



MATERNAL SATISFACTION AFTER SPINAL ANESTHESIA FOR CESEARAN DELIVERY

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Maternal Satisfaction after Spinal Anesthesia for Cesarean Delivery

This Thesis is Submitted to Addis Ababa University, Department of Anesthesia
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In Anesthesia

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ABSTRACT

Background:

Spinal anesthesia for caesarean section is an old and well established method. It was first used in obstetrics in 1901 for pain relief during vaginal delivery and also became popular for caesarean delivery because of its rapid onset and a high frequency of successful blockade. Even if spinal anesthesia for cesarean section has become increasingly popular and the recent decade has been the preferred technique for the majority of anesthetists, Patient satisfaction toward spinal anesthesia is vital monitor to the quality care in anesthesia.

Objectives:

To determine patients' perspective regarding spinal anesthesia, their level of satisfaction and the factors of dissatisfaction during caesarean deliveries at Gandhi Memorial hospital Addis Ababa , Ethiopia from March20 -May30, 2015.

Methodology:

Cross-sectional study of 175 patients who underwent caesarean section under spinal anesthesia at Gandhi Memorial hospital from March20- May 30,2015. post-operative survey of patients on the day after surgery(24hours) was conducted by collecting pre-operative , intra-operative and Post-operative data, on a constructed questionnaire ,data was transported to SPSS version 20 for further analysis. data was analyzed by binary regression; all factors to identify what factors and to what extent those factors influence overall satisfaction.

Results:

A total of 175 patients were incorporated in the study. The distribution of cases on the basis of age groups it was found that majority of the patients 113(64%) were aged between 25 and 34years. The overall satisfaction of spinal anesthesia divided into108 (62%) of patient was satisfied an 67(38 %) of the patient was dissatisfied. Furthermore, 143(82 %) patients would opt for spinal anesthesia in future for similar surgery, if required; 32(18%)of patient would not. The reasons for refusal to receive spinal anesthesia were as follows: fear of complication like headache, backache and, awareness during operation and baby sound.

Conclusion and recommendations:

patient compliant(backache, nausea/vomiting, headache and pain), inadvertent mistakes and unskillful techniques, can negatively affect patient perspectives about spinal anesthesia. Some factors which can increase the satisfaction rate of patients who are undergoing a surgery with spinal anesthesia are as follows; a patient's opinion is very important when deciding the anesthetic method ,the anesthetists must provide complete explanations regarding spinal anesthesia before surgery and the anesthetists should have good rapport with their patients. Finally, the anesthetist should manipulate the patient skillfully and sedate the patients if they wish.

Keywords: *spinal, anesthesia, patient satisfaction, caesarean section*

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TABLE OF CONTENTS

Contents	Page
Abstract.....	I
Acknowledgement.....	II
Table of contents.....	III
List of tables and figures	V
Acronyms.....	VI
CHAPTER ONE	
1. Introduction/ Background information.....	1
1.2 Statement of the problem.....	2
1.3 Significance of the study	2
CHAPTER TWO	
2.1Literaturereview.....	3
CHAPTER THREE	
3. Objectives.....	5
3.1 General objective.....	5
3.2 Specific objectives.....	5
CHAPTER FOUR	
4 Methods and Material.....	6
4.1 Study area.....	6
4.2 Study period.....	6
4.3 Study design	6
4.4 populations.....	6
4.4.1 Source population.....	6
4.4.2 Study population.....	6
4.4.3 Inclusion criteria.....	6
4.4.4 Exclusion criteria.....	6
4.5 Sample size	6
4.6 sampling technique.....	7

4.7 Study variable.....	7
4.7.1 Dependant variable.....	7
4.7.2 Independent variable.....	7
4.8 Operational definition.....	8
4.9 Data collection technique.....	8
4.9.1 Data collection.....	8
4.9.2 Data collector.....	8
4.9.3 Data quality assurance	8
4.9.4 Data entry analysis and interpretation	8
4.9.5 Ethical consideration	9
4.9.6 Presentation and dissemination Plane.....	9
CHAPTER FIVE	
Result.....	10
CHAPTER SIX	
Discussion.....	16
Conclusion	18
recommendation.....	18
Reference.....	20
Annex I	
Framework of the Study.....	22
Annex II	
Dummy Table.....	23
Annex III	
Questionnaire.....	26

LIST OF TABLES AND FIGURES

TABLE 1: socio demographic characteristics of the participant

TABLE 2: frequency and percentage of patient compliant

TABLE 3: results of bivariate logistic regression on patient characteristics

TABLE 4: bivariate result of patient compliant

FIGURE1 four component of overall satisfaction:

