



ADDIS ABABA UNIVERSITY

COLLEGE OF HEALTH SCIENCES

DEPARTMENT OF ANESTHESIA

MATERNAL SATISFACTION AND ASSOCIATED FACTORS AMONG PARTURIENT
WHO UNDERGON CESAREAN SECTION DELIVERY UNDER SPINAL ANESTHESIA IN
SELECTED PUBLIC HOSPITALS IN ADDIS ABABA, ETHIOPIA: A CROSS-SECTIONAL
STUDY

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ADDIS ABABA ETHIOPIA

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ACRONYMS

1. Addis Ababa University is represented by AAU.
2. The American Society of Anesthesiologist is known as ASA.

3. Cesarean Section is abbreviated as C/S.
4. General Anesthesia is commonly referred to as GA.
5. Nausea and vomiting are denoted by N/V.
6. Post-operative nausea and vomiting is abbreviated as PONV.
7. Regional Anesthesia is often shortened to RA.
8. Spinal Anesthesia is represented by SA.

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ABSTRACT

Background: The concept of patient satisfaction has become more important in fields such as anesthesiology, where the nature and modalities of services rendered to clients are changing from time to time with the ever growing and advancement of technology in this field. It is with this need in mind that this research aims to investigate patients' level of satisfaction, their perspective regarding the factors associated with dissatisfaction related to spinal anesthesia during caesarean deliveries

Methodology: A survey was conducted on 332 pregnant women who underwent caesarean section. The respondents were recruited using a simple random sampling technique until the required sample size was achieved during the study period. The data collected was entered into SPSS version 27. Descriptive statistics were utilized to examine the socio-demographic characteristics of the patients. Binary logistic regression was employed to determine the correlation between the dependent and independent variables. The variables that had a P-value < 0.05 in the multivariate analysis were considered statistically significant.

Result: The final analysis included a total of 332 parturients. The age group with the highest number of participants was between 26-30 years, comprising 121 parturients, which accounts for 36.4% of the total. From the 332 parturient, 253(76.2%) was satisfied with administration of Spinal Anesthesia and 79(23.8%) was dissatisfied with the administration of Spinal Anesthesia. The reason why they are dissatisfied with Spinal Anesthesia were lack of appropriate Explanation about the procedure(18.1%),Nausea and Vomiting(15.7%),Intraoperative pain(17.2%),Pain at the puncture site(16.9%),post-operative back pain(17.5%),

Conclusion and recommendation: The overall maternal satisfaction among parturient underwent cesarean section under spinal anaesthesia were 75.6 %.The satisfaction rate among parturient regarding the information provided by the Anesthetist was 83.4%, while 72.9% expressed satisfaction with the pain-free experience during surgery. Furthermore, 78.2% of parturient reported being satisfied with the pain management therapy.

Key Words: Spinal anesthesia, cesarean section, parturient, satisfaction.

CHAPTER ONE

INTRODUCTION

Client satisfaction with the service provided in hospitals significantly influences the quality of care. Maternal satisfaction during child birth is the vital indicator of level of treatment in Hospital. The high global rate of Cesarean sections accounted for 18.5 million deliveries out of 213 million worldwide highlights the importance of ensuring mothers' satisfaction. Spinal Anesthesia is commonly chosen technique because it allows the mother to stay in awake state, minimizes fetal depression, use less amount of medication, has low failure rate, fast onset and easier to administer.(1)

Expectations and perceptions are critical in determining satisfaction levels with alignment between desires and expectations leading to fulfillment. Clients appear to be fulfilled when their desires matches their expectation.(2) Factors like quality of care, ease of use, cost, consistency, physical environment and availability of support impact maternal satisfaction during childbirth. Mothers expect relief, attention, and healing, and their satisfaction can be influenced by various factors including life style choices, past experiences, future expectations, and societal and personal value. To enhance current strategies and bridge the gap, it is important to assess maternal satisfaction with delivery care and identify the influencing factors. Thus, the purpose of the study was to ascertain the degree of maternal satisfaction in three selected public Hospitals in Addis Ababa, Ethiopia(3)

The structure of the organization, interpersonal interactions, and parturient expectations are some factors that affect parturient satisfaction. Maternal satisfaction is also influenced by variables such as social standing, age, gender, social insurance, and educational level. Maternal satisfaction is mostly determined by the availability of enough preoperative information and efficient communication between healthcare providers and the parturient or their family.(4)

Monitoring the elements that affect mother satisfaction is critical to tracking the quality of anesthesia services provided in Ethiopia. Measuring parturient satisfaction with the spinal

anesthesia service has limited effort to evaluate parturient satisfaction. The purpose of this study was to find out how satisfied mothers were with spinal anesthesia and what made them dissatisfied after a cesarean section.(5).

1.1 Statement of the Problem

Maternal Satisfaction in Health care service gained attention and emerged as top issue for Health programmers and Managers. Previous study in Ethiopia reported a low rate of satisfaction, with a satisfaction rate of 62% in 2015, which is lower compared to other countries with satisfaction rates ranging from 85% to 99% (5).

The high rate of Cesarean sections and the increasing preference for Spinal Anesthesia over general Anesthesia over general Anesthesia highlights the importance of ensuring that mothers' receive the best possible care during delivery. However, there is limited research on maternal satisfaction with spinal Anesthesia service, particularly in developing country in Ethiopia(6)

Maternal satisfaction became the measure of quality of Health care service provided by Health institution. So it is mandatory to identify factors that cause dissatisfaction of parturient with Administration of Spinal Anesthesia during Cesarean Section(7) The other important thing is to know Maternal satisfaction with the development of health care service in Ethiopia(3)

1.2 Significance of the Study

Researching maternal satisfaction helps to identify areas of improvement and to know that mother get the best possible care during Cesarean section delivery. There are great difference of maternal satisfaction rate between the developed and developing country like Ethiopia(8).

In order to comprehend mother concerns and provide solutions, it is crucial that the study also discusses the possibility of refusing spinal anesthesia and the associated causes. This study closes a gap in the literature and offers insightful information that will help the anesthetic services providers to work more on maternal satisfaction(9)

General, the study on maternal satisfaction during spinal anesthesia is justified since it addresses a crucial component of obstetric anesthetic care, points out areas that need improvement, and offers insightful data that can be used to raise standards of care and patient satisfaction(10).

CHAPTER TWO

LITERATURE REVIEW

A cross-sectional study conducted in 2013 at the USA's Johns Hopkins Hospital in Baltimore, Maryland, states that an article review that appeared on November 30, 2000(13) was discovered the degree of patient satisfaction with regional anesthesia is influenced by intraoperative circumstances. Patient satisfaction may suffer from specific features of the use of regional anesthetic procedures, such as needle puncture. According to preliminary statistics, 22% of patients reported feeling uncomfortable during surgery, and 37% of patients said that the process of inserting a needle for regional anesthetic was "uncomfortable." By reducing intraoperative

anxiety, sufficient perioperative sedation may play a significant role in a patient's acceptance and satisfaction with regional anesthesia. It has been demonstrated that premedication with benzodiazepines reduces intraoperative anxiety and greatly increases patient satisfaction(11).

A study conducted in October 2010 at Yonsei University College of Medicine in Seoul, Korea, by Rhee, reported that 3.7% of patients expressed dissatisfaction with spinal anesthetic. Back pain (29.5%), postoperative nausea and vomiting (PONV; 20.4%), puncture site pain (15.9%), insufficient analgesia (13.6%), awareness during the procedure (6.8%), post-dural puncture headache (4.5%), transient neurologic symptoms (4.5%), and urinary retention (4.5%) were the causes of the dissatisfaction. According to that survey, the most frequent reason for unhappiness was postoperative back pain. However, back discomfort is usually invariably connected with pre-existing back pain and may not be directly related to spinal anesthetic. After spinal anesthesia, postoperative back pain is nearly invariably related to the following factors: surgical trauma, age, pregnancy, type of needle used, number of punctures, extended bed rest aside from hospital preadmission. Therefore, the study's findings would have been different in most cases if the anesthesiologist had informed the patient that back pain had nothing to do with the spinal anesthetic. Fentanyl used in conjunction with local anesthetics frequently causes PONV following spinal anesthesia. It is challenging to determine if PONV is a result of spinal anesthesia. When it is known that PONV will pose a problem for patients and that the dissatisfaction rate from spinal anesthesia was 3.7%, it can raise the satisfaction rate not to mix opioids with local anesthetics. Higher percentages, ranging from 3.8 to 17%, have been reported in other investigations. There are several aspects that are linked to a patient's Satisfaction(12)

As per the research study that was conducted in Malaysia with 200 patients in total and was published on March 2, 2013. There were 194 (97%) satisfied patients and 6 (3%) unsatisfied patients with the average level of satisfaction with the administration of spinal anesthesia. Insufficient pain relief following surgery and ineffective spinal anesthesia were factors linked to discontent (14).

