

**SCHOOL OF PUBLIC HEALTH
COLLEGE OF HEALTH SCIENCES
UNIVERSITY OF GHANA**



**PATIENT SATISFACTION WITH ANAESTHESIA SERVICES DURING
ELECTIVE SURGERY AT THE EASTERN REGIONAL HOSPITAL**

BY

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DECLARATION

I, Rosemond Catherine Acquah, hereby declare that this research is my work as a postgraduate student in the School of Public Health, University of Ghana. Any literature and works of other researchers that were used in this research have been duly acknowledged under the supervision of Prof. Moses Aikins in the Department of Health Policy, Planning, and Management of the School of Public Health, University of Ghana.

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Prof. Moses Aikins

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.....

Date

DEDICATION

This work is first and foremost dedicated to God Almighty for His protection and guidance throughout my study. Again, it is dedicated to my mother, Mrs. Elizabeth Kanor for her support and love throughout the period. Also, to my loving husband, Mr. William Acquah and my three adorable daughters Nhyiraba, Nkunim and Animuonyam Acquah for their support, love, and care.

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ABSTRACT

Background

Patient/Client satisfaction with anaesthesia services is a key component of the quality enhancement. The Anaesthesia Department in the Eastern Regional Hospital provides anaesthesia services to thousands of patients annually without evaluating the quality of services despite the recommendations from the American Society of Anaesthesiologists.

Objective

This study assessed patients' satisfaction with anaesthesia services during elective surgery.

Methods

An institution-based cross-sectional study was conducted among 146 adults aged 18 years or above who had undergone elective surgery under any form of anaesthesia. The participants were sampled randomly. The data was collected face-to-face using a pretested questionnaire which was analysed using STATA 15.

Results

The patients' level of satisfaction with the overall anaesthesia services was 87%. About 72% of the patients were satisfied with preoperative anaesthesia services while 56% of the patients were satisfied with intraoperative anaesthesia services. With the postoperative anaesthesia services, 62% of the patients were satisfied.

Conclusion and recommendation

The elective surgical patients in Eastern Regional Hospital, Koforidua were generally satisfied with the anaesthesia services rendered in the hospital with majority being satisfied with the preoperative anaesthesia services. It is therefore recommended that the anaesthetists pay more attention to the service they provide at the intraoperative stage, especially the privacy given to the patients and the management of postoperative anaesthesia related complications.

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LIST OF ABBREVIATIONS

ASA	American Society of Anaesthesiologists
CHPS	Community-Based Health Planning and Services
DM	Diabetes Mellitus
EDT	Expectancy Disconfirmation theory
GHS	Ghana Health Service
HPN	Hypertension
ID	Identification
MS	Microsoft
OPD	Out-Patient Department
WHO	World Health Organisation

OPERATIONAL DEFINITIONS

Anaesthesia: insensitivity to pain, especially as artificially induced by the administration of gases or the injection of drugs before surgical operations.

Client satisfaction: is the fulfilment of the client's expectation of the care given at the health facility.

Elective surgery: is a planned, non-emergency surgical procedure.

Intraoperative services: is the healthcare services administered to patients during a surgical operation.

Postoperative services: is the healthcare services provided after a surgical operation.

Preoperative services: is the healthcare services administered to patients in the period before surgical operation.

CHAPTER ONE

INTRODUCTION

1.1 Background to the study

Patients/Clients are the foundation of the healthcare system (Jenkinson et al., 2002). Their involvements with the care provided to them at the various health facilities is the heartbeat of clinical medicine (Jenkinson et al., 2002). It is for this reason that clients must be satisfied with the services they receive at the health care settings (Anandalakshmi, 2018). Client satisfaction is the degree of fulfilling clients' expectations which is a vital component and quality indicator in anaesthesia service evaluation (Angelova, & Zekiri, 2011). This satisfaction refers to how well the client's expectations about the anaesthesia services are met and the client's judgment of the expectations of health care services (Young, et al., 2000; Gurung, 2003).

Client satisfaction is intended to provide client-centred care forming a system that accepts clients for who they are and where they live, by meeting their desires at that moment, with the health system's aim to provide holistic care (Heidegger et al., 2004). Evaluation of the anaesthesia service does not only benefit the client but also provides a positive outcome for the staff, society, and stakeholders (Heidegger et al., 2004). This is essential in making quality decisions that benefit both parties.

The evaluation of client satisfaction is a key component of the quality enhancement in anaesthesia services which is significantly affected by the anaesthetist visits (Assefa & Mosse, 2011). This visit aids the anaesthetist to know about the client's general health status, nature of the surgery, to select the type of anaesthesia, and to discuss perioperative pain, nausea, and vomiting management and other potential complications (Gebremedhn & Nagarathnam, 2014). This creates a platform for the client to know the anaesthetist, the anaesthesia options and the possible complications. Additionally, evaluation of client

satisfaction reduces anxiety level, curtails the annulment of surgery by surgeons and anaesthetists, increases client's stay at the health facility and may eventually lessen complications and deaths (Gebremedhn & Nagaratnam, 2014; Cooray, 2011).

Determining the satisfaction of clients has become a challenge to the health institutions. Individual client attitude, desires, and socio-demographic characteristics may influence their satisfaction level. Two clients given the same clinical care will have different expectations and satisfaction levels (Obsa, et al., 2017).

Several factors contribute to client satisfaction comprising accessibility and convenience of services that depend upon institutional structures, interpersonal relationships, technical expertise of the health professionals and patient expectations and preferences (Gebremedhn et al., 2015). In addition, poor quality of anaesthesia care may make clients less likely to utilise accessible services (Thiedke, 2007). The overall proportion of patients who were satisfied with anaesthesia services was 84.7%. About 15.3% of the patients were dissatisfied due to few factors in perioperative anaesthetic services which included anaesthetic introduction, clearing the client uncertainty about the procedure, pain, sustaining client privacy among others (Greeshma, et al., 2017).

A cross-sectional study at the University of Gondar Hospital to assess patient satisfaction with anaesthesia services and associated factors, revealed that 90.4% of the patients were satisfied with anaesthesia services at the hospital (Gebremedhn & Nagaratnam, 2014). The 9.6% dissatisfaction was attributed to poor preoperative evaluation and preparation, intraoperative and postoperative patient management in the hospital setting. The study showed that the satisfaction with anaesthesia services based on sex was 88 % for males and that of females was 93.6 % (Gebremedhn & Nagaratnam, 2014).

Health care professionals are supposed to control their clients' desires and understanding of the services they provide to ensure the highest level of satisfaction (Belihun, et al., 2015).

The purpose of the study was to ascertain clients' satisfaction with anaesthesia services during elective surgery at the Eastern Regional Hospital.

1.2 Problem statement

Poor quality of anaesthesia services can directly influence patient's decision of using other available services, thus many health care organisations and international bodies in anaesthesia recommend periodic assessment of client satisfaction with anaesthesia services to improve and strengthen targeted areas where performance is lacking (Andemeskel, et al., 2019). Additionally, client satisfaction is a sensitive measure of how well the health service system is functioning (Amornyotin, 2015) and a major indicator of the healthcare service quality and influences the utilization of healthcare service provided (Assefa, & Mosse, 2011; Gebremedhn, & Lemma, 2017). Furthermore, as patients are becoming more aware of their rights and what they can expect, the demand for quality care is increasing even in developing countries like Ghana (Gosh , 2014).

An outpatient study of client satisfaction at the Koforidua Regional Hospital found that a lot of patients were dissatisfied with waiting time, relationship with nurses and information given by the pharmacist and no avenues for seeking redress when there is a violation (Ofosu-Kwarteng, 2012). However, most clients' satisfaction requirements at the Eastern Regional Hospital have been based on outpatient services, neglecting the needs of surgical patients. Although many international organisations recommend that at least every Anaesthesia Department should conduct a patient satisfaction survey once a year to improve the quality of services provided to their patients; this is lacking at the Eastern Regional Hospital. It is likely that soon, payment for anaesthesia services will depend on measures of patient satisfaction. It is for this reason that many anaesthesia practices are keenly monitoring patient satisfaction (Mishra et al., 2014). The study, therefore, sought to assess patient satisfaction with

anaesthesia services at the Eastern Regional Hospital, which would help determine the gaps or inclination of clients on the choice of the anaesthesia services

1.3 Objectives of the study

This section outlines the general and specific objectives for undertaking this study.

1.3.1 General Objective

The general objective of the study was to determine patients' satisfaction with anaesthesia services during elective surgery at the Eastern Regional Hospital.

1.3.2 Specific objectives

The specific objectives are:

1. To determine patients satisfaction with preoperative anaesthesia services
2. To determine patients satisfaction with intraoperative anaesthesia services
3. To determine patients satisfaction with postoperative anaesthesia services
4. To assess patients' overall level satisfaction with anaesthesia services

1.4 Research questions

- I. How are the patients satisfied with preoperative anaesthesia services?
- II. How are the patients satisfied with intraoperative anaesthesia services?
- III. How are the patients satisfied with postoperative anaesthesia services?
- IV. What is the patients' overall satisfaction with anaesthesia services?

