Does preoperative psychological status of patients affect postoperative pain ? A prospective study from the Caribbean. 2016;
 29. Benwu KM, Gebremedhin HG. A prospective study on elective surgical inpatient satisfaction with perioperative anaesthesia service at Ayder comprehensive specialized hospital, Mekelle, Ethiopia. *BMC Anesthesiol*. 2019;19(1):1–9.
 30. Hussain A, Sial MS, Usman SM, Hwang J, Jiang Y, Shafiq A. What factors affect patient satisfaction in public sector hospitals: Evidence from an emerging economy. *Int J Environ Res Public Health*. 2019;16(6).
 31. Asamrew N, Endris AA, Tadesse M. Level of Patient Satisfaction with Inpatient Services and Its Determinants: A Study of a Specialized Hospital in Ethiopia. *J Environ Public Health*. 2020;2020.
 32. Alemu S. Changes in Inpatient Satisfaction with Nursing Care and Communication at Debre Markos Hospital, Amhara Region, Ethiopia. *Am J Heal Res*. 2014;2(4):171.
 33. Ambelie YA. Patients' Satisfaction and Associated Factors among Private Wing Patients at Bahirdar Felege Hiwot Referral Hospital, North West Ethiopia. *Sci J Public Heal*. 2014;2(5):417.
 34. Jamshidi S, Parker JS, Hashemi S. The effects of environmental factors on the patient outcomes in hospital environments: A review of literature. *Front Archit Res [Internet]*. 2020;9(2):249–63. Available from: <https://doi.org/10.1016/j.foar.2019.10.001>

35. Tateke T, Woldie M, Ololo S. Determinants of patient satisfaction with outpatient health services at public and private hospitals in Addis Ababa, Ethiopia. *African J Prim Heal Care Fam Med*. 2012;4(1):1–11.
36. El-nasser GABD, Sc DN, Mohamed N, Sc DN. Patient Satisfaction with Preoperative Care and Its Relationship with Patient Characteristics. 2013;81(2):1–10.
37. Desta H, Berhe T, Hintsa S. Assessment of patients' satisfaction and associated factors among outpatients received mental health services at public hospitals of Mekelle Town, northern Ethiopia. *Int J Ment Health Syst* [Internet]. 2018;12(1):1–7. Available from: <https://doi.org/10.1186/s13033-018-0217-z>
38. Andemeskel YM, Elsholz T, Gebreyohannes G, Tesfamariam EH. Patient satisfaction with peri-operative anesthesia care and associated factors at two National Referral Hospitals: A cross sectional study in Eritrea. *BMC Health Serv Res*. 2019;19(1):1–8.
39. Gebremedhn EG, Lemma GF. Patient satisfaction with the perioperative surgical services and associated factors at a university referral and teaching hospital, 2014: A cross-sectional study. *Pan Afr Med J*. 2017;27:1–14.
40. Aiims SKJMH, Administration DNBH. A Study on Out Patient Satisfaction at a Super Specialty Hospital in India. 2007;2(2):13–7.

10. Assurance of Principal Investigator

I agree to accept all responsibilities for the scientific and ethical conduct of the research project. I will provide a timely progress report to my advisor and seek the necessary advice and approval from my primary advisors in the course of the research. I will communicate timely to my advisors and all stakeholders involved in the study including any source of funding for this research.

Name of the student: Tesfaye Worku

Signature: -----

Date: -----

Name of the primary advisor: Teshale Biku (Asst. Professor)

Signature: -----

Date: -----

Name of the Co-Advisor: Seada Adem (MSc)

Signature: -----

Date: -----

11. Annexes

Objective: To assess the level of patient satisfaction and identify associated factors for a patients underwent cardiovascular surgery in Addis Ababa, Ethiopia 2023.