Cross sectional, analytical study published in **June, 2010** which was conducted in Combined Military Hospital Okara, National University of Medical Sciences (NUMS) Pakistan with a total of 400 questionnaires was assessed in final analysis. The overall patient satisfaction was 382 (95.5%) with 4 (1%) showing dissatisfaction, whereas 14 (3.5%) didn't answer this question.

The mean age of participants was 28.38 years \pm 4.56. 395 (98.8%) underwent LSCS under spinal anesthesia, whereas 5 (1.2) underwent LSCS under general anesthesia. There was no difference in patient satisfaction in regard to intra-operative concern alleviation, discomfort, previous number of LSCS, parturient age, choice of anesthesia; p-value >0.05 . There was higher dissatisfaction in patients who experienced post-operative complaints, most notably pain's=0.000. Patient satisfaction was higher in mothers who experienced joy on hearing their newborns cries; p=0.000. The overall conclusion was patient satisfaction in the study was high and only few factors causing patient dissatisfaction which included postoperative complaints most notably pain(8)

A cross-sectional survey was done by the department of anesthesiology at the Combined Military Hospital in Bahawalpur, Pakistan, and published on March 28, 2019. A study was conducted among 246 pregnant patients who were getting spinal anesthesia for a cesarean delivery. Following surgery, patients were given a questionnaire on which they were asked to rate their level of satisfaction with relation to pain during the procedure, postoperative backache, and postoperative nausea and vomiting (PONV) on a four-point visual analogue scale. The Fundamental Area Score (FAS) was calculated by averaging the answers to the questions in each of these three areas; the Patient Satisfaction Score (PSS) was calculated by averaging the results from all of these individual areas. PONV had a high satisfaction score (98.17%) as a result of the procedure, however postoperative backache and intraoperative pain/discomfort had low satisfaction scores(12)

A study conducted on 300 parturient who underwent surgery under regional anesthetic was conducted by the department of anesthesiology and reanimation at the Izmir Atatürk Training and Research Hospital in İzmir, Turkey. The results were published in April 2019. In order to assess patient satisfaction and mood throughout the treatment, the patients were given a questionnaire regarding their experiences with regional anesthetic while they were in the recovery area. 82.3% of respondents expressed general satisfaction with regional anesthesia Male patients, those between the ages of 18 and 25, those who had previously undergone regional anesthesia, and those who had received thorough information on the procedure from a preoperative anesthetic evaluation all reported higher levels of pleasure. Dissatisfaction with regional anesthesia and pain from failed spinal anesthesia during surgery were reported. Most

parturient who had received accurate preoperative information reported feeling "safe." Most frequently, patients who had urological procedures described feeling "comfortable." Most patients who had obstetrical and gynecological operations described themselves as "excited." Most frequently, patients who had general surgery and those who had no prior information regarding regional anesthetic reported feeling "anxious." According to the study's findings, giving patients sufficient preoperative knowledge about regional anesthesia can boost their level of satisfaction overall and ensure that they feel comfortable throughout the perioperative phase (4)

a study conducted at Delhi Government Hospital in India on mothers' satisfaction with spinal anesthesia after Caesarean section deliveries. 347 questionnaires were completed, and 346 of those were returned. Eighty percent of respondents were satisfied with the spinal anesthetic method overall. During their cesarean delivery, 94.8% of respondents said they were happy with the amount of communication they had with their anesthetic providers. The anesthesia providers' justifications for spinal anesthesia were deemed satisfactory by 91.1% of the respondents. The survey was published on February 25, 2019, and overall satisfaction ratings for the care received, the anesthesia provider's knowledge, interest demonstrated, general attitude, and sensitivity to the needs of the respondents were all exceeded by 90%. (15)

A prospective observational study of 380 consenting parturient in ASA classes I, II, and III who underwent CS under spinal anesthetic between January and December 2019 was carried out by the Department of anesthetic, Faculty of Clinical Sciences, College of Health Sciences University of Ilorin, Nigeria. A Likert scale with three points was used to determine the satisfaction score. IBM SPSS software version 22 was used to analyze the data. P-value <0.05 was designated as the threshold for statistical significance. As a result, 294 patients, or 77.4%, expressed satisfaction with their involvement in the decision-making process regarding the anesthetic procedure. When it came to pain alleviation during the procedure, 333 patients, or 87.6% of them, were mostly happy. Dizziness (n = 50; 13.2%), shivering (n = 139; 36.6%), and intraoperative nausea and vomiting (n = 48; 12.6%) were the postoperative problems that the patients encountered. Of the patients, 295 (77.6%) said they would be willing to have spinal anesthesia once more in the future, and 293 (99.4%) said they were happy with the spinal anesthesia they were receiving at the time. P is equal to 0.000. Maternal satisfaction with spinal

anesthetic was found to be good in this study. This was published on April 18, 2022(16) and might be ascribed to the patient's involvement in decision-making, rapid treatment of problems, and general good anesthetic care (16).

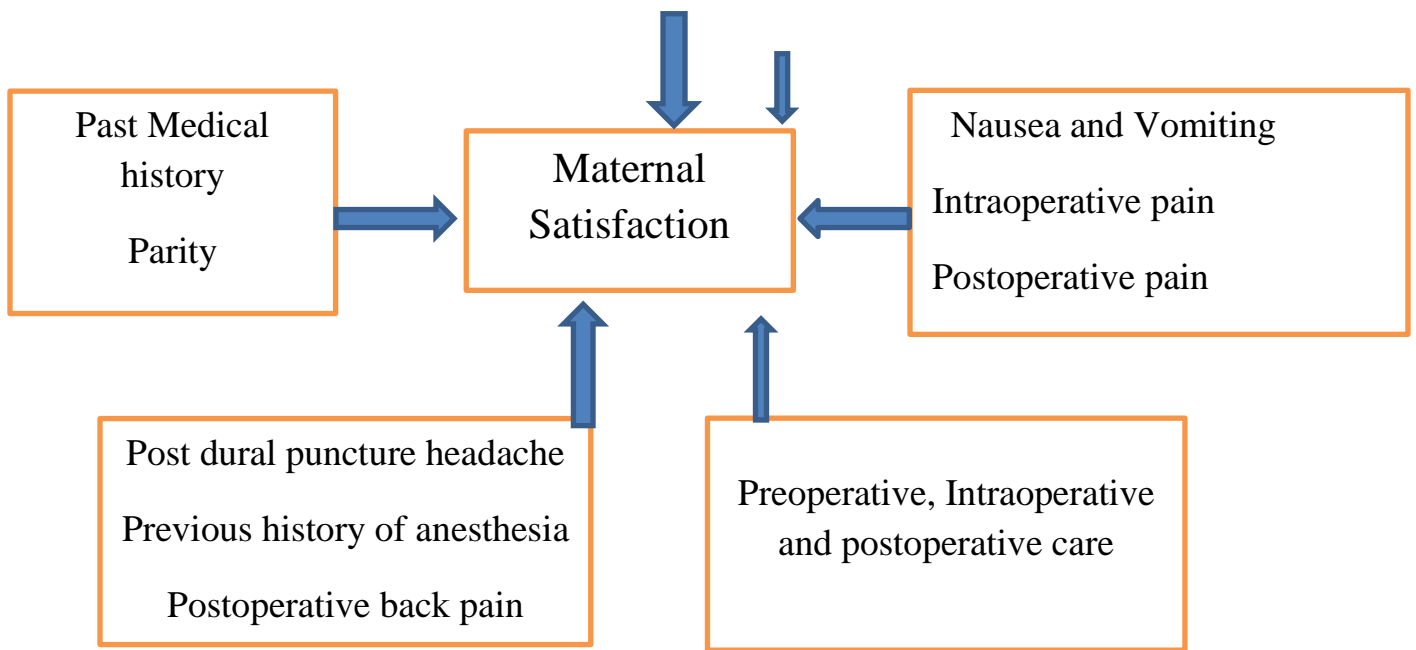
A cross-sectional survey conducted in the postnatal wards of Kenyatta National Hospital, 346 post-caesarean delivery women were questioned; of these, 80% of the patients expressed satisfaction with their choice of spinal anesthetic. The study involved the spinal anesthesia of 380 willing participants, and it was published in February 2017 (17).

A study was carried out on Maternal satisfaction following spinal anesthesia in an Eritrean hospital with a mean age of 30.2 years (SD: 5.4), the study comprised 240 respondents in total. Sembele Hospital provided 29.6% of the responses, while Orotta Maternal Hospital supplied the remainder of the responses. About 70% of respondents had completed secondary education or above, while just 17 respondents (7.1%) were unmarried. The anesthesiologist's consideration was rated as satisfactory by most patients (94.6%, n = 227), while the anesthesiologist-patient interpersonal contact was rated as satisfactory by the majority of patients (87.9%) with the anesthesia service for spinal anesthesia. There was satisfaction in relationships (92.6%, n = 227). It was released on October 4, 2020, and included information on (5.1%) pain management (n = 222), preoperative assessment and evaluation (16.7%, n = 40), and pain treatment (91.7%).Six (6)

A cross-sectional study was conducted in July 2015 at the Addis Ababa Gandhi Memorial Hospital with 175 patients. The study found that 108 (62%) of the patients were satisfied with spinal anesthesia, whereas 67 (38%) were unsatisfied (5).