1.5 Justification of the study

Patient/Client satisfaction plays an essential role in improving the type of services the health institutions provide. Measuring patients' satisfaction with anaesthesia provides the chance of detecting and appropriately correcting the flaws in the anaesthesia provided; to provide the

best services to meet the patients' desires and expectations. It is therefore important to conduct a study in this field to identify, correct and better treat loopholes in anaesthesia services at the Eastern Regional Hospital.

This study would aid health care managers and hospital professionals to identify and determine the extent of the problem and to develop new strategies to improve the quality of anaesthesia services given to patients during elective surgery. So far, there is no study conducted in this hospital to ascertain clients' satisfaction with anaesthesia services, hence, it would be beneficial to conduct this study to identify the bottlenecks and find solutions to them.

1.6 Outline of the Dissertation

This study is presented into six chapters. The first chapter introduced the study by providing the background of the study, discussed the study problems, pointed out aims of the study and justification of the study. The next section, which is the chapter two provided an empirical review of literature on the issues of the study and practical conceptual framework which mapped out the activities required in the course of the study. The chapter three indicates the methodology that was used to carry out the study, including the methods and the techniques used in collecting the data. The chapter four presents the findings that were determined in this study. The chapter five also discussed the findings obtained in this study. The last chapter however, provided the summary of the study, conclusions and recommendations of the study. The limitations of the study and directives for further research was also present in the last chapter.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter provides analysis of work done by other researchers on patients' satisfaction with anaesthesia services. It shows what anaesthesia is, including the various types of anaesthesia available, and the patients' satisfaction with the anaesthesia services.

2.1 Anaesthesia

Medical surgery is a fundamental component of health systems (Weiser et al, 2016). It is a vital element for the improvement of global health (Weiser et al, 2016). The overall burden of disease that may be cured, treated with surgical intervention is increasing over the years (Ozgediz et al 2008). Surgical conditions constitute about 32% of global disease burden (Jamison et al., 2006; Meara et al., 2015). Consequently, an estimated 313 million surgeries are being done annually in the world (Brouillette et al, 2017). An anaesthesia is an integral part of the surgery. It is aimed at preventing pain and discomfort, especially during surgery (Goldberg et al., 2017). Globally, about 230 million anaesthetic procedures are being conducted in a year (Weiser et al, 2008).

The word anaesthesia is derived from two Greek words "an" meaning "without" and aesthesis which also means "sensation". According to the Australian and New Zealand College of Anaesthetists (2018), anaesthesia is the act of administering medications either by infusion or by inhalation that block the feeling of pain and other sensations, or that produce a deep state of unconsciousness that eliminates all sensations, which allows medical and surgical procedures to be undertaken without causing undue discomfort or distress.

Moreover, anaesthesia is of different types: local anaesthesia; regional anaesthesia; conscious sedation and procedural sedation; and general anaesthesia (The Royal College of Anaesthetists & the Association of Anaesthetists of Great Britain and Ireland, 2015). These

types of anaesthesia can be used individually or in combination as appropriate. Local anaesthesia comprises the injection of local anaesthetic into the tissues near the surgical site. This type of anaesthesia is usually for the minor surgeries such as repair of the toenail, and lesion of the skin. With this the patients stay conscious but feel no pain. Regional anaesthesia on the other hand includes the injection of a local anaesthetic around major nerve bundles supplying body areas, such as the thigh, ankle, forearm, hand, shoulder, or abdomen. It is sometimes achieved by using a nerve-blocking device, such as a stimulator, or by using ultrasound. Once the local anaesthetic is injected in the desired region, patients may experience numbness and tingle in the area supplied by the nerves and it may become difficult or impossible to move that part of the body. Regional anaesthesia can be grouped into three types: spinal, epidural, and regional nerve block (The Royal College of Anaesthetists & the Association of Anaesthetists of Great Britain and Ireland, 2015).

The spinal and the epidural are the most commonly used regional anaesthesia. The spinal anaesthesia involves the injection of anaesthetic into the fluid that surrounds the nerves in the lower part of the spine. It is used for operations below the waist or in the pelvic region. The epidural anaesthesia also involves the injection of anaesthetic through a small plastic catheter placed in the epidural space at the L3-4 interspace and taped to the back. With this type of anaesthesia, the anaesthetist can repeat the doses of the anaesthetic as needed without having to give further injections (The Royal College of Anaesthetists & the Association of Anaesthetists of Great Britain and Ireland, 2015).

General anaesthesia, however, involves the patient being put into a medication-induced state which, when deep enough, means that the patient will not respond to pain and include changes in breathing and circulation (The Royal College of Anaesthetists & the Association of Anaesthetists of Great Britain and Ireland, 2015). Conscious sedation refers to a medication-induced state that reduces the patient's level of consciousness during which the

patient can respond purposefully to verbal commands or light stimulation by touch while the procedural sedation allows patients to tolerate procedures that would otherwise be uncomfortable or painful (The Royal College of Anaesthetists & The Association of Anaesthetists of Great Britain and Ireland, 2015).

2.2 Patients' satisfaction with anaesthesia services

Hospitals are one of the major components of every health system (McKee & Healy, 2000). It is paramount in providing curative services to an ill person and sometimes preventive services. Despite the assumption that hospitals provide almost the same services, there is a possible difference in the quality of services each hospital provides (Kumar et al., 2012). Assessment of patients' satisfaction with the healthcare services provided in the various hospital is recognised as a key tool for assessing the experiences about the health care services and quality of the services the various healthcare facilities provide (Bekele et al, 2008; Caljouw et al., 2008; Gebremedhn et al., 2015; Farooq et al., 2016). Patient's satisfaction with healthcare services is subjective. It is how well the patients' perceptions and expectations regarding the care given to him or her have been achieved (Torcson, 2005).

The determination of the satisfaction derived by a patient with respect to anaesthesia services, therefore, remains the most candid tool for assessing the actual outcomes of the anaesthesia services from the patient's point of view (Capuzzo & Alvisi, 2008). The patients' level of satisfaction or dissatisfaction with anaesthesia during surgery may influence the way they utilize the service (Gebremedhn, & Lemma, 2017). Moreover, there are numerous literature showing the satisfaction level of patients with anaesthesia in different geographical areas.

Gebremedhn et al., (2015) reported a high satisfaction level among patients who received anaesthesia. That is, 90.4% of the respondents expressed satisfaction with the anaesthesia services they received. Those who reported being dissatisfied with the anaesthesia services

had experienced pain during and immediately after the surgery. However, a study in Ethiopia by Obsa et al (2017) found a lower satisfaction level of the patients with anaesthesia services. Only 72.3% of the patients was satisfied with the anaesthesia services that were given to them throughout their surgery. Another study in Ethiopia reported a similar finding as Gebremedhn and Nagaratnam (2014) found that 65% of the patients had been satisfied with the anaesthesia services. This study assessed patients' satisfaction with preoperative anaesthesia services.

2.3 Conceptual framework of patients' satisfaction with anaesthesia services

The conceptual framework in figure 2.1 describes the assessment of clients' satisfaction with anaesthesia service provided during perioperative stages of elective surgery. The perioperative stages are the stages that the patients go through even before the operation is commenced to the end of the surgical operation. These perioperative stages can be grouped into the pre-operative stage, intraoperative stage and postoperative stage; of which anaesthesia services are provided throughout these stages. Preoperative anaesthesia services are the anaesthesia services provided to patients before the surgical operation. During this period, the anaesthetist familiarizes him or herself with the patients, explain the types of anaesthesia available, the procedures and the possible complications. Additionally, the anaesthetist allows the patients to ask questions, answers them, and clarify every doubt of the patients on the anaesthesia. The anaesthetist helps the patient to choose the type of anaesthesia he or she is comfortable with. Moreover, the patient is physically examined by the anaesthetist during the preoperative period. The care provided at the preoperative anaesthesia stage helps minimise the patients' anxiety and reduces complications and mortality (Cooray, 2011; Vyhunthan & de Silva, 2012). Intraoperative anaesthesia services are the anaesthesia services provided during the surgical operation. At the intraoperative

stage, the anaesthesia is administered to the patient with the main aim of managing the patient's pain. Complications are also managed during this stage if there is any. Postoperative anaesthesia services also are the anaesthesia services provided to the surgical patient after the surgery. These services include the management of pain after the surgery and the management of complication such as vomiting, back pain, and sore throat, if any.

An elective surgery patient is a patient who is to undergo a non-emergency surgery. These patients are mostly well planned and sometimes even given a period to go home and come back to the hospital on a date.

The surgical patients are the patients who have undergone surgery. Throughout these stages, the patients have their expectations on how the services are going to be or meet their needs. They then become satisfied with the services when these expectations are met (Torcson, 2005; McIlraith, 2015).

The measurement of the satisfaction of the patients with the anaesthesia services can be achieved by a post-operative visit and the usage of a questionnaire (Singh et al., 2007; Bauer et al., 2001). A higher level satisfaction of the patients with anaesthesia services is obtained if the expectations of the clients at the various stages during the elective surgery is attained (Gebremedhn et al., 2015).