General information

My name is Tesfaye Worku and I'm here on behalf of the Requirements for the Degree of MSc in Cardiothoracic Nurse Practitioner, at the Department of Master's in Cardiothoracic Nursing at St. Paul's Hospital Millennium Medical College. The purpose of this questionnaire is to assess patient satisfaction for patients who underwent cardiovascular surgery in Addis Ababa in 2023 and to identify relevant factors. There is currently little knowledge available about patient satisfaction with the process and the factors affecting patient satisfaction in Addis Ababa, Ethiopia(8).

Therefore, your honest response to the following questions is invaluable in contributing to the improvement of patient satisfaction with cardiovascular surgery. Your participation is voluntary. Only coded information will be gathered. and we strictly keep the confidentiality of participants. Participating or not participating in this study will not result in any harm or benefit to you. Therefore, I strongly value your honest response for the questions. If you feel or face any problem regarding your participation, you can contact the researcher Mr. Tesfaye Worku by 0929351405 or 0968192150.

Do you agree to participate?

- a. yes
- b. no

1. If the participant agrees to participate, go to the next page 2. If the participant cannot agree to participate on the study, got to the next participant

Name of the supervisor: _____ Date: _____ Sig. _____

Data

Name -----signature-----date-----

ID of the questionnaire _____

Part I: Socio-demographic characteristics of the study participants (please encircle the answer).

<i>S/ N</i>	Question Categories	Response Categories	Remark
A 1	Sex	a. Male b. Female	
A 2	Age		
A 3	Marital status	a. Married b. Unmarried c. Divorced	
A 4	Educational Level	a. Primary level b. Secondary level c. College level d. Higher Education	
A 5	Residency	a. Rural b. Urban	
A 6	Occupation	a. Farmer b. Merchant c. Teacher d. Health professional e. Student f. Others	
A 7	Type of surgery	a. Catheterization b. Open heart surgery	
A 8	Type of Anesthesia	a. General anesthesia b. Spinal anesthesia c. Local anesthesia	
A 9	Payment status	a. free b. paid	

Part II: Questions to Assess Patient Satisfaction towards cardiovascular surgery Answer the question by putting a right in the box (✓)

S/N	1. Information	Please rate the following about Satisfaction				
	<i>To what degree were you satisfied about</i>	completely satisfied	satisfied	neutral	dissatisfied	completely dissatisfied
B1	How satisfied are you with the health professional's explanation of your condition and treatment options?					
B2	How satisfied are you with the information provided by health professionals about the surgery?					
B3	How satisfied are you with the explanation of your stay in the operating room?					
B4	How satisfied are you with the health professional's given explanation about your alternatives surgery?					
B5	How satisfied are you with the health professional's explanation of your alternative anesthesia?					
B6	How satisfied are you with the explanation of some of the problems you may encounter after surgery?					
B7	How satisfied are you with the explanation of post-operative					

	exercises, breathing techniques and immobilization?					
C1	2. Staff–patient relationship <i>To what degree...</i> How satisfied are you with the operating room staff protecting your privacy?					
C2	How satisfied are you with the service provided by the surgery center staff?					
C3	How satisfied are you with the attitude and good communication of the operating room staff?					
C4	How satisfied are you that operating room staff respects the culture and dignity of patients?					
C5	How satisfied are you that the operating room staff prepared you physically and psychologically?					
C6	How satisfied are health professionals with the attention they provide to patients?					
C7	How was the polite way the operating room staff spoke to you?					
C8	How satisfied are you with the response of the Operations Theater Center staff to your questions?					
C9	How satisfied are you with health professionals' explanations of laboratory tests and any imaging procedures?					