Conceptual Framework of the Study(5)





CHAPTER THREE

OBJECTIVE

3.1 General objective

To assess the level of maternal satisfaction and associated factors among parturient who undergo cesarean section delivery under spinal anesthesia.

3.2 Specific objectives

1. To assess the level of satisfaction of mothers who undergone cesarean section with spinal anesthesia.
2. To determine the factors that associated with maternal satisfaction.

CHAPTER FOUR

METHOD AND MATERIALS

4.1 Study area and period

. The study was carried out in three public hospitals in Addis Ababa, from February 2024 up to May 2024. more about my study area in Addis Ababa by focusing on the following:

Maternal health service coverage: Eighty-three percent of women in Addis Ababa received antenatal care, 71 percent received delivery care, and 19 percent received postnatal care.

Total number of hospitals available: Currently, Addis Ababa has 12 public hospitals run **by government**. And more than 40 private hospitals. Many of the later were built in the past 21 years. In sharp contrast however, all of the **state-run** hospitals were built more than 30 years ago.

4.2 Study design

Institution based cross-sectional multicenter study was undertaken among sampled participants who gave birth in three selected public hospitals in Addis Ababa city by simple random sampling.

4.3 Source and Study Population

4.3.1 Source population

All pregnant mothers who undergone Cesarean section by Spinal Anesthesia from February 2024 up to May 2024 in selected Hospital

4.3.2 Study population

All pregnant mother who got Cesarean Section by Spinal Anesthesia in Ghandi Memorial Hospital, Tikur Anbessa Specialized Hospital and Ras Desta Damte Memorial Hospital during the study period

4.4 Inclusion and exclusion criteria

Among study population only participants who fulfill the inclusion criteria was involved into the study. Those who are not be eligible to the inclusion criteria will be excluded from the study

4.4.1 Inclusion criteria

1. Parturient undergoing Caesarean delivery Under Spinal Anesthetic technique
2. Parturient with less than 24 hours elapsed from the time of delivery
3. Both elective and emergency cases of Caesarean delivery via Spinal Anesthetic technique.
4. Parturient who has given consent to participate in the study

4.4.2 Exclusion criteria

1. Mothers who refused to be involved in the Research and whose Age was under 18 Years(13).
2. Those who are not voluntary to participate in the study
3. Parturient who were unable to adequately communicate with the Data Collector

4.5 Sample size and sampling technique

4.5.1 Sample size determination

The sample size was calculated by using manual calculator by considering 95% confidence interval which is estimated from previous study done in Gandhi Memorial Hospital in 2015Gc.(5).

The sample size was determined by single population proportion formula and calculated as follow:

$$N = \frac{Z^2 P(1-P)}{d^2}$$

, , where: N= minimum sample size required,

P= 0.62 maternal satisfaction of spinal anesthesia at Gandhi memorial hospital,

D= is the margin of sampling error tolerated, $Z_{\alpha/2}$ is standard normal variable at $1-\alpha\%$ confidence level and α is 5% (Confidence interval 95%), $Z_{\alpha/2} = 1.96$. Accordingly,

$$N = \frac{1.96^2 \cdot 0.62(1-0.62)}{0.05^2} = 362$$

Since the source population is less than 10,000, correction formula ($N_f = n/1+n/N$ where n = the minimum sample size, N = Total no of mother those will undergo caesarian section, N_f = Final sample study for finite population). The total number of C/S is calculated as: N = Ghandi Memorial Hospital = 3808/year (950/3months) + Tikur Anbessa Specialized Hospital = 1800/year (450/3months), and from Ras Desta Damte Memorial Hospital = 1732/year (433/3 months). This makes $N = 1833$. Then, adjustment is made as follows to get final sample size as: $N_f = 362/1+362/1833 = 362/1.19749 = 302$. Finally, by adding 10% non-response ($x=30$), the final sample size will be $302+30 = 332$.

4.5.2 Sampling technique

All of the potential participants who fulfill the inclusion criteria and those who visited the selected hospitals during the study period were included on daily basis until the proposed number of sample size was reached. Convenience sampling method was used till the number of the sample was reached to 332.

The allocation of the respondents to each of the hospital was calculated depending on the highest number of Caesarean Section undergone per year. So, based on the number of caesarean sections the following hospitals were selected and the number of the calculated sample size (332) was proportionally shared over the selected Hospitals. The proportional allocation was as follow.

- Ghandi Memorial Hospital = $(950 \div 1833) \times 332 = 172$
- Tikur Anbessa Specialized Hospital = $(450 \div 1833) \times 332 = 82$
- Ras Desta Damte Memorial Hospital = $(433 \div 1833) \times 332 = 78$
 - In Ghandi Memorial Hospital the number of Cesarean section from September 1 up to August 30, 2015 Ethiopian calendar was 3808
 - In Tikur Anbessa Specialized Hospital the number of Cesarean section from September 1 up to August 30, 2015 Ethiopian calendar was 1800

- In Ras Desta Damte Memorial Hospital the number of Cesarean Section from September 1 up to August 30, 2015 Ethiopian Calendar was 1732.
- So based on the above-mentioned number of Cesarean Section per year, the total number of Cesarean Section was 7340 from the three Hospital.
- I completed my data Collection in three months' time. So, I divided the total number of Cesarean section by **4** to get for the three months' time which is **1833**.
- Then all the number of Cesarean section in selected Hospital per year will be dividing by 4 and after that allocation will be done based on their portion as calculated above.

4.6 Variables

4.6.1 Dependent variable

The dependent variable for this study was patient satisfaction towards spinal anesthesia.

4.6.2 Independent variables

- Socio demographic characteristics of the study subjects: Age, address, marital status, employment status, level of education, level of income, family size
- Gestational history: Parity, previous history of spinal anesthesia
- Patient's past medical illness: Any associated previous and current illnesses, previous experience of surgery and anesthesia
- Number of LP attempts
- Intraoperative complaints: pain, nausea/vomiting, and backache
- Postdural puncture headache

4.7 Data quality control

Supervisors and data collectors received training on all aspects of the study, including its purpose, relevance, respondents' rights, and confidentiality of the data collected. Throughout the data collection process, there will be frequent monitoring and follow-up. Every day, the investigator cross-checked the data for consistency, unclear suspicions, filled-in impossible variables, and completeness. The data was sorted, categorized, and summarized once it was gathered and verified for accuracy, consistency, and completeness.

Pre-test

In this research, pre-test was done on 5% of the calculated sample size which was $5\% \times 332 = 30$.

4.8 Data Collection Procedure

After obtaining approval letter from Addis Ababa Health Bureau and receiving permission from Ghandi Memorial Hospital and Ras Desta Damtew Memorial Hospital, as well as from Tikur Anbessa Specialized Hospital, the questionnaire was distributed to Data collectors who got training on interviewing postpartum women within 24 hours

Interviewer administered questionnaires adopted from previous study was used after necessary modifications based on the additional variables that this study was interested to address

For both intraoperative and postoperative back pain, a four-point analogue scale was employed (No pain = 1, mild pain = 2, moderate pain = 3, severe pain = 4), and for postoperative nausea and vomiting (PONV) (No nausea and vomiting = 1, Only nausea = 2, Vomiting = 3, Nausea and vomiting more than twice = 4) Number of lumbar puncture attempts (more than three trials; first trial = 1, second trial = 2, third trial = 3).

The following summation of the general degree of satisfaction was given: Very unhappy = 1, Dissatisfied = 2, Neutral = 3, Satisfied = 4, Very happy = 5 Four subscale components comprise overall satisfaction: quality (7 items), attention (2 things), pain (3 items), and preoperative (5 items). Every item received a rating using a five-point Likert scale.

4.9 Data Analysis

The computer program SPSS version 27 was used to enter the data. The Sociodemographic features of the patients were investigated using descriptive statistics, and binary logistic regression was utilized to summarize the findings in terms of mean, median, standard deviation, and relative frequencies between the dependent and independent variables. A P-value of less than 0.05 indicated that the variable was significant.