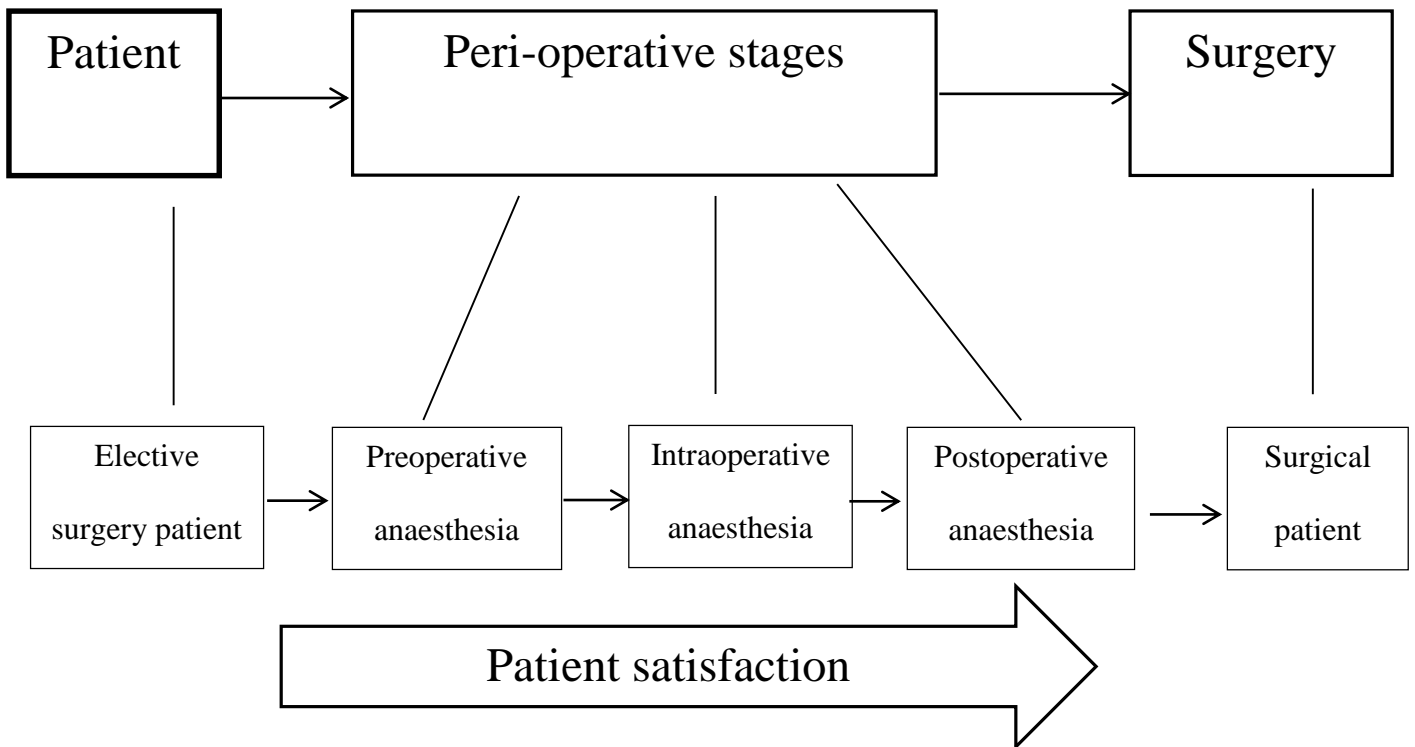


Figure 2.1: Conceptual framework of patients' satisfaction with anaesthesia services.

2.4 Summary of chapter

This chapter has reviewed works conducted by others which relates to this study. The concepts informing the study have been explained as well. The gaps in the reviewed literatures formed the basis of a study of like ours and informed the development of a conceptual framework. The succeeding chapter presents the methodology used in this study.

CHAPTER THREE

METHODS

3.0 Introduction

This chapter describes the methods that were used in this study. This chapter focuses on the study design, study site description, study population, inclusion criteria and exclusion criteria, sample size determination, sampling method, data collection instrument, data collection procedure, data analysis, data quality assurance, and ethical considerations.

3.1 Study design

The study employed a quantitative approach using a descriptive cross-sectional study design at the Eastern Regional Hospital, Koforidua. The quantitative approach was necessary because it ensures the measurements and statistical or numerical analysis of data to generalise it across a particular population or explain a phenomenon, using a computational technique (Babbie, 2010). It prevents personal biases as accepted computational technique is wide used in analysing the data collected (Singh, 2007). A descriptive design describes the status of a variable or phenomenon and a cross-sectional design analyses data from a population at a specific point in time. The study was conducted among adult clients who received anaesthesia services at the Eastern Regional Hospital at the time of the study.

3.2 Study site

This study was conducted in the Eastern Regional Hospital in the New Juaben Municipality in Eastern Region. The municipality is the smallest of the 26 districts and municipalities the region with an estimated population of 227,573. The municipality houses the regional capital, Koforidua. New Juaben Municipality shares boundaries with East Akim District in the north, south with Akuapim North District, east with Yilo Krobo and west with Suhum Municipality.

It covers a land area of 159 square kilometers representing approximately 0.6% of the total surface area of the Eastern Region; and has 52 major communities. The Municipality is heterogeneous in terms of ethnicity with high dominance of Akan and Ga-Adangbe.

3.2.1 Health care provision

New Juaben Municipality possesses the Eastern Regional Hospital and two other mission hospitals (Seventh Day Adventist Hospital and St. Joseph Hospital). These hospitals are supported by eleven private clinics, four public health centres, four Reproductive and Child Health centres, and 54 CHPS centres. Among these facilities, the regional hospital is one of the few facilities that have the capacity to perform most elective surgery.

3.2.2 Eastern Regional Hospital

The Eastern Regional Hospital was established in 1926 to provide comprehensive secondary level in-patient and out-patient healthcare service. It is a secondary level referral health facility and a referral centre for the entire district hospitals in the Eastern region. The hospital also serves as the main health facility for people living in the New Juaben Municipality with over 180,000 inhabitants.

The Anaesthesia Department in the Eastern Regional hospital has five Anaesthesia machines and six cardiac monitors for five operating rooms. The Theatre has four completely functional Operating Rooms, three in the Main Theatre and one in the Obstetric Theatre. In 2018, 826 Patients were assessed through the anaesthesia clinic for elective surgery.

3.3 Study population

The study recruited all adult clients who were 18 years or above and had undergone elective surgery under any form of anaesthesia administered by an anaesthetist at the Eastern Regional Hospital during the study period.

3.3.1 Inclusion criteria

An individual was eligible for this study if he or she;

- Was 18 years of age and above
- Had undergone an elective surgery and had received anaesthesia at the Eastern Regional Hospital.
- Was not seriously ill
- Consented to participate in the study

3.3.2 Exclusion criteria

An individual was excluded from the study if he or she;

- Did not consent to participate in the study.
- Was unable to answer the question due to the poor medical condition
- Was a psychiatric and mentally retarded patients

3.4 Sample size determination

The formula proposed by earlier researchers was used to determine the sample size (Degu and Tessema, 2005)

$$n = \frac{(Z_{1-\alpha/2})^2 P(1 - P)}{e^2}$$

where

‘n’ is the estimated sample size

‘ $Z_{1-\alpha/2}$ ’ is the standard normal variate usually known as Z-score (1.96)

‘P’ is the proportion of the target population estimated to be satisfied

This was estimated based on a 90.4% satisfaction level from a study conducted in Gondar Hospital, Ethiopia (Gebremedhn et al., 2015)

‘e’ is the margin of error of 5% (95% CI).

Substituting the figures into the above formula;

$$n = \frac{(1.96)^2 0.904(1 - 0.904)}{0.05^2}$$

$$n = 133.35 \equiv 133$$

$$10\% \text{ non-response rate of } 133 = \frac{10}{100} \times 133 = 146$$

Therefore, a total sample of 146 (including the 10% non-response rate) was used for the study.

3.5 Sampling method

Eastern Regional Hospital, Ghana, was purposively selected for the study since it offers a wide range of anaesthetic services to elective surgery patients but was without any service evaluation despite the recommendation by the American Society of Anaesthesiologists (ASA) to conduct service evaluation at least once a year. A simple random sample technique was then employed to recruit clients who had received anaesthesia at the Eastern Regional Hospital. The 146 participants were randomly sampled from the OPD register of the patients who went for elective surgery. All the names of the patients in the register were entered into Microsoft Excel and the required 146 participants were randomly selected.

3.6 Study variable

The dependent variable of the study was patient satisfaction. The independent variables were socio-demographic characteristics, general information on the anaesthesia and the surgery, preoperative anaesthesia services, intraoperative anaesthesia services and postoperative anaesthesia services.

3.6.1 Dependent variable

Patients' satisfaction with anaesthesia services.