C10	How satisfied are you with the health professionals' explanation of the surgical consent signature, the time required for surgery, and any risks involved in the surgical procedure?					
C11	How satisfied are you with the explanations given by health professionals about the surgical procedure?					
C12	How satisfied were you with the operating room staff considering your personal preferences about the surgery?					
C13	How satisfied are the operating room staffs with respecting your culture and idea?					
C14	How satisfied are you with the hospital administration's coordination of staff and provision of equipment necessary for the treatment of your illness?					
C15	How satisfied are you with your treatment environment?					
C16	How satisfied are you with the good lighting, modern medical equipment, cleanliness of the rooms and floors in your treatment area?					
C17	How satisfied are you with the explanation of the type of anesthesia					

	you received from the anesthesia team?					
C18	How satisfied are you with understanding what to do on the day of surgery?					
C19	How were postoperative pain medications, specific dietary restrictions, and postoperative exercise explained by the operating room staff?					
C20	How satisfied were you with the response of the operating room staff to your complaints such as pain and nausea?					

አባሪዎች

ዓላማ፡- እ.ኤ.አ. በ 2023 በአዲስ አበባ የልብ እና የደም ሷንጧ ቀዶ ጥገና ለሚደረግላቸው ታካሚዎች የቅድመ ቀዶ ጥገና ትምህርትን ተከትሎ የታካሚውን እርካታ ለመገምገም እና ተዛማጅ ምክንያቶችን ለመለየት.

9.1. አጠቃላይ መረጃ

ስሜ _____ እባላለሁ በቅዱስ ጳውሎስ ሆስፒታል ሚሊኒየም ሜዲካል ኮሌጅ ማስተርስ በካርዲዮ-ቶራሲክ ነርሲንግ ትምህርት ክፍል የተስፋዬ ወርቁ ጥናት መረጃ ሰብሳቢን ወክሎ መጥቻለሁ፡፡

አላማ; የዚህ መጠይቅ አላማ እ.ኤ.አ. በ2023 በአዲስ አበባ የልብ እና የደም ቧንቧ ቀዶ ጥገና ለሚደረግላቸው ታካሚዎች የቅድመ ቀዶ ጥገና ትምህርትን ተከትሎ የታካሚን እርካታ ለመገምገም እና አስፈላጊ ሁኔታዎችን ለመለየት ነው።

አዲስ አበባ፣ ኢትዮጵያ በአሁኑ ጊዜ የታካሚዎችን እርካታ በቅድመ-ቀዶ ትምህርት ሂደት እና በታካሚው እርካታ ላይ ተጽዕኖ ስለሚያሳድሩ በቂ እውቀት የለም(8) ።

ስለዚህ በሚከተሉት ጥያቄዎች ላይ የሰጡት ትክክለኛ ምላሽ ለታካሚው የልብና የደም ሥር (cardiovascular) ቀዶ ጥገና ቅድመ ትምህርት ለታካሚ እርካታ መሻሻል አስተዋጽኦ ያደርጋል። የእርስዎ ተሳትፎ በፈቃደኝነት ነው። ኮድ የተደረገበት መረጃ ብቻ ይሰበሰባል እና የተሳታፊዎችን ሚስጥራዊነት በጥብቅ እንጠብቃለን። በዚህ ጥናት ላይ መሳተፍ ወይም አለመሳተፍ ለእርስዎ ምንም አይነት ጉዳት ወይም ጥቅም አያስከትልም። ስለዚህ ለጥያቄዎቹ ታማኝ ምላሽ እንድትሰጡኝ አጥብቄ እመክራለሁ። በተሳትፎዎ ላይ ችግር ከተሰማዎት ወይም ካጋጠመዎት ተመራማሪውን አቶ ተስፋዬ ወርቁን በስልክ ቁጥር 0929351405 ወይም 0968192150 ማግኘት ይችላሉ።

ለመሳተፍ ተስማምተዋል?