Binary logistic regression was used for the analysis based on the following assumptions

- The Likert scale variables were correctly coded as binary (Satisfied =1, Dissatisfied =0)
- Multicollinearity among the binary variables was checked to avoid issues with model fit and interpretation
- The dependent variable became binary

Bivariate Regression

- The data was transformed and computed
- Verified that the residuals are randomly distributed and not shown any pattern

Multivariate logistic regression was use for the Analysis based on the following assumption

- Linearity: It was checked by scatter plots and ensured the relationship between the independent and dependent variable was linear
- Normality: It was checked by goodness fit test and it was normally distributed

4.10 Operational definitions

1. Preoperative: the quantity and quality of information provided by anesthesiologists prior to the procedure
2. Intra-operative care :It begins when the patient enters the operating room and continues until they are released to the PACU.
3. Postoperative care: it begins in the PACU and continues until the patient is sent home.
4. Quality: From the patient's point of view, there is a balanced expectation of services from anesthetists and patients.
5. **A Four-point Visual scale:** is a 10 cm long line with reference points on either end representing no pain and severe pain. Patients are instructed to indicate their current pain level by marking a point on the line. Patients are requested to mark their highest, lowest and average pain levels on the scale
6. **Maternal Satisfaction:** Maternal satisfactions of the parturient were considered satisfied if who scored greater than 3.40 according to the value of Likert scale.

4.11 Ethical Consideration

The anesthesia department of the College of Health Science at AAU gained permission from the institutional review board (IRB). Following IRB approval, an official letter was sent to the Addis Ababa Health Bureau. A letter of recommendation was then obtained and given to a selected public hospital in Addis Ababa. During this time, each participant's verbal consent was obtained and the study's goals and significance were explained. The study was conducted with confidentiality upheld at every stage.

CHAPTER FIVE

RESULT

A total of 332 parturient participated in the study, and 100% of them responded. The following were the participants' demographic characteristics:

Age Distribution: Of the parturient, the majority were between the ages of 26 and 30 (36.4%), then between the ages of 31 and 35 (26%), 18 to 25 (22.9%), 36 to 40 (10.2%), and 41 to 45 (2.4%). Not a single parturient was older than 45. 33.3 years was the average age.

Educational Level: When compared to seven years ago, the women's educational level has significantly improved. Now, 37% of the women had completed graduate school or more, followed by those who had completed high school (36.4%), elementary school (25.3%), and a master's degree or more (1.2%).

Marital status: The parturient' marital status was as follows: 2.1% of women were divorced, 7.5% had unwanted pregnancies outside of marriage, and 90.4% of married women lived with their husband.

Table 1: Sociodemographic Characteristics of the participants

Age group	Frequency	Percent
18-25	76	22.9
26-30	121	36.4
31-35	93	28.0
36-40	34	10.2
41-45	8	2.4
Total	332	100.0
Maternal Level of Education		
Grade 1-8	84	25.3
Grade 9-12	121	36.4
graduate at college or University	123	37.0
Masters level and above	4	1.2
Total	332	100.0
Marital status		
married	300	90.4
Divorced	7	2.1
unwanted pregnancy	25	7.5
Total	332	100.0

Maternal Income per month		
less than 1500 Birr	90	27.1
1500-3000	97	29.2
3000-4500	97	29.2
Greater 6000 Birr	48	14.5
Total	332	100.0
parity		
primigravida	102	30.7
Multigravida	230	69.3
Total	332	100.0
Previous medical history		
yes	58	17.5
No	274	82.5
Total	332	100.0
Type of operation		
Elective	131	39.5
Emergency	201	60.5
Total	332	100.0

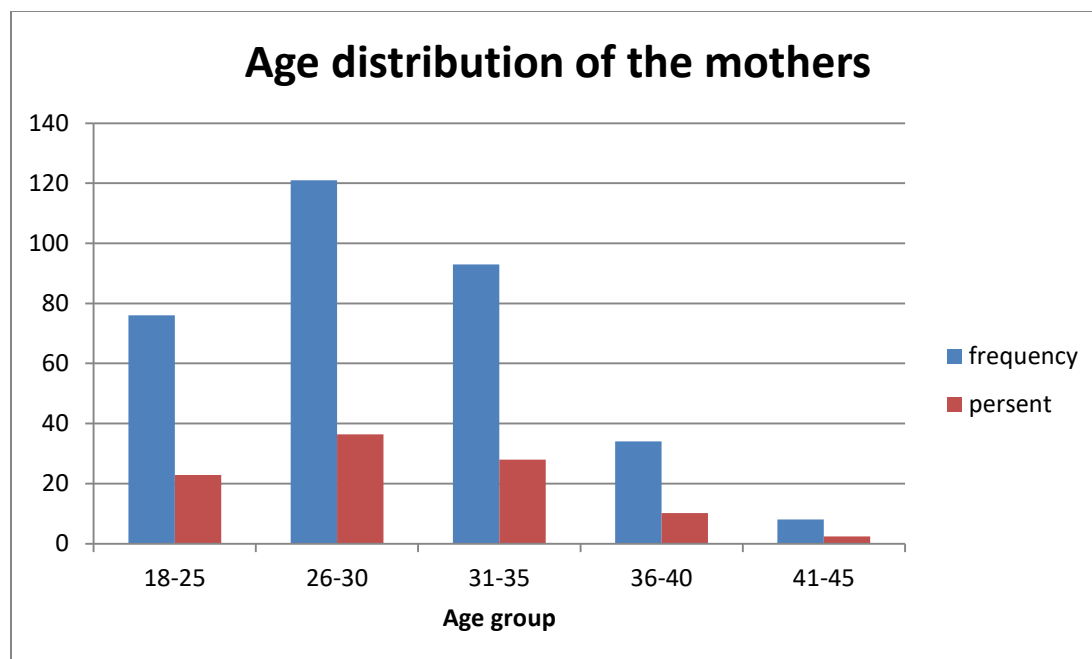


Table 2: Bivariate logistic Regression Results of patient complications

Background characteristics	category	Percentage of Overall Satisfaction		Bivariate Results (OR : 95% C.I)	P value
		satisfaction	dissatisfaction		
<i>Intraoperative pain</i>	<i>No pain</i>	95.6%	4.4%	1.041(.122-8.88)	0.971
	<i>Mild pain</i>	69%	31%	1.041(.122-8.88)	0.003
	<i>Moderate pain</i>	51.2%	48.8%	0.106(.012-.913)	0.041
	<i>Severe pain</i>	4.5%	95.5%		Ref
<i>postoperative</i>	<i>No back pain</i>	93.5%	6.5%	7.21(0.58-89.63)	0.124

<i>backache</i>	<i>Mild back pain</i>	75.5%	24.5%	1.53(0.14-17.4)	0.728
	<i>Moderate Back pain</i>	46.6%	53.4%	0.435(.037-5.07)	0.507
	<i>Severe Back pain</i>	66.7%	33.8%		Ref
<i>Nausea and Vomiting</i>	<i>No N and V</i>	93.4%	6.6%	52.64(19.79140.04)	<0.001
	<i>Only nausea</i>	86.9%	13.1%	52.64(19.79140.04)	<0.001
	<i>vomiting</i>	69.2%	30.8%	8.38(3.45-20.36)	0.001
	<i>N and v more than two times</i>	21.2%	78.8%		Ref
<i>Post dural puncture headache</i>	<i>Yes</i>	7.1%	92.9%	0.004(0.002- 0.012)	<0.001
	<i>No</i>	94.7%	5.3%		Ref

Results from the analysis of patient complications in relation to overall satisfaction following cesarean delivery under spinal anesthesia indicate several significant associations.

1. Intraoperative Pain:

- Mild and moderate intraoperative pain were linked to lower satisfaction levels compared to no pain (p=0.003, OR=0.045 and p=0.041, OR=0.106, respectively).
- Severe pain, serving as the reference category, showed a strong association with dissatisfaction.

2. Postoperative Backache:

- Mild and moderate back pain did not exhibit significant associations with satisfaction levels compared to no back pain.
- Severe back pain, the reference category, demonstrated a strong association with dissatisfaction.

3. Nausea and Vomiting (N/V):

- Participants experiencing vomiting or nausea and vomiting more than twice had notably lower satisfaction rates than those without nausea and vomiting ($p \leq 0.001$, OR=24.76 and $p=0.0001$, OR=8.38, respectively).