3.6.2 Independent variables

- Socio-demographic characteristics: age, sex, marital status, religion, highest level of education and occupation of the patients.
- General information on the surgery and anaesthesia: type of surgery, type of anaesthesia, previous exposure to anaesthesia during surgery, number of times exposed to anaesthesia, presence of comorbid diseases and the diseases comorbid with.
- Preoperative anaesthesia services: introduction of the anaesthetist, information given by the anaesthetist, opportunities given to ask questions, answers given by the anaesthetist, physical examination, opportunity to choose type the type of anaesthesia, and the time spent with the anaesthetist.
- Intraoperative anaesthesia services: introduction of the anaesthetist, privacy, and pain management therapy.
- Postoperative anaesthesia services: management of complications, pain management therapy, and privacy.

3.7 Data collection method and instruments

A structured questionnaire was used to collect data on the client's satisfaction with anaesthesia services provided at the Eastern Regional Hospital, Ghana, after the operation. The questionnaire was developed by the principal investigator based on the literatures reviewed, in English administered to clients who had received anaesthesia. Data was also collected from clients that had already be operated on within 24 hours and were still receiving anaesthesia at the hospital. Some information was extracted from the patients' charts and anaesthetic record sheets. The data was collected by three tertiary students who were trained by the researcher. Questions in the questionnaire were translated into the respondent's

preferred Ghanaian language if they could not speak the English language. The questionnaire was divided into five sections taking into account the independent variables. Section one was on the socio-demographic characteristics. Section two was on general information on the procedures that were involved in the surgical operation. Section three was on preoperative anaesthesia satisfaction. Section four was on intraoperative anaesthesia satisfaction. Section five was on postoperative satisfaction of the clients. The questionnaire had 26 open and closed-ended questions. The clients' level of satisfaction with the anaesthesia care services was measured on a 5-point Likert scale: 1=very dissatisfied; 2=dissatisfied; 3=neither satisfied nor dissatisfied; 4=satisfied; and 5=very satisfied.

3.8 Quality assurance

3.8.1 Training of research assistants

To ensure the quality of the data, training was provided for the research assistants. The training was to equip the research assistants with the basic knowledge of data collection techniques, how to translate the questions into other Ghanaian languages and adherence to ethical principles.

3.8.2 Pre-testing of questionnaire

The questionnaire was pre-tested for 5% of the sample size in St Joseph's Hospital in the New Juaben Municipality to determine the errors in the questionnaire.

The questionnaire was revisited after the pre-testing to correct the errors in it.

The investigator supervised the whole data collection processes for consistency, completeness, and accuracy.

3.9 Data processing and analysis

The double data entry technique was used to enter the data twice and the data was also cleaned to ensure accuracy and consistency

The data collected was checked for consistencies and completeness and entered into a database using EpiData 4.4. After the entry, the data was exported to STATA version 15.0 for cleaning and analysis.

Data were analysed based on the specific objectives and described using frequency distribution and percentages, and mean and standard deviation, and presented in tables.

Seven different questions measured the client's satisfaction with preoperative anaesthesia services. A summative score of 7 was divided dichotomously with a score above 4 being reported as "satisfied" with preoperative anaesthesia and below or equal to 4 as "dissatisfied" with preoperative anaesthesia.

The measurement of clients' satisfaction with intraoperative anaesthesia had 3 questions. A total score of 3 was divided dichotomously with a score above 2 being interpreted as "satisfied" with the intraoperative anaesthesia and below or equal 2 being "dissatisfied" with the intraoperative anaesthesia services.

There were 3 questions measuring clients' satisfaction with postoperative anaesthesia services. A total score of 3 was divided dichotomously with a score above 2 being interpreted as "satisfied" with the postoperative anaesthesia and below or at 2 as "dissatisfied" with the postoperative anaesthesia services.

Overall, 13 questions were measuring the clients' satisfaction with anaesthesia services. A summative score of 13 was divided dichotomously with a score at or above 7 being interpreted as "satisfied" with the overall anaesthesia services below 7 as "dissatisfied" with the overall anaesthesia services.

3.10 Ethical Considerations

The welfare of the participants were deemed crucial hence ethical issues were considered in this study. These issues were addressed by fulfilling the following:

3.10.1 Ethical clearance

Ethical clearance was granted from the Ghana Health Service Ethics Review Committee. The Ethical Approval number was **GHS-ERC:038/07/19** (Appendix D)

3.10.2 Permission from study site

Permission was also sought from the authorities of the Eastern Regional Hospital before the study started.

An introductory letter was written by the University of Ghana, School of Public Health to the Eastern Regional Hospital to seek approval to conduct the study at the facility. The researcher attached a purpose statement to the introductory letter.

3.10.3 Potential Risk and Benefits

This research did not benefit the participant directly. However, results from this study would be used to inform decisions to improve the provision of anaesthesia services in the country. The risk involved in taking part in this study included some of the questions that were asked that might have affected the respondents psychologically. However, well-trained research assistants were used to minimize these risks.

3.10.4 Privacy and Confidentiality

The identity of the respondents was protected and was not known by anyone. Any information given was entered with the participant's ID number and not name and was only used for research purposes. Any information that was provided to the researcher during the research was kept confidential and would not be revealed to anyone except required by law.

3.10.5 Data Storage, Security, and Usage

Data collected will be stored in a secured locked cabinet and only the researcher will have access to the data. Data held on computers and flash drives was encrypted with a password known to only the researcher. The data collected is the sole property of the researcher. It will be released when the need arises to serve as a baseline for further studies.

3.10.6 Consenting Process

Written informed consent was sought from the potential respondents during the study. This consent was sought individually before they were enrolled in the study. To achieve this, a comprehensive information sheet explaining the purpose, the risk associated with participation, benefits, the procedures involved in the study, the confidentiality of their information and contact details of the researcher and authorities (if further questions arise) were given out to the respondents. An informed consent form was presented and explained for all participants to sign if they accepted to participate in the study.

3.10.7 Voluntary Participation or Withdrawal

Participation in this research were completely voluntary. Respondents could choose not to participate or were free to withdraw from the study at any time during the data collection without any penalty.

3.10.8 Compensation

There was no compensation for participants who took part in the study but were duly acknowledged for their participation.

3.10.9 Declaration of Conflict of Interest

The researcher of this study had no conflict of interest.

3.10.10 Funding Information

This study was funded by the researcher.

3.11 Summary of chapter

This chapter presented the methodology that was adopted in this study. The next chapter provides the findings that was obtained in the study.

CHAPTER FOUR

RESULTS

4.0 Introduction

This chapter presents the findings of the data collected from the adult patients who had undergone elective surgery under any form of anaesthesia at the Eastern Regional Hospital. These findings are presented in tables, figures and summarised descriptions of the tables and figures. The chapter is further segmented into four sections. Section one present the results on the socio-demographic characteristics of the respondents. Section two presents the general information on the respondents about the surgery and the anaesthesia. Section three presents the respondents' satisfaction with anaesthesia services. The last section summarises the chapter. However, section three is further divided into four sub-sections. The first sub-section depicts the respondents' satisfaction with pre-operative anaesthesia services, the next one also depicts the respondents' satisfaction with intraoperative anaesthesia services. The third sub-section shows the respondents' satisfaction with postoperative anaesthesia services. The fourth sub-section however presents the respondents' satisfaction with the whole anaesthesia services.

4.1 Socio-demographic characteristics of respondents

A total of 146 adults participated in this study of which the majority of them 77 (52.7%) were females and 69 (47.3%). Largest population 46 (31.5%) were aged between 30-39 years. The mean age of all the respondents was approximately 40.4 years. More than half of the respondents 99 (67.8%) were married, 7 (4.8%) were widowed with only 4 (2.7%) being divorced. Christians constituted most of the respondents 111 (76.0%), followed by Muslims 31 (21.2%) with the rest being Traditionalists 4 (2.8%). An estimated 65 (44.5%) had had tertiary education while only 7 (4.8%) have had no formal education. Most of the respondents

56 (38.4%) were self-employed. Table 4.1 shows the socio-demographic characteristics of the respondents.

Table 4.1: Sociodemographic characteristics of the respondents

Items	Number	Percentage (%)
Age (years):		
≤ 29	40	27.4
30-39	46	31.5
40-49	23	15.8
50-59	16	10.9
60-69	12	8.2
≥70	9	6.2
Age: Mean (SD)	40.4 (14.8)	
Sex:		
Male	69	47.3
Female	77	52.7
Marital status:		
Single	36	24.7
Married	99	67.8
Divorced	4	2.7
Widowed	7	4.8
Religion:		
Christian	111	76.0
Muslim	31	21.2
Traditional	4	2.8

Highest level of education:

No formal education	7	4.8
Primary	16	11.0
Secondary	58	39.7
Tertiary	65	44.5
<hr/>		
Occupation:		
Self-employed	56	38.4
Private employee	18	12.3
Civil/public servant	44	30.1
Unemployed	14	9.6
Retired	14	9.6
<hr/>		
Total	146	100
<hr/>		

4.2 General information on surgery and anaesthesia

Among the respondents 107 (73.3%) had a major surgery. The majority of the respondents 78 (53.4%) also received regional anaesthesia during their surgery.