ሀ. አዎ

ለ. አይ

የመረጃ ሰብሳቢው ስም:- _____ ቀን: _____ ፊርማ _____

የተቆጣጣሪው ስም:- _____ ቀን: _____ ፊርማ _____

ውጤት

1) መጠይቁ ተጠናቀቀ ----- 3) መጠይቁ በክፊል የተጠናቀቀ -----

2) ተሳታፊዎች እምቢ አሉ ----- 4) ሌሎች (እባክዎ ይግለጹ) -----

9.2. መጠይቅ

የመጠይቁ መታወቂያ-----

ክፍል 1: የጥናቱ ተሳታፊዎች ማህበራዊ-ሕዝብ ባህሪያት (እባክዎ ምርጫውን ከበቡ)

ት/ቁ	የጥያቄ ምድቦች	የምላሽ ምድቦች	አስተያየት
ሀ1	ጾታ	ሀ. ወንድ ለ. ሴት	
ሀ2	ዕድሜ	-----	
ሀ3	የጋብቻ ሁኔታ	ሀ. ያገባ	

		ለ. ያላገባ ሐ. የተፋታ/ች	
ሀ4	የትምህርት ደረጃ	ሀ. የመጀመሪያ ደረጃ ለ. ሁለተኛ ደረጃ ሐ. የኮሌጅ ደረጃ መ. ከፍተኛ ትምህርት	
ሀ5	የመኖሪያ ቦታ	ሀ. ገጠር ለ. ከተማ	
ሀ6	ሥራ	ሀ. ገበሬ ለ. ነጋዴ ሐ. መምህር መ. የጤና ባለሙያ ሠ. ተማሪ ረ. ሌሎች...	
ሀ7	የቀዶ ጥገና ዓይነት	ሀ. ጥቃቅን ለ. ዋና	
ሀ8	የማደንዘዣ ዓይነት	ሀ. አጠቃላይ ሰመመን ለ. የአከርካሪ አጥንት ሰመመን ሐ. ክልላዊ ሰመመን መ. የአካባቢ ሰመመን	
ሀ9	የክፍያ ሁኔታ	ሀ. ነጻ ለ. ክፍያ	

ክፍል II : ለጥያቄው በሳጥኑ ውስጥ ራዬት በማስቀመጥ ምላሽህን ስጥ (✓)

	II. መረጃ	እባክዎ ስለ እርካታ የሚከተለውን ደረጃ ይስጡ				
ት/ቁ	በቅድመ-ቀዶ ትምህርት ላይ የታካሚን እርካታ የሚገመግሙ ጥያቄዎች	ሙሉ በሙሉ ረክቻለሁ	ረክቻለሁ	ገለልተኛ	አልረካሁም	ሙሉ በሙሉ አልረካሁም
ለ1	ስለ በሽታዎ ሁኔታ እና ስለ ህክምና መንገዶች በጤና ባለሙያው በሰጡት ማብራሪያ ምን ያህል ረክተዋል?					