4. Post-Dural Puncture Headache:

- Participants with post-dural puncture headache reported significantly lower satisfaction levels than those without it ($p \leq 0.001$, OR=0.004)

Figure 1: the number of lumbar puncture attempt

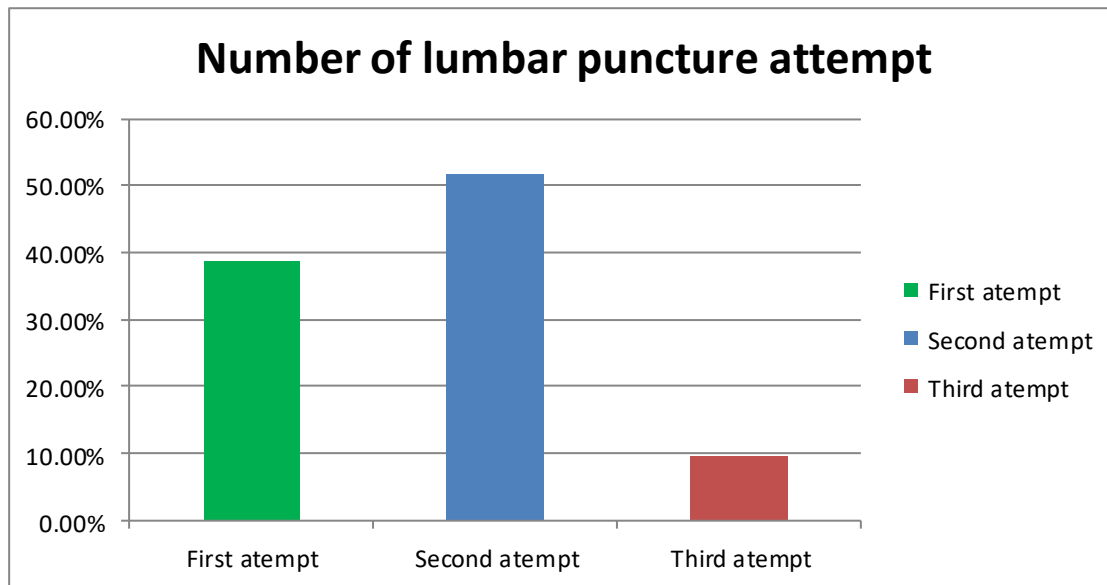


Figure 2: The incidence of intraoperative pain

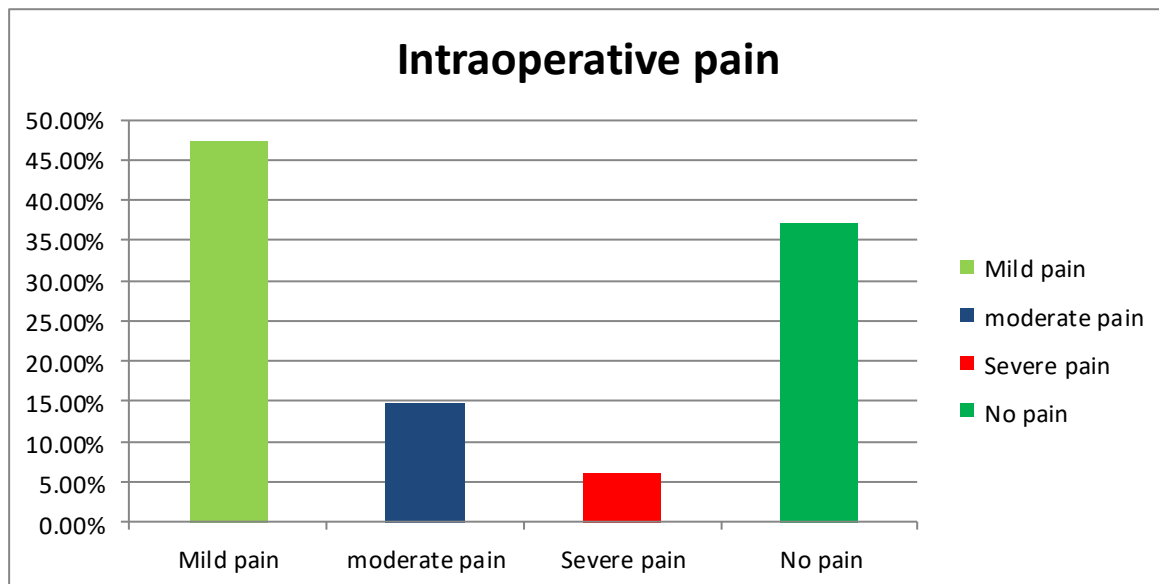


Figure 3: The incidence of intraoperative Nausea and Vomiting

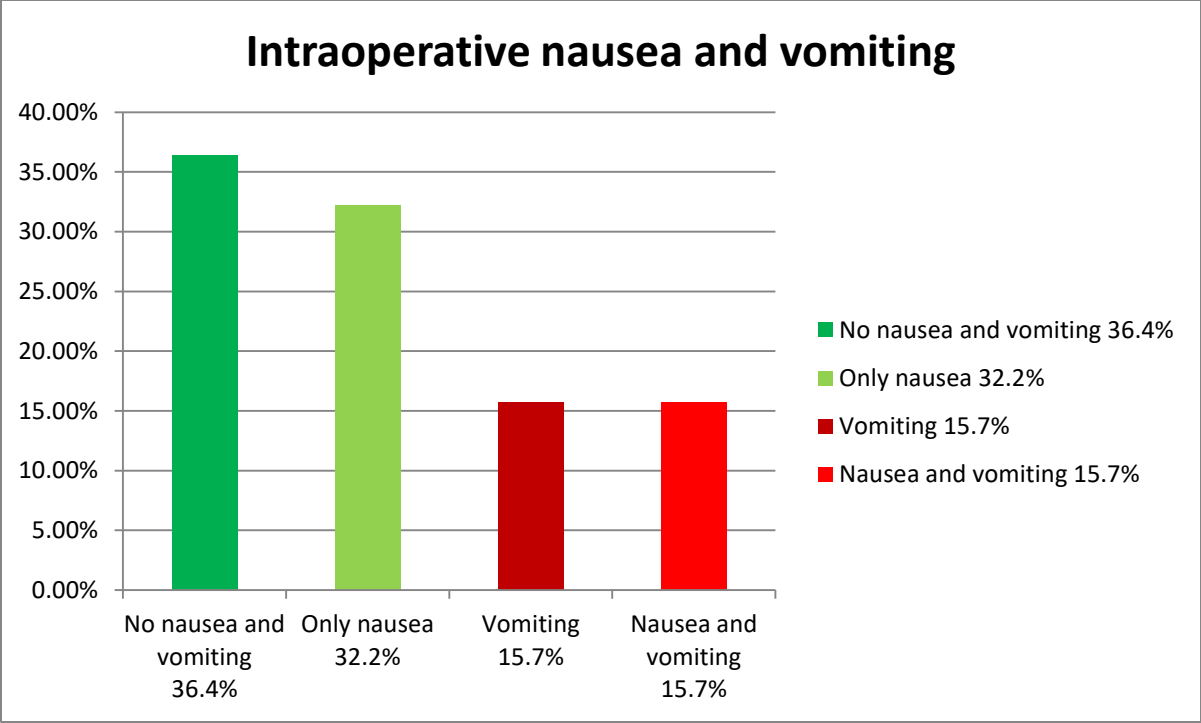
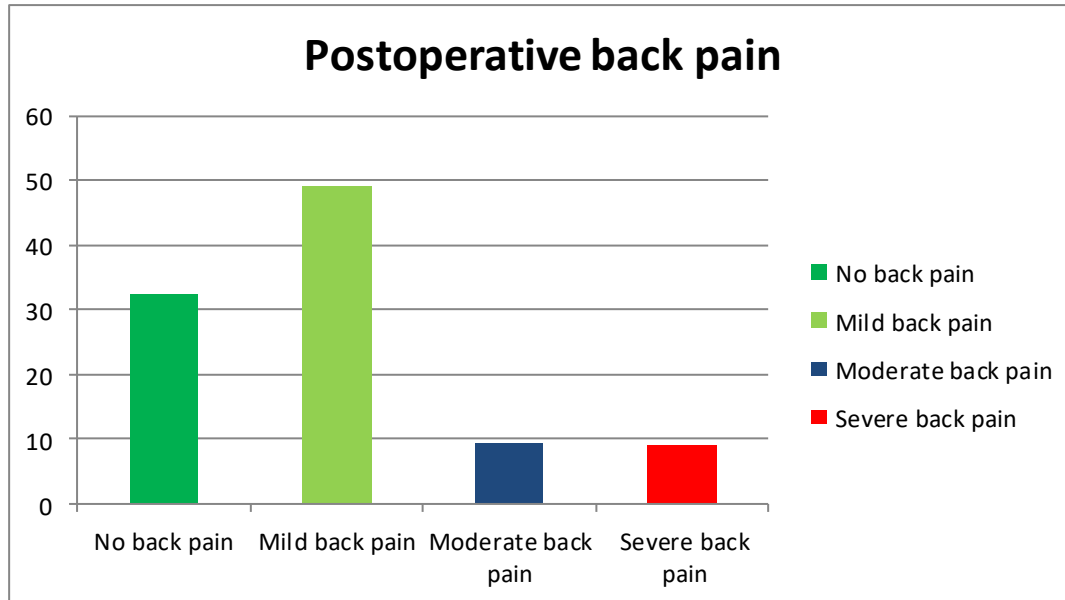