With regards to their exposure to any form of anaesthesia before their current surgery, a 79 (54.1%) of the respondents had never experienced anaesthesia before whiles the remaining 67 (45.9%) had been exposed to one form of anaesthesia prior to their current surgery. Among those who had previous anaesthesia exposure, approximately 52 (35.6%) of them had been exposed to it once. An estimated 49 (33.6%) of the respondents had comorbid disease; where most of them 20 (13.9%) were comorbid with hypertension only. Table 4.2 presents a detailed description of the general information about the clients on the surgery and the anaesthesia.

Table 4.2: General information on surgery and anaesthesia (N=146)

Items	Number	Percentage (%)
Type of surgery:		
Major	107	73.3
Minor	39	26.7
Type of anaesthesia:		
Regional	78	53.4
General	48	32.9
Local	20	13.7
Previous anaesthesia exposure:		
Exposed	67	45.9
Not exposed	79	54.1
Number of times of previous anaesthesia exposure:		
Once	52	35.6
Twice	11	7.5
Thrice	2	1.4
More than thrice	2	1.4
None	79	54.1
Have comorbid disease:		
Comorbid	49	33.6
No Comorbid	97	66.4
Comorbid with:		
HPN	20	13.9
Asthma	8	5.5

Asthma and HPN	2	1.3
DM	10	6.8
DM and HPN	8	5.5
Renal failure	1	0.6
No Comorbid	97	66.4
Total	146	100

4.3 Satisfaction with anaesthesia services

This section shows the satisfaction of the patients with anaesthesia services during elective surgery at the Eastern Regional Hospital. These results are depicted using pie charts and a table.

4.3.1 Satisfaction with preoperative anaesthesia services

The level of satisfaction of the preoperative anaesthesia services was 105 (71.9%) as presented in figure 4.1. In the study 98 (67.1%) were satisfied with the how the anaesthetist introduced him or herself to them. The majority of the respondents 116 (79.4%) were satisfied with the information that the anaesthetist gave to them about the anaesthesia before the surgery. More than 70% of the respondents were satisfied with the opportunities the anaesthetist gave to them to ask questions, and an estimated 129 (88.4%) were also satisfied with the answers that were given to them when they asked the questions.

Most of the patients 115 (78.8%) were satisfied with how the anaesthetist examined them before the surgery. About 68% were satisfied with the opportunity that the anaesthetist gave them to choose their anaesthesia. Concerning the time that patients spent with the anaesthetist, almost all the patients (93.1%) were satisfied with the time they spent with the

anaesthetist. Table 4.3 (a) depict detailed results of the satisfaction of the clients with preoperative anaesthesia services.

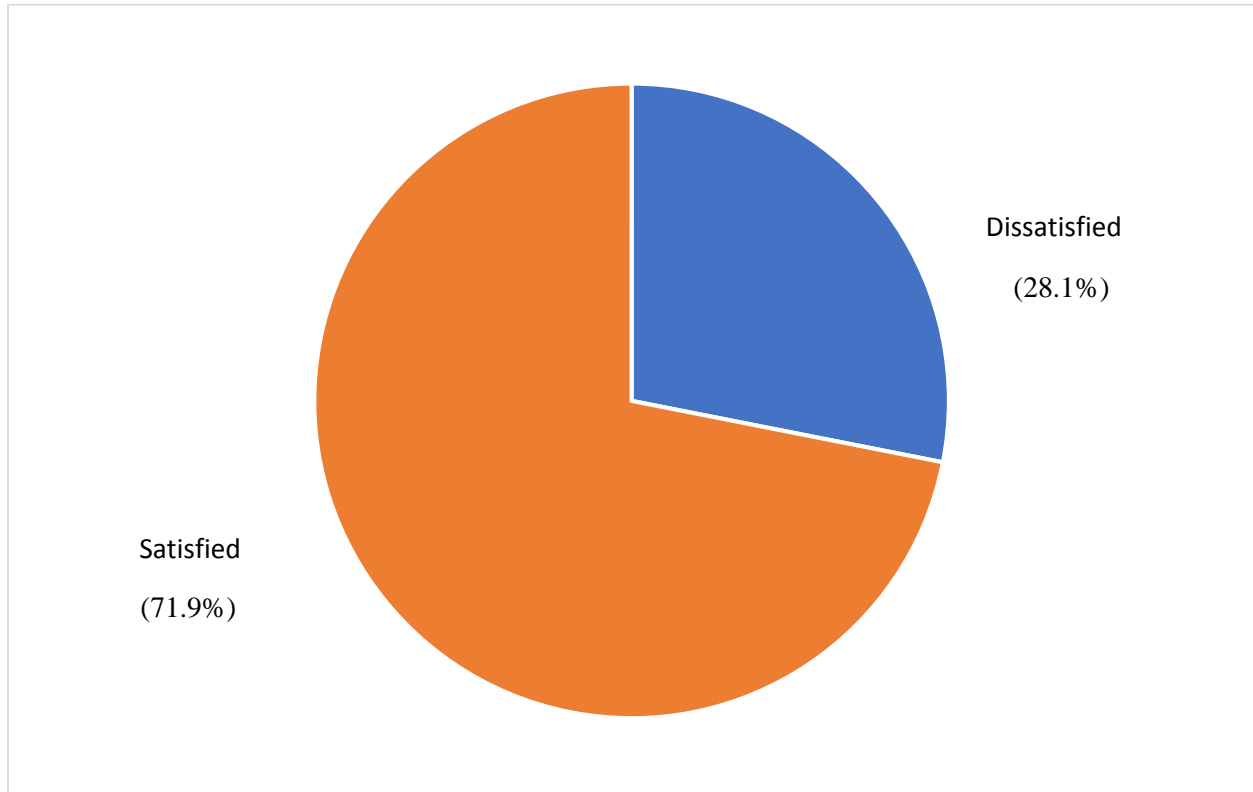


Figure 4.1: Overall satisfaction with preoperative anaesthesia services

4.3.2 Satisfaction with the intraoperative anaesthesia services

From figure 4.2, it is shown that 56.2% (82) of the patients were satisfied with the intraoperative anaesthesia services rendered to them. However, an estimated 85.6% (125) of the respondents were satisfied with how the anaesthetist introduced him or herself during the surgery. Only 28.1% (41) of the respondents were not satisfied with the privacy that was given to them during the surgery. Furthermore, an estimated 87.7% (128) were satisfied with how their pain was managed during the surgery. The results on satisfaction of the patients with various intraoperative anaesthesia services are presented in Table 4.3 (b)

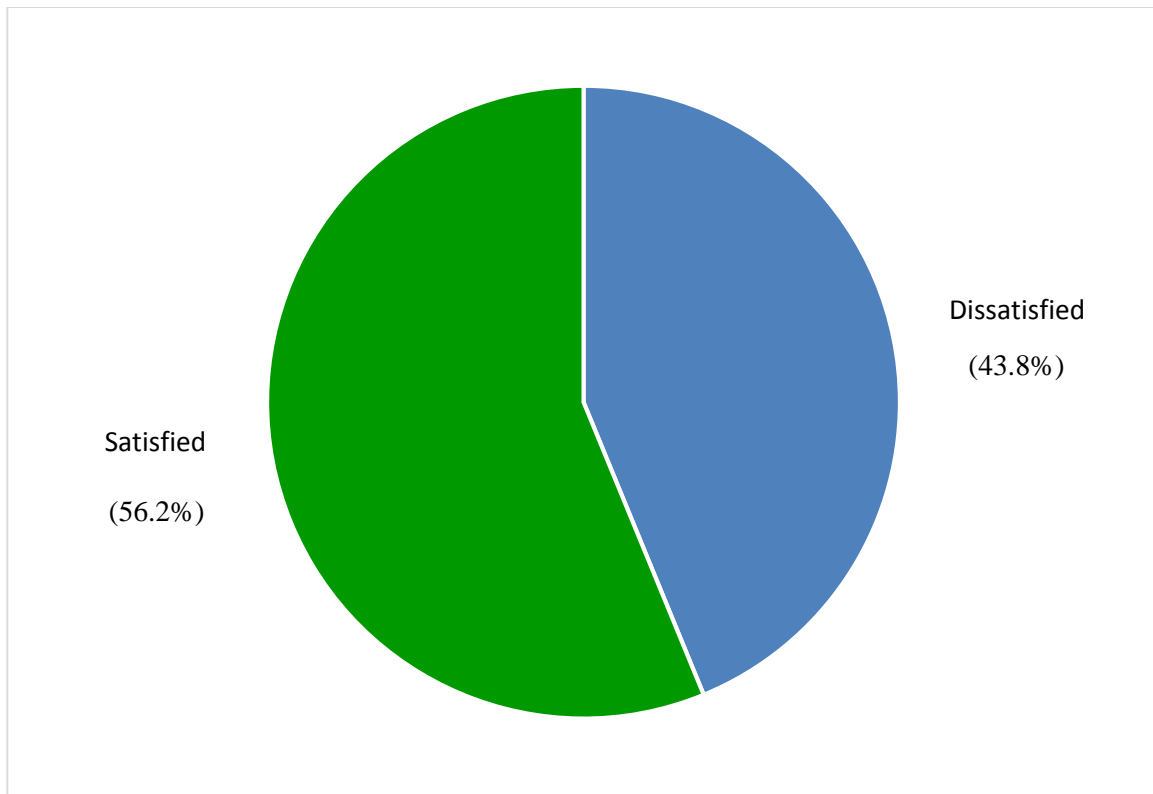


Figure 4.2: Overall satisfaction with intraoperative anaesthesia services

4.3.3 Satisfaction with the postoperative anaesthesia services

As presented in table 4.3 (c) most of the patients, representing 77.4% (113) were satisfied with the management of the complication that resulted from the surgery. Approximately 86.3% (126) of the patients were satisfied with the pain therapy given to them after the surgery. The majority of them 89.0% (130) were satisfied with the privacy given to them after the surgery. Figure 4.3 shows the client's satisfaction level with postoperative anaesthesia services.