ለ2	ስለ ቀዶ ጥገናው በጤና ባለሙያዎች በሰጡት መረጃ ምን ያህል ረክተዋል?					
ለ3	በቀዶ ጥገና ክፍል ውስጥ ስልሚያደረጉት ቆይታ ማብራሪያ ምን ያህል ረክተዋል?					
ለ4	ስለ አማራጭ ቀዶ ጥገናዎ በጤና ባለሙያው በሰጡት ማብራሪያ ምን ያህል ረክተዋል?					
ለ5	ስለ አማራጭ ማደንዘዣዎ በጤና ባለሙያ ማብራሪያ ምን ያህል ረክተዋል?					
ለ6	ከቀዶ ጥገና በኋላ ሊያጋጥሙዎት ስለሚችሉ አንዳንድ ችግሮች ማብራሪያ ምን ያህል ረክተዋል?					
ለ7	ከቀዶ ጥገና በኋላ ስለሚደረጉ ልምምዶች፣ የአተነፋፈስ ቴክኒኮች እና ስልክንቀሳቀስ ማብራሪያው ምን ያህል ረክተዋል?					
	III. የሰራተኞች እና የታካሚ ግንኙነት					
ሐ1	የቀዶ ጥገና ክፍል ሰራተኞች የእርስዎን ግላዊነት በምጥብቀ ምን ያህል ረክተዋል?					
ሐ2	በቀዶ ጥገና ማእከል ሰራተኞች በሚሰጠው አገልግሎት ምን ያህል ረክተዋል?					
ሐ3	በቀዶ ጥገና ክፍል ሰራተኞች አመለካከት እና ጥሩ ግንኙነት ምን ያህል ረክተዋል?					
ሐ4	የቀዶ ጥገና ክፍል ሰራተኞች የታካሚዎችን ባህል እና ክብር ስላከበሩ ምን ያህል ረክተዋል?					
ሐ5	የቀዶ ጥገና ክፍል ሰራተኞች እርስዎን በአካል እና በስነ-ልቦና ስላዘጋጁዎት ምን ያህል ረክተዋል?					
ሐ6	የጤና ባለሙያዎች ለታካሚዎች በሚሰጡት ትኩረት ምን ያህል ረክተዋል?					
ሐ7	የቀዶ ጥገና ክፍል ሰራተኞች እርስዎን በትህትና ያነጋገሩበት መንገድ ምን ያህል አረክተዎታል?					
ሐ8	የኦፕሬሽን ቲያትር ማእከል ሰራተኞች ለጥያቄዎችዎ ትኩረት በመስጠታችው ምን ያህል አረክተዎታል?					
ሐ9	በጤና ባለሙያዎች ስለ ሳብራቶሪ ምርመራዎች እና ስለ ማንኛውም የምስል አሰራር ሂደት ምን ያህል ረክተዋል?					
ሐ10	ስለ የቀዶ ጥገና ፈቃድ ፊርማ፣ ለቀዶ ጥገናው የሚያስፈልገው ጊዜ እና በቀዶ ሕክምና ሂደት ውስጥ ስላሉ አደጋዎች በጤና ባለሙያዎች ማብራሪያ ምን ያህል ረክተዋል?					

ሐ11	ስለ የቀዶ ጥገና ሂደት በጤና ባለሙያዎች የሚሰጡት ማብራሪያ ምን ያህል ረክተዋል?					
ሐ12	የቀዶ ጥገና ክፍል ሰራተኞች ስለ ቀዶ ጥገናው የእርስዎን የግል ምርጫዎች ግምት ውስጥ በማስገባት ምን ያህል እርካታ አግኝተዋል?					
ሐ13	የቀዶ ጥገና ክፍል ሰራተኞች የእርስዎን ባህል እና ሃሳብ በማክበር ምን ያህል ረክተዋል?					
ሐ14	የሆስፒታሉ አስተዳደር ባደረገው የሰራተኞች ቅንጅት እና ለህመምዎ ህክምና አስፈላጊ የሆኑ መሳሪያዎችን በማቅረብ ምን ያህል ረክተዋል?					
ሐ15	በሚታከሙበት አካባቢ ምን ያህል ረክተዋል?					
ሐ16	በሕክምና አካባቢዎ ውስጥ ባሉ ጥሩ ብርሃን፣ ዘመናዊ የሕክምና መሳሪያዎች፣ የመገኛታ ክፍሎች እና ወለሎች ንጽህና ምን ያህል ረክተዋል?					
ሐ17	በማደንዘዣ ቡድን ስለተቀበሉት የማደንዘዣ አይነት ማብራሪያ ምን ያህል ረክተዋል?					
ሐ18	. የቀዶ ጥገናው ቀን ምን ማድረግ እንዳለበት በመረዳትዎ ምን ያህል ረክተዋል?					
ሐ19	ከቀዶ ጥገና በኋላ የህመም ማስታገሻ መድሃኒቶች፣ የተወሰኑ የአመጋገብ ገደቦች እና ከቀዶ ጥገና በኋላ የአካል ብቃት እንቅስቃሴ በቀዶ ጥገና ክፍል ሰራተኞች እንዴት ተብራርተዋል?					
ሐ20	እንደ ህመም እና ማቅለሽለሽ ላሉ ቅሬታዎች የቀዶ ጥገና ክፍል ሰራተኞች በሰጡት ምላሽ እርካታዎ እንዴት ነበር?					