Figure 4: Postoperative Backpain



Multivariate Result

Variable	Category	Maternal satisfaction		Crudes Odds Ratio (95%CI)	AOR (95%CI)	P value
		dissatisfied (N, %)	satisfied (N, %)			
Intraoperative pain	No pain	8(9.9)	152(60.6)	1	1	
	Mild	62(76.5)	59(23.5)	0.05(0.23-0.111)	0.78(0.25-0.666)	0.04
	Moderate	9(11.1)	20(8)	0.117(0.041-0.338)	0.54(0.31-0.724)	0.03
	severe	2(2.5)	20(6)	0.526(0.104-2.654)	0.32(0.21-0.842)	0.001
Postoperative back pain	No back pain	7(8.6)	101(40.2)	1	1	
	Mild Back pain	41(50.6)	122(48.6)	0.206(0.089-0.480)	0.03(0.02-0.497)	0.021

	<i>Moderate Back pain</i>	32(39.6)	26(10.4)	0.056(0.22-0.142)	0.42(0.09-0.85)	0.01
	<i>Severe Back pain</i>	1(1.2)	2(0.8)	0.139(0.011-1.722)	0.32(0.1-0.945)	0.001
	..					
<i>Number of attempts</i>	<i>1st trial</i>	20(24.7)	108(43.0)	2.455(1.011-5.958)	2.916(0.795-19.291)	0.63
	<i>2nd trial</i>	51(63.0)	121(48.2)	0.856(0.477-2.439)	3.214(0.197-7.491)	0.715
	<i>3rd trial</i>	10(12.3)	22(8.8)	1	1	
<i>Absence of pain at puncture site</i>	<i>No pain</i>	41(50.6)	33(13.1)	1	1	0.582
	<i>Mild pain</i>	24(29.6)	21(8.4)	1.087(0.57-2.287)	1.654(0.25-11.1)	0.09
	<i>Moderate</i>	15(18.5)	183(72.9)	15.158(7.542-30.462)	2.14(0.02-6.2)	0.2
	<i>Severe</i>	1(1.2)	14)	17.394(2.173-139.214)	4.561(2.41-9.941)	0.01
<i>Satisfaction of pain therapy</i>	<i>low</i>	3(3.7)	12(4.8)	0.0667(0.115-3.872)	0.64(0.017-0.548)	0.012
	<i>Medium</i>	30(37)	53(21.1)	0.294(0.080-1.082)	0.541(0.243-0.941)	0.02
		15(18.5)	19(7.6)	0.211(0.052-0.854)	0.81(0.21-8.3)	0.321
		30(37)	149(59.4)	0.828(0.229-2.988)	0.223(0.396-10.758)	0.638
	<i>High</i>	3(3.7)	18(7.2)	1	1	
<i>Higher</i>						

<i>PONV</i>	<i>No N and V</i>	9(11.1)	112(44.6)	46.384(17.924-120.033)	15.214(0.97-14.621)	0.214
	<i>Only Nausea</i>	15(18.5)	92(36.7)	22.861(9.667-54.060)	9.125(0.02-17.395)	0.228
	<i>Vomiting</i>	16(19.8)	36(14.3)	8.386(3.449-20.395)	6.358(0.547-8.95)	0.36
	<i>N and V</i>	41(50.6)	11(4.4)	1	1	
<i>Treatment of PONV</i>	<i>Very bad</i>	5(6.2)	19(7.6)	1	1	
	<i>bad</i>	35(43.2)	30(12)	0.226(0.075-0.677)	0.815(0.426-14.240)	0.411
	<i>good</i>	26(32.1)	8(3.2)	0.081(0.023-0.287)	0.367(0.21-16.24)	0.098
	<i>Very good</i>	5(6.2)	164(65.3)	8.632(2.289-32.554)	7.854(0.002-2.89)	0.451
	<i>Excellent</i>	10(12.3)	30(12)	0.789(0.234-2.668)	0.28(0.445-6.39)	0.632
<i>willingness</i>	<i>Yes</i>	18(22.2)	218(86.9)	23.121(12.03-43.808)	9.658(0.56-8.3221)	0.814
	<i>No</i>	63(71.8)	33(13.1)	1	1	
<i>PDPH</i>	<i>Yes</i>	51(63.0)	44(17.5)	1	1	
	<i>No</i>	30(37.0)	207(82.5)	7.998(4.586-13.947)	6.32(2.95-9.125)	0.002
<i>Information given</i>	<i>Very bad</i>	8(9.9)	10(3.0)	1	1	
	<i>bad</i>	38(46.9)	14(5.6)	0.295(0.097-0.897)	0.741(0.021-0.578)	0.042

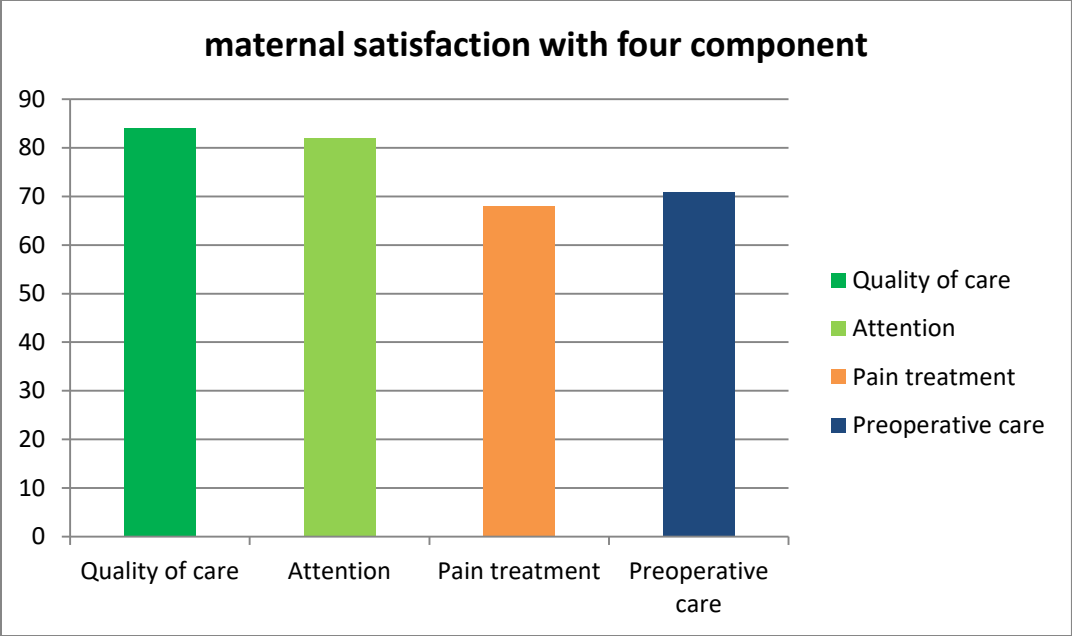
	<i>good</i>	23(28.4)	28(11.2)	0.974(0.330-2.871)	0.091(0.028-0.871)	0.02
	<i>Very good</i>	6(7.4)	163(64.9)	21.733(6.313-74.816)	5.16(2.45-8.559)	0.001
	<i>Excellent</i>	6(7.4)	36(14.3)	4.8(1.349-17.081)	5.48(2.01-11.258)	0.002

Table 3: Satisfaction level of Mothers toward Anesthetic service assessed by Likert Scale

S.No	Category	Level of satisfaction				
1	Preoperative Assessment and Evaluation	1	2	3	4	5
	The degree of satisfaction with amount of information	1(3%)	50(15.1%)	53(16%)	192(57.8%)	36 (10.8%)
	Understandability of	1(3%)	54(15.3%)	40(12%)	194(58.4)	43(13%)

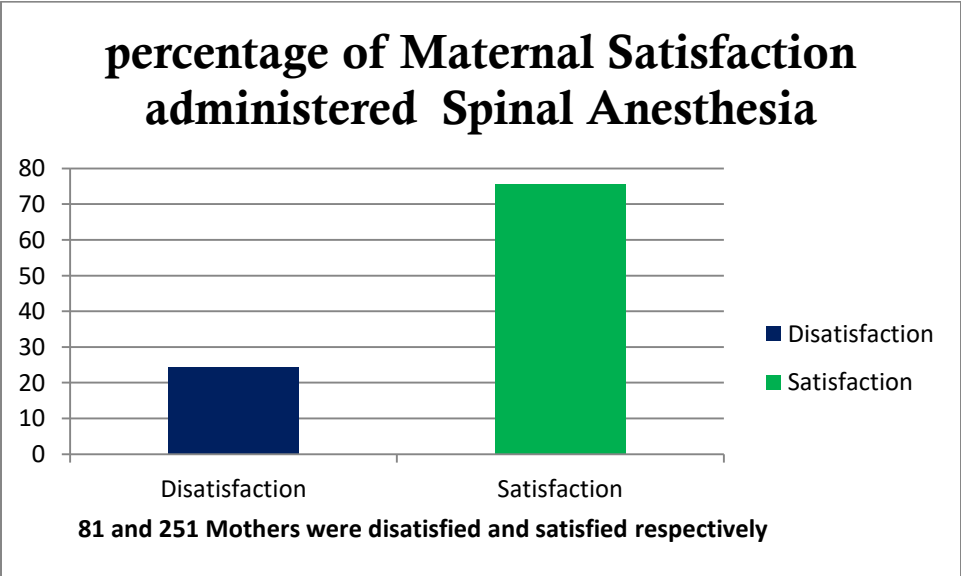
	the information)		
	Good explanation about the feeling after Anesthesia	1(3%)	60(18.1%)	41(12.3%)	226(68.1%)	4(1.2%)
	Satisfaction with preoperative visit	1(3%)	59(17.8%)	39(11.7%)	228(68.7%)	5(1.5%)
	The degree of appreciation of the preoperative visit	1(3%)	52(15.7%)	40(12%)	220(66.3%)	19(5.7%)
2	Pain therapy					
	The degree of satisfaction with postoperative pain therapy	-	64(19.3%)	34(10.2%)	223(67.2%)	11(3.3%)
	The degree of satisfaction with the absence of pain at dural puncture	-	57(17.2%)	44(13.3%)	216(65.1%)	15(4.5%)
	The degree of Absence of pain during surgery	-	58(17.5%)	32(9.6%)	221(66.6%)	21(6.3%)
3	General care and attention to the Mother					
	Satisfaction of the Anesthetist's attention to your complaints like pain and nausea	-	54(16.3%)	39(11.7%)	215(64.8%)	24(7.2%)