An estimated 61.6% (90) of the clients were satisfied with the postoperative anaesthesia services given to them.

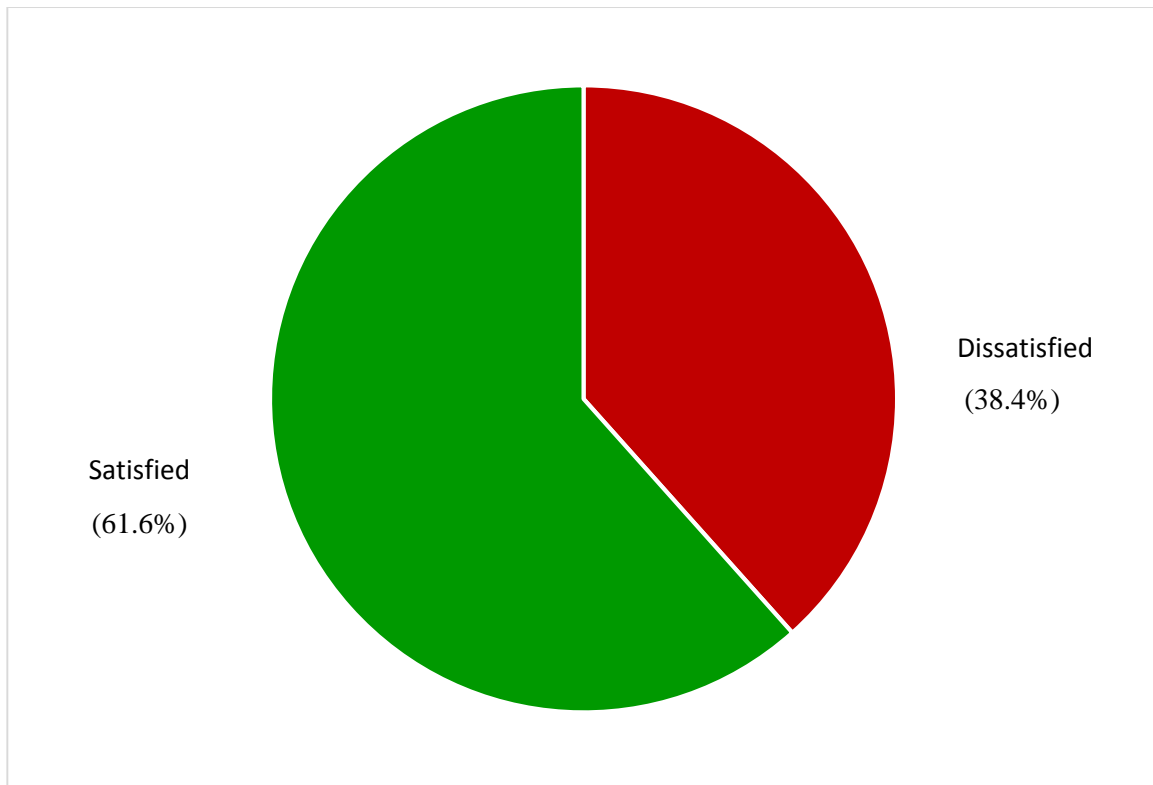


Figure 4.3: Overall satisfaction with postoperative anaesthesia services

Table 4.3: Client satisfaction with anaesthesia services (N=146)

Items	Number	Percentage (%)
(a) Satisfaction with preoperative anaesthesia services		
Anaesthetist introduction:		
Dissatisfied	48	32.9
Satisfied	98	67.1
Information given:		
Dissatisfied	30	20.6
Satisfied	116	79.4
Opportunity to ask questions:		
Dissatisfied	40	27.4
Satisfied	106	72.6
Answer given:		
Dissatisfied	17	11.6
Satisfied	129	88.4
Preoperative examination:		
Dissatisfied	31	21.2
Satisfied	115	78.8
Opportunity to choose anaesthesia:		
Dissatisfied	47	32.2
Satisfied	99	67.8
Time spent with anaesthetist:		
Dissatisfied	10	6.9
Satisfied	136	93.1
Total	146	100

(b) Satisfaction with intraoperative anaesthesia services

Anaesthetist introduction:

Dissatisfied	21	14.4
Satisfied	125	85.6

Privacy given during surgery:

Dissatisfied	41	28.1
Satisfied	105	71.9

Pain management:

Dissatisfied	18	12.3
Satisfied	128	87.7

Total	146	100
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(c) Satisfaction with postoperative anaesthesia services

Management of complication:

Dissatisfied	33	22.6
Satisfied	113	77.4

Pain therapy after surgery:

Dissatisfied	20	13.7
Satisfied	126	86.3

Privacy given after surgery:

Dissatisfied	16	11.0
Satisfied	130	89.0

Total	146	100
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4.3.4 Overall level of satisfaction with anaesthesia services

Overall, 87% (127) of the clients were satisfied with the anaesthesia services that were rendered to them while 13% (19) of them were not satisfied. This is presented in figure 4.4.

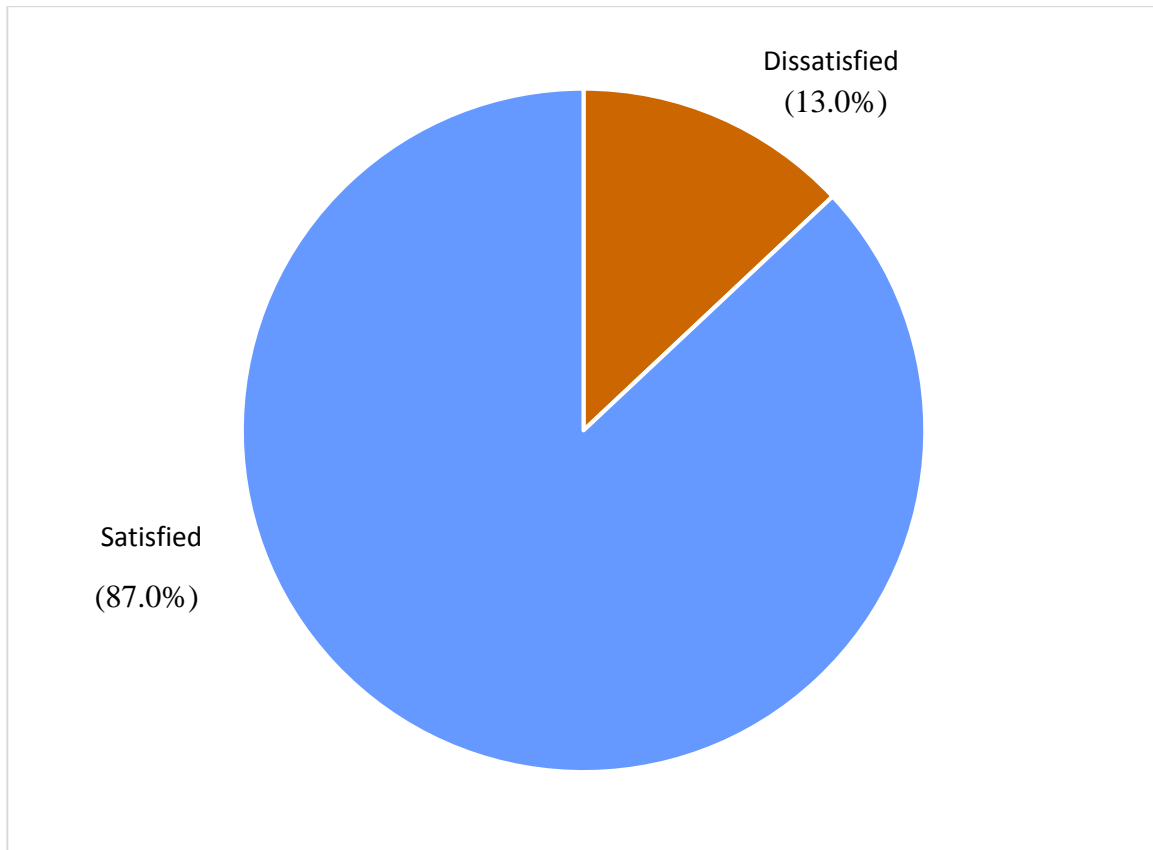


Figure 4.4: Overall satisfaction level with anaesthesia services

4.4 Summary of the chapter

This chapter provided the findings obtained in the study. It showed the elective patients satisfaction with the anaesthesia services in the Eastern Regional Hospital. The next chapter discusses this findings in relation to other relevant studies.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Introduction

This chapter describes and interprets the findings obtained in this study with reference to other similar studies. The section discusses the satisfaction of the clients with anaesthesia services.