FIGURE 2: percentage of overall satisfaction of patient

ACRONYMS

AAU = Addis Ababa University

ASA= American Society of Anesthesiologist

C/S= cesarean Section

GA=General Anesthesia

N/V= nausea /vomiting

NO. =Number of

PONV = post -operative nausea and vomiting

RA= Regional Anesthesia

SA=spinal Anesthesia

CHAPTER ONE

INTRODUCTION

1.1 BACKGROUND OF THE STUDY

Spinal anesthesia for caesarean section is an old and well established method. It was first used in obstetrics in 1901 for pain relief during vaginal delivery and also became popular for caesarean delivery because of its rapid onset and a high frequency of successful blockade. The development of thinner spinal needles and better local anesthetic agents like bupivacaine for subarachnoid use, and more knowledge of the path physiology of hypotension may have contributed to a rising popularity of spinal anesthesia.(1)

The advantages of regional anesthesia include an awake mother, minimal depression of the newborn, and avoidance of the risks of general anesthesia(especially failed intubation and aspiration pneumonitis); and spinal anesthesia specifically has the advantages of its simplicity, small drug dose, low Failure rate and rapid onset.(2)

Spinal anesthesia for cesarean section has become increasingly popular and the recent decade has been the preferred technique for the majority of anesthetists..

The choice of anesthesia for any caesarean section depends on multiple factors like the indication of surgery, the urgency of the operation, and patient's as well as surgeon's desire. Anesthetist always choose the method that is believed to be safest and most comfortable for the mother, least depressant to the newborn and provides the optimal working conditions for the obstetrician .

Even if spinal anesthesia for cesarean section has become increasingly popular and the recent decade has been the preferred technique for the majority of anesthetists, Patient satisfaction is one of the meaningful indicators of patient experience of health care services.

Patient satisfaction is a subjective and complex concept involving physical, emotional, mental, social, and cultural factors.(3) Patient satisfaction and experience of the quality of care is a difficult outcome to measure, mainly because it is a subjective multidimensional concept, based on patient expectations.(4)Asking patients what they think about the care and treatment they have received is an important step towards improving the quality of care, and to ensuring that local health services are meeting patients' needs

In fact satisfaction is measured by patient's through evaluation and assessment of the experience after consuming a good service of care by health providers. (5)) It is determined by the quality of the provided care and the expectations of that care.(6)

Measuring factors that influence patient's satisfaction is vital to monitor the quality of care in anesthesia. In Ethiopia little has been done to ascertain patient satisfaction on anesthesia delivery. This study will be carried out to determine patients' perspective regarding spinal anesthesia, their level of satisfaction and the factors of dissatisfaction during caesarean deliveries.

1.2 STATEMENT OF THE PROBLEM

According to the World Bank report in Ethiopia indicates that about 52 percent of respondents perceived the quality of care they received as good whereas about 30 percent of households who visited government health facilities consider the quality of care they received to be below average.(7) Asking patients what they think about the care and treatment they have received is an important step towards improving the quality of care, and to ensuring that local health services are meeting patients' needs. Patient's satisfaction is the most important element in health care organizations and the top goal for any health care delivery strategy(8).

American Society of Anesthesiologists(ASA) patient satisfaction guideline stated that in the future, it is likely that payment for anesthesia services will depend in part on measures of patient satisfaction.(9) In addition to the potential for impact on provider payments, patient satisfaction surveys are playing an increasing role in competency assessment.

There has been no known in -depth study on the past or survey addressing patient satisfaction in Ethiopia. This study was carried to determine patients' perspective regarding spinal anesthesia, their level of satisfaction and the factors of dissatisfaction during caesarean deliveries.

1. 3 SIGNIFICANCE OF THE STUDY

All factors compromising patient satisfaction indicate an urgent need of safety and quality guidelines or protocols in the service of anesthesia.

Hence the study aim to benefit the following;

1. This study could provide information on the magnitude patient satisfaction and dissatisfaction towards spinal anesthesia during caesarean deliveries.
2. It also determine the factors of dissatisfaction undergone spinal anesthesia during caesarean deliveries.
3. This study could stimulate or incite policy makers to develop anesthetic standards that promote satisfaction and as well as health facilities .
4. It could promote further knowledge or research about anesthesia care ,service and management in Ethiop

CHAPTER TWO

LITERATURE REVIEW

Patient satisfaction is a subjective and complex concept involving physical, emotional, mental, social, and cultural factors. It is determined by the quality of the provided care and the expectations of that care. (10)

There are many important factors that contribute to the patient experience