	The degree of Anesthetist's willingness to listen to your questions	-	49(14.8%)	40(12%)	222(66.9%)	21(6.3%)
4	Quality care					
	The degree of satisfaction to accept the same Anesthetic technique in the future	-	58(17.5%)	32(9.6%)	212(63.9%)	30(9%)
	The degree of confidence in the Anesthetist	-	58(17.5%)	32(9.6%)	211(63.6%)	31(9.3%) 19(5.7%)
	The degree of appreciation of the Anesthetist professionalism	1(3%)	52(15.7%)	40(12%)	220(66.3%)	



The Maternal satisfaction rate on each component (Quality of Care 84%, Attention 82%, Pain treatment 68% and preoperative care 71%)

Figure 5: Overall Maternal Satisfaction in this study



DISCUSSION

The satisfaction rate of mothers who received Spinal Anesthesia for Cesarean Section delivery in this study was 75.6%. This rate is higher compared to a study conducted in Addis Ababa in 2015, which reported a satisfaction rate of 62% (5). The highest satisfaction rate in this study attributed to several factors such as successful Spinal block, Accurate Spinal prick, Effective pain relief and effective communication. However factors that caused dissatisfaction in this study include Postdural puncture Headache, Insufficient pain relief, Nausea and Vomiting. These findings are consistent with previous Research that has shown high maternal Satisfaction scores for Spinal Anesthesia ranging from 85% to 99% in different countries (14).

According to a research conducted at Johns Hopkins Hospital in Maryland, 17.5% of parturient were dissatisfied during surgery, and 37% were dissatisfied with the dural puncture. In contrast, the current study found that 17.2% of mothers were dissatisfied with the dural puncture and 17.5% were dissatisfied with the surgical process. There are a number of reasons why the Maryland study's higher dissatisfaction level. Pain Threshold: during lumbar punctures, of mothers in Maryland had a lower pain threshold (37% dissatisfied) than those in Ethiopia (17.5%). This implies that Maryland mothers were more pain-sensitive during the procedure (15).

According to this study, 24.4% of parturient expressed dissatisfaction with the way spinal anesthetic was administered. Their dissatisfaction was mostly caused by: Pain at the Puncture Site: 17.2%; Postoperative Nausea and Vomiting: 30.8%; and Postoperative Back Pain: 33.8, Pain during surgery: 18.2%. On the other hand, a research carried out in Seoul, Korea, revealed a 3.7% dissatisfied rate. The following were the main causes of discontent in the Korean study: Pain in the back: 29.5%, PONV: 20.4%, At the Puncture Site, Pain: 15.9%, Not enough Pain relief: 13.6%. The study highlights Ethiopia has a greater dissatisfaction rate (24.4%) with spinal anesthesia than Seoul, Korea (3.7%). Pain at the puncture site, PONV, intraoperative pain, and postoperative back pain are the main causes of this greater proportion of dissatisfaction in Ethiopia (16).

The study highlights the significant difference in the degree of dissatisfaction with pain during surgery between the two studies. In the study conducted in Ethiopia, 17.5% mothers were dissatisfied with pain during surgery. The primary reasons for dissatisfaction in the Malaysian study were inadequate Analgesia and failed Spinal Anesthesia. The Study suggests that the high rate of dissatisfaction with pain during surgery in Ethiopia is due to various factors including: inadequate Analgesia, Failed Spinal Anesthesia, lack of effective pain therapy and intraoperative pain. In general, the study highlights the need to improve pain management during surgery by providing adequate Analgesia, ensuring proper Spinal Anesthesia techniques, and avoiding intraoperative pain(16)

According to the study, 77.7% of mothers were willing to undergo spinal anesthesia in the future, and 75.6% of mothers were satisfied with Administration of Spinal Anesthesia. On the other hand, a study carried out in Bahawalpur, Pakistan, revealed a reduced willingness to accept spinal anesthetic in the future (53.66%) and a greater maternal satisfaction rating of 81.4%. The study shows that, in contrast to the Pakistani study, Ethiopia had a lower overall satisfaction rate. Nonetheless, there was a greater inclination in Ethiopia to receive spinal anesthetic in the future. Despite lower satisfaction percentages, this shows that Ethiopian mothers are more receptive to spinal anesthetic in the future. The study highlights how crucial it is to comprehend the variables that affect mothers' Satisfaction and propensity to consent to spinal anesthesia in the future. It draws attention to the necessity of addressing Ethiopia's poor satisfaction rates and raising the standard of care given during cesarean sections generally(12).

According to the study, 17.5% of mothers were dissatisfied with intraoperative pain, whereas 75.6% expressed satisfaction with the delivery of spinal anesthetic. On the other hand, a study done in Turkey found that 82.3% of mothers were satisfied with spinal anesthetic. The Turkish study discovered a strong correlation between surgical discomfort and patients' discontent with regional anesthetic. The significance of intraoperative pain in influencing satisfaction with spinal anesthesia is further shown by the current investigation. According to the study, 17.5% of parturient expressed dissatisfaction with their intraoperative discomfort, which has a substantial impact on their overall level of satisfaction with spinal anesthesia. The study underlines that in order to increase patient satisfaction with spinal anesthesia, intraoperative pain must be

appropriately managed. This can be accomplished by making sure that appropriate pain management methods are used and by giving sufficient analgesia during surgery(17)

The study found that 75.6% of mothers expressed satisfaction with the way spinal anesthesia was administered, according to the study. Only 64.8% of respondents were satisfied with anesthetists' attention to pain and nausea, which is a rather low percentage. This implies that mothers in Ethiopia might not be entirely satisfied with the degree of attention and care that anesthetists provide them with during cesarean sections. On the other hand, an Indian study revealed that eighty percent of mothers were satisfied with how spinal anesthetic was administered. The parturient and anesthesia provider's 91.1% communication rate during cesarean surgery was one of the major reasons influencing this satisfaction. This emphasizes how crucial good communication is to helping parturient develop a sense of trust and Satisfaction(18)

The study assessed the level of Parturient Satisfaction with the absence of pain during Surgery. In contrast to previous studies, the results indicated that 66.6% of mothers were satisfied that there was no pain during operation. For example, 87.6% of mothers in a research done in Ilorin, Nigeria, expressed satisfaction with the pain alleviation they received during the procedure. The study emphasizes how crucial it is to guarantee mothers pain-free experience both during and after surgery. This is due to the fact that pain can have a big impact on how satisfied a parturient is. According to the study, minimizing pain during surgery is crucial for improving parturient Satisfaction(14)

The study found that 71.4% of respondents said they were satisfied with the information's comprehensibility or their positive interpersonal relationships—a low percentage when compared to other studies. For example, 87.9% of mothers were in a research done at Eritrea Hospital expressed satisfaction with the way spinal anesthetic was administered. According to the study, 94.6% of mothers who were satisfied with the way spinal anesthesia was administered were also satisfied with the positive interpersonal interactions between anesthesia practitioners and mothers. This implies that during the procedure, Mothers cherish their one-on-one interactions and dialogue with anesthetic providers(6)

The study found that 75.6% of respondents were satisfied with how well spinal anesthetic was administered, a high percentage when compared to comparable studies. Furthermore, 63.9% of

mothers said they were willing to accept the same anesthetic method in the future. In contrast, a 2015 study carried out in Addis Ababa, Ethiopia, discovered that just 18% of mothers were willing to undergo spinal anesthesia in the future, and only 62% of them expressed satisfaction with the procedure. This suggests that the degree of satisfaction with the administration of spinal anesthesia has improved over time. The study emphasizes how critical it is to raise the standard of treatment and service delivery in order to match the degree of satisfaction experienced by mothers in other Countries(5)

STRENGTH AND LIMITATION OF THE STUDY

Strength:

- The study was multicenter study it was conducted across three Public Hospital in Addis Ababa
- Sample size was larger than the previous study

Limitation:

- The study didn't include Hospital outside Addis Ababa where there is low facilities and less trained human power.
- The private Hospital was not included in this study.