5.1 Satisfaction with anaesthesia services

Assessing clients' satisfaction with anaesthesia services is a paramount tool for evaluating the quality of anaesthesia services provided in the health facility, which helps to plan for clients' expectation-fulfilled service delivery. This section discusses the clients' satisfaction with the anaesthesia services provided at the Eastern Regional Hospital.

5.1.1 Satisfaction with preoperative anaesthesia services

The study found that majority of patients anaesthetised (72%) within the period of the study were satisfied with the preoperative anaesthesia service they received. Most of them (79%) stated that the anaesthetists gave them enough information regarding the various forms of anaesthesia that could be used for their procedure, the advantages, disadvantages and the complications associated with it were explained. Majority (88%) stated that the anaesthetist also allowed them adequate time to ask questions and their concerns were clarified. About 68% stated that they were then allowed to choose the form of anaesthesia they would like based on the information given to them. Almost all the respondents (93%) were satisfied with the time they spent with the anaesthetists.

These findings confirm that of Obsa et al, (2017) that 73.4% of the patients had been satisfied with the preoperative anaesthesia services. Onyekwulu and Nwosu (2009) also reported that 90.1% of the patients had been satisfied with the preoperative anaesthesia services. This is in

contrast with what was found in this study. This difference could be due to the smaller sample size of 43 used in their study. However, Gebremedhn and Nagaratnam (2014) reported a lesser satisfaction level as only 65% of the patients had been satisfied with the preoperative anaesthesia services. This difference could be due to the target population and the method used in collecting the data. Minors as little as nine months were recruited for the study of which their parents or closest relatives responded on their behalf. This could not report the actual experiences or satisfactions of the minors, hence, did not reflect the actual satisfaction level of the patients.

Moreover, in this study, 67% of the patients was satisfied with how the anaesthetists introduced themselves and also, about 79% was satisfied with how the anaesthetist physically examined them before the operation.

5.1.2 Satisfaction with intraoperative anaesthesia services

The overall satisfaction of the clients with intraoperative anaesthesia services was very low in this study as less than 70% of the respondents were satisfied with the services. Only 56% of the patients was satisfied with the intraoperative anaesthesia services provided to them. Contrarily, a study in South Africa by Makoko, et al. (2018) among patients who received spinal anaesthesia for caesarean section reported a higher satisfaction level of the patients (89%) with the intraoperative anaesthesia services. This could be due to the differences in the target population and procedure used as only pregnant women who received spinal anaesthesia for caesarean section were recruited in their study. Moreover, most caesarean sections were reported to be done under emergency rather than being planned.

Furthermore, 86% was satisfied with the self-introduction of the anaesthetist. In this study a comparative 72% was satisfied with the privacy that were given to them during the surgery whereas 88% was also satisfied with the pain management therapy given to them during the surgery.

5.1.3 Satisfaction with postoperative anaesthesia services

Patients' satisfaction with postoperative anaesthesia services was low (61%). However, 86% of them was satisfied with pain therapy after the operation. This was in line with a study by Niemi-Murolo et al. (2007), which reported that 80% of the patients were satisfied with the postoperative pain therapy given to them.

5.1.4 Overall satisfaction with anaesthesia services

It was evidenced in the study by Benwu and Gebremedhin (2019) showed that 88% of the patients was satisfied with the overall anaesthesia services. This is not so different from what was found in this study where 87% of the patients was satisfied with the anaesthesia services received at the hospital. However, several researches had conflicting results compared with this study. Most of the studies reported a higher patient satisfaction with anaesthesia services compared with this study. Gempeler and Avellaneda (2010) reported that, about 99% of the patients was satisfied with the anaesthesia services provided to them; higher than what was found in this study. Congruently, a study conducted in Jimma University Specialized Hospital in South West Ethiopia found that 99% of the patients who went through general anaesthesia during their surgery were satisfied with the anaesthesia services, whereas 97% of the patients who took regional anaesthesia were also satisfied with the anaesthesia services (Belihun, et al. 2015). Additionally, Gebremedhn et al. (2015) also reported that 90% of the patients was satisfied with the overall anaesthesia services. Similarly, Alshehri, et al. (2015) pointed out that 95% of the patients was satisfied with the overall anaesthesia services; which was also higher than what was found in this study. These variations could be as a result of the lower satisfaction of the clients with the preoperative and intraoperative anaesthesia services in this study similar to what was found in other studies (Belihun, et al. 2015; Gebremedhn et al. 2015).

5.2 Summary of chapter

This chapter discussed the findings of this study and related them to findings from other scientific studies. It was found that out of 146 patients involved in the study, 127 patients (87%) were generally satisfied with anaesthesia services at the Eastern Regional Hospital. At the preoperative stage 72% were satisfied while 56% had satisfaction with intraoperative anaesthesia services. Postoperatively, 61% of the respondents had satisfaction with the service. The next chapter therefore presents the conclusion and recommendations of the study. It also shows the limitations that of the study.

CHAPTER SIX

CONCLUSIONS AND RECOMMENDATIONS

6.0 Introduction

This chapter provides concluding statements of the study. The chapter again proposes some recommendations based on the findings of the study. The summary of the study, limitations of study as well as future research have also been presented.

6.1 Summary of the study

The study sought to determine how the patients that undergoes elective surgery in the Eastern Regional Hospital are satisfied with the anaesthesia services provided to them. It was achieved by asking the patients are 18 years or above and had undergone elective surgery how satisfied they with the anaesthesia service provided to the during the preoperative stage, intraoperative and postoperative stage using a valid and pre-tested questionnaire. These data collected were analysed using STATA 15.0 and the results depicted using frequencies and percentages in tables and pie charts.

6.2 Conclusion

Generally, patients were satisfied with anaesthesia services provided at the Eastern Regional Hospital with majority being satisfied with preoperative anaesthesia services. Patients satisfaction with intraoperative and postoperative anaesthesia services were relatively lower as compared with the preoperative anaesthesia services.

6.3 Recommendations

The recommendations are as follows:

1. Preoperatively, there is the need for the anaesthetist to establish a good rapport with their patients to know their concerns and address them appropriately.

2. There is the need for anaesthetist to provide adequate privacy during the intraoperative stage
3. Postoperative anaesthesia related complications should be treated adequately by anaesthetist to improve patients' satisfaction.

6.4 Limitation of the study

The study recruited patients undergoing all types of surgery with varying duration and severity, hence, there could be a possibility of some bias in the responses as it also related to the types of surgery. Additionally, the self-administration of the questionnaire by nurses could have influenced the responses. Finally, the study included only patients who had elective surgery, hence, the perspectives of those who had emergency surgery were not captured in this study.

6.5 Future Research

The assessment of patients' satisfaction with anaesthesia services should be done regularly as finances will permit.

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APPENDICES

Appendix A: Information sheet

Participant's information sheet

Title of the study

Clients satisfaction with anaesthesia services during elective surgery provided at the Eastern Regional Hospital.

Introduction

I am Rosemond Catherine Acquah a student from the university of Ghana, School of public health, Legon. My contact number is 0244856113 and email carosy@email.com

Background and Purpose of the study

Clients are the foundation of the health care system. Their experiences with the care provided to them are the heartbeats of clinical medicine. Determining the satisfaction of clients has become a challenge to the health institutions. The purpose of the study is to determine clients' satisfaction with anaesthesia services during elective surgery at the Eastern Regional Hospital, Ghana.

Nature of research

I am interested in determining the satisfaction of clients with anaesthesia services during elective surgery at the Eastern Regional Hospital. The study will employ quantitative approach using a descriptive cross-sectional study design. An estimated one hundred and forty-six adults who had undergone elective surgery under any form of anaesthesia at the Eastern Regional Hospital and consent to partake in the study will be recruited for the study.

Duration / what is involved in the study

If you agree to participate in this study, you will be asked to answer questions about yourself, your health condition, and the procedures you went through during your surgery. These questions will be asked in relation to the anaesthesia services that were rendered to you

before, during and after your surgery. All these questions will be asked in a form of face-to-face interview using a pre-tested questionnaire. The interview will take a maximum time of 45 minutes.

Participant involvement

If you agree to participate in the study, you will be required to answer some questions on issues pertaining to your satisfaction with the anaesthesia services that was rendered to you in this hospital before, during and after your surgery.

Potential risks of the study.

Some questions that will be asked may make you feel uncomfortable. These questions will, however, be beneficial.

Apart from the above-mentioned risk and the time (45 minutes) you will spend answering the questions or doing the discussions, the study will cause you no other harm.

Benefits of the study.

There is no direct benefit when you participate in the study. However, your contribution will help improve the anaesthesia services provided at this hospital to match the satisfaction patients who are cared for in this hospital and other hospitals in the country, and even the whole world at large.

Costs

There will be no cost incurred since the researcher will go to the facilities to interview the participants.

Compensation

You will not be paid any money for taking part in the study neither will you pay any money.

Privacy

Privacy will be ensured when interviewing you by conducting the interview in an enclosed area.

Confidentiality

All the information relating to you that will be collected in the study will be kept confidential and will not be revealed to anyone except required by law or regulations. Your name will not be needed and hence will not be recorded in the study. All the information that will be collected including the audio recordings will be kept in a highly secured cabinet for five years and will not be accessible to anyone except the researcher.

Voluntary to participate or withdrawal

You taking part in the study is voluntary. You have the right to withdraw from the study anytime without penalty. You can also choose not to answer any of the questions that I will ask you. The information you give will not affect the services you receive in the hospital.

Outcome and Feedback

The data will be used for academic purposes. Feedback of findings and recommendations will also be communicated to the hospital authorities to make decisions concerning the provision of anaesthesia services. Feedback of findings and recommendations will also be communicated to the GHS ethics review committee and the School of Public Health.

Provision of information and consent for participants

A copy of the information sheet and consent form will be given to you after it has been signed to keep or thumb-printed to keep.

Who to contact for further clarification /Questions?

If you have any questions or concern about the study please contact:

1. The principal investigator; Rosemond Catherine Acquah. Tel: 0244856113

For ethical issues

2. Ms Hannah Frimpong – Administration of the GHS Ethical Review Committee

Research and Development Division of the GHS, Accra. Tel: 05070412233 or 0243235225

Appendix B: Consent form

Study Title: **Clients satisfaction with anaesthesia services during elective surgery at the Eastern Regional Hospital.**

PARTICIPANTS' STATEMENT

I acknowledge that I have read or have had the purpose and contents of the Participants Information Sheet read and all questions have been satisfactorily explained to me in a language I understand (English, Twi, Krobo). I fully understand the contents and any potential implications as well as my right to change my mind (i.e. withdraw from the research) even after I have signed.

I voluntarily agree to be part of this research

Name or Initials of Participants.....

Participants' Signature/Thumbprint.....

Date

INTERPRETERS' STATEMENT

I interpreted the purpose and contents of the Participants' Information Sheet to the above named participant to the best of my ability in the (English, Twi, Krobo) language to his/her proper understanding.

All questions, appropriate clarifications sort by the participant and answers were also duly interpreted to his/her satisfaction.

Name of Interpreter.....

Signature of Interpreter..... Date.....

Contact Details

STATEMENT OF WITNESS

I was present when the purpose and contents of Participant Information Sheet was read and explained satisfactorily to the participants in the language he/she understood (English, Twi, Krobo)

I confirm that he/she was given opportunity to ask questions/seek clarifications and same were duly answered to his/her satisfaction before voluntarily agreeing to be part of the research.

Name.....

Signature/Thumb Print.....

Date.....

INVESTIGATOR STATEMENT AND SIGNATURE

I certify that the participant has been given ample time to read and learn about the study. All questions and clarifications raised by the participants have been addressed.

Researcher's name.....

Signature

Date

Appendix C: Questionnaire

SCHOOL OF PUBLIC HEALTH

COLLEGE OF HEALTH SCIENCES

UNIVERSITY OF GHANA

Topic: Clients satisfaction with anaesthesia services during elective surgery provided at the Eastern Regional Hospital

ID:

Date:

Please answer the question by writing the code or the response, when appropriate, in the space provided.

No.	Question	Response
Part 1: Socio-demographic characteristics		
Q1.	Age (years)
Q2.	Sex	1. Male <input type="checkbox"/> 2. Female <input type="checkbox"/>
Q3.	Marital status	1. Single 2. Married 3. Divorced <input type="checkbox"/> 4. Windowed 5. Co-habiting
Q4.	Religion	1. Christian 2. Muslim <input type="checkbox"/> 3. Traditional 4. Other.....
Q5.	Highest level of education	1. No formal education 2. Primary <input type="checkbox"/> 3. Secondary/Vocational 4. Tertiary

Q6.	Occupation	1. Self employed 2. Private Employee 3. Civil/Public Servant <input type="checkbox"/> 4. Unemployed 5. Retired
Part 2: General information		
Q7.	What type of surgery did you go through?	1. Major 2. Minor <input type="checkbox"/>
Q8.	What type of anaesthesia was used?	1. Regional 2. General <input type="checkbox"/> 3. Local
Q9.	Have you ever had experience with anaesthesia before this surgical operation	1. Yes 2. No <input type="checkbox"/>
Q10.	How many times have you had experience with anaesthesia before this surgical operation	1. Once 2. Twice 3. Thrice <input type="checkbox"/> 4. More than thrice
Q11.	Do you have any comorbid disease?	1. Yes 2. No <input type="checkbox"/>
Q12.	What is the disease you are comorbid with?	1. HPN 2. Asthma 3. Asthma and HPN 4. DM 5. DM and HPN <input type="checkbox"/> 6. Renal failure 7. Psychiatric 8. Other (specify)
Part 3: Satisfaction with preoperative anaesthesia services		
Q13.	How satisfied were you with the way the anaesthetist introduced him/her before the operation?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied <input type="checkbox"/>

		5. Very satisfied
Q14.	How satisfied were you with the information you were given by the anaesthetist prior to the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied <input type="checkbox"/> 5. Very satisfied
Q15.	How satisfied were you with the opportunities that were given to you to ask questions prior to the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied <input type="checkbox"/> 5. Very satisfied
Q16.	How satisfied were you with the answers that the anaesthetist gave to your question prior to the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied <input type="checkbox"/> 5. Very satisfied
Q17.	How satisfied were you with the way the anaesthetist examined you prior to the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied <input type="checkbox"/> 5. Very satisfied
Q18.	How satisfied were you with the opportunity that were given to you to choose the type of anaesthesia?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied <input type="checkbox"/> 5. Very satisfied
Q19.	How satisfied were you with the duration of time spent with the anaesthetist prior the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied <input type="checkbox"/> 5. Very satisfied
Part 4: Satisfaction with intraoperative anaesthesia services		
Q20.	How satisfied were you with the way	1. Very dissatisfied

	the anaesthetists introduced themselves during the surgery?	2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied 5. Very satisfied	<input type="checkbox"/>
Q21.	How satisfied were you with the privacy that were given to you by the anaesthetist during the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied 5. Very satisfied	<input type="checkbox"/>
Q22.	How satisfied were you with the way your pain was managed during the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied 5. Very satisfied	<input type="checkbox"/>
Part 5: Satisfaction with postoperative anaesthesia services			
Q24.	How satisfied were you with the management of nausea and/or vomiting and/or sore throat after the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied 5. Very satisfied	<input type="checkbox"/>
Q25.	How satisfied were you with the pain therapy after surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied 5. Very satisfied	<input type="checkbox"/>
Q26.	How satisfied were you with the privacy that were given to you by the anaesthetist after the surgery?	1. Very dissatisfied 2. Dissatisfied 3. Neither satisfied or dissatisfied 4. Satisfied 5. Very satisfied	<input type="checkbox"/>

APPENDIX D: ETHICAL CLEARANCE

GHANA HEALTH SERVICE ETHICS REVIEW COMMITTEE

In case of reply the number and date of this Letter should be quoted.



Research & Development Division
Ghana Health Service
P. O. Box MB 190
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Email: ghserc@gmail.com
5th July, 2019

MyRef. GHS/RDD/ERC/Admin/App
Your Ref. No.

1191258

Rosemond Catherine Acquah
University of Ghana
School of Public
Box LG 13

The Ghana Health Service Ethics Review Committee has reviewed and given approval for the implementation of your Study Protocol.

GHS-ERC Number	GHS-ERC 038/07/19
Project Title	Patient Satisfaction with an Anaesthesia Services During Elective Surgery in Eastern Regional Hospital
Approval Date	5 th July, 2019
Expiry Date	4 th July, 2020
GHS-ERC Decision	Approved

This approval requires the following from the Principal Investigator

- Submission of yearly progress report of the study to the Ethics Review Committee (ERC)
- Renewal of ethical approval if the study lasts for more than 12 months,
- Reporting of all serious adverse events related to this study to the ERC within three days verbally and seven days in writing.
- Submission of a final report after completion of the study
- Informing ERC if study cannot be implemented or is discontinued and reasons why
- Informing the ERC and your sponsor (where applicable) before any publication of the research findings.
- Please note that any modification of the study without ERC approval of the amendment is invalid.

The ERC may observe or cause to be observed procedures and records of the study during and after implementation.

Kindly quote the protocol identification number in all future correspondence in relation to this approved protocol

SIGNED.....
DR. CYNTHIA BANNERMAN
(GHS-ERC CHAIRPERSON)

Cc: The Director, Research & Development Division, Ghana Health Service, Accra