CONCLUSION

In this Study maternal satisfaction rate with Spinal Anesthesia care was 75.6%, which is quite low when compared to maternal satisfaction survey that have been conducted in other countries and outside Addis Ababa. Unmet maternal expectations are the root cause of dissatisfaction because Most Women who are dissatisfied have Mild to moderate intraoperative pain and Nausea and Vomiting. Patient satisfaction rates may rise with improved clinical competency among Anesthesia practitioners and the Provision of high quality

RECOMMENDATION

To teaching Institutions and Ministry of Health

- As maternal satisfaction is a key indicator of quality of Health care delivery, maternal satisfaction with Administration of Spinal Anesthesia is better than 2015 but lower than other country. So, the Anesthetist and the teaching institution and Ministry of health should work in collaboration to reach the level of Maternal satisfaction with Spinal Administration in other country

To Anesthesia Practitioner

- Maternal satisfaction with Administration of Spinal Anesthesia satisfaction rate is high in other country which is between 85%-99%). Even if there is positive development (75.6%) compared to research conducted in Addis Ababa, Ethiopia was 62%. Still, we have to work on it to come to the level of maternal satisfaction other country
- Our target of management should be on pain during Lumbar puncture Intraoperative pain, Nausea and Vomiting, Postdural puncture Headache and good interpersonal relationship between the Anesthesia provider and Parturient
- It is advisable to give Antiemetic prophylaxis for Nausea and vomiting which brings dissatisfactions to Spinal Administration.

To researcher

- Maternal satisfaction in Health service is the key indicator of quality health service. Even if there is a positive development in maternal satisfaction from 2015 which is 62% satisfaction and now it is 75.6%, still it is low compared to other countries and it needs further investigation on factors that causes maternal dissatisfaction after Administration of Spinal Anesthesia

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ANNEXES:

Annex-I

Consent

ADDIS ABABA UNIVERSITY FACULTY OF MEDICINE AND COLLEGE OF HEALTH SCIENCES DEPARTMENT OF ANESTHESIA

I am a student studying master’s degree of Anesthesia in Addis Ababa University school of Anesthesia would like to study satisfaction after spinal anesthesia for cesarean delivery and from you we expect to actively participate for filling of the questionnaire. The objective of the study is to improve Health service, care, and quality for the mother. Your confidentiality is secured and from this study you can with draw at any time if you are not voluntary.

I participate in the study voluntarily and I will put my signature to confirm that it is by my willingness that I participated in the study.

Signature_____Date_____

Principal investigator: Kenasa Getachew

Email:kenageta@gmail.com

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የስምምነት ቅጽ ፎርም

በአዲስአበባ፡ ዩንቨርሲቲ፡ ሕክምና፡ ሳይንስ፡ ፋካልቲ፡ ጤና፡ ሳይንስ፡ ኮሌጅ፡ በአንስቴዚያ፡ ድጋፍ ምክትታት፡ ድህረ ምረቃ፡ ጥናት፡ ክፍል፡ በወሊድ፡ ጊዜ፡ በጀርባ፡ በኩል፡ በሚሰጥ፡ አንስቴዚያ፡ አገልግሎት፡ ላይ፡ እናቶች፡ ምን፡ ያህል፡ በአገልግሎቱ፡ እንደረኩና፡ ደግሞ፡ ካልረኩ፡ ችግሩ፡ ምን፡ እንደሆነ፡ ለማወቅ፡ ምርምርና፡ ጥናት፡ ለማካሄድ፡ እቅድ፡ ስላለኝ፡ የእርሰዎን፡ ተሳትፎና፡ ፍቃድዎን፡ እየጠየቅን፡ ሚስጥርዎ፡ እንደተጠበቀ፡ ሆኖ፡ እንደሚቆይ፡ እና፡ በተጨማሪም፡ በዚህ፡ ጥናትና፡ ምርምር፡ ላይ፡ ስለተሳተፉ፡ ምንም፡ አይነት፡ ችግር፡ እንደማይደርስዎት፡ ልናረጋግጥሎዎት፡ እንወዳለን፡፡ ስለዚህም፡ ፈርማዎትን፡ እንዲፈርሙልን፡ በትህትና፡ እንጠይቃለን፡፡

Annex-II: Questionnaire form

RESEARCH QUESTIONNAIRE

RESEARCH QUESTIONNAIRE ON MATERNAL SATISFACTION AFTER SPINAL ANESTHESIA

1. Socio demography

Part One: Socio demographic Characteristics of respondents			
No	Items	Choices	Remark
A	Age of the parturient	a) Less than 18 years old, Specify the Age----- b) 18-25 Years c) 26-30 Years d) 31-35 years e) 36-40 Years f) 41-45 Years g) Above 46	
B	Religion	1. Orthodox 2. Muslim 3. Protestant 4. Others (Specify)_____	
C	Parity	a) Primgravida b) Multigravida, specify no. of pregnancies: _____	
D	Marital status	a) Married with her husband	

		b) Divorced c) Unwanted pregnancies	
E	Educational Level	a) grade 1-8 b) grade 9-12 c) graduate at college or university d) master level and above	
F	Employment	a) Employed b) Unemployed c) House wife d) Merchant e) Farmer	
G	Income per month in Ethiopian Birr	a) \leq 1500 Birr b) 1500 – 3000 Birr c) 3000- 4500 Birr d) \geq 6000 Birr	

2. Previous medical history

- a. Yes
- b. No
- c. If yes, specify it -----

3. ASA classification -----

4. Previous cesarean scar

- a. Yes
- b. no

If yes how many times and the type of anesthesia.....

5. Do you feel happy to take spinal anesthesia in the future?

- a. Yes
- b. no

If No why -----

Part two: the question below states patient intraoperative and postoperative satisfaction measure questions.

6. How do you state the intraoperative pain?

- a. No pain
- b. Mild pain
- c. Moderate pain
- d. Severe pain

7. How do you state the postoperative nausea and vomiting?

- a. No nausea and vomiting
- b. Only nausea
- c. Vomiting
- d. Nausea and vomiting more than two times

8. How do you state postoperative back pain?

- a. No back pain
- b. Mild back pain
- c. Moderate back pain
- d. Severe back pain

9. Number of attempts at puncture site (Dural puncture)

- a. 1st trial
- b. 2nd trial
- c. 3rd trial
- d. Above 3rd trials

10. Type of Operation

- a. Elective
- b. Emergency

11. Post dural puncture Headache

- a.yes =1

b.No =2

Part three: The degree of satisfaction with the specified elements is evaluated in the following ways. Kindly indicate your response by placing a checkmark (√) in front of the relevant items.

The level of patient's satisfaction was measured **using five-point Likert scale ((1 = very dissatisfied, 2 = dissatisfied, 3 = neutral, 4 = satisfied, and 5 = very satisfied)**

No	Item	1	2	3	4	5
1	Preoperative care					
A	To what extent are you satisfied with the level of information provided by the Anesthetist?					
B	Was the information clear and understandable?					
C	The Anesthetist explained to me the expected feelings from Anesthesia administration					
D	Were you satisfied with the preoperative care?					
E	How did you feel about the general information and services provided to you at the preoperative assessment?					
2	Quality					
A	Regarding the overall quality of your care at the facility, how would you rate it?					
B	How satisfied were you with the way your nausea and vomiting were treated once the anesthesia was administered?					

C	How satisfied were you with using the same anesthetic method once more?					
D	How much did you trust the professionalism of your anesthesia practitioners?					
E	Did your anesthetic care meet your expectations?					
F	How did you value the professionalism of your Anesthesia provider?					
G	Would you suggest the member of the anesthesia team to other family members?					
3	Pain					
A	How pleased were you with the post-operative pain management?					
B	How did you feel about the puncture site pain?					
C	How did you feel about the absence of pain during the procedure?					
4	Attention					
A	How much did your anesthesia provider take into consideration your pain and nausea complaints?					
B	To what extent did the anesthetic team respond to your questions?					

APPROVAL BY THE BOARD OF EXAMINATION

This certifies that Kenasa Getachew's research thesis entitled Assessment of Maternal Satisfaction and Associated Factors among Parturient Who Undergone Cesarean Section Delivery under Spinal Anesthesia in Selected Public Hospitals in Addis Ababa, Ethiopia: A Cross-Sectional Study, fulfill the requirements for a Master of Science in Anesthesia and conforms to university regulations.

External Examiner:

_____	_____	_____
NAME	SIGNATURE	DATE

Internal Examiner:

_____	_____	_____
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NAME	SIGNATURE	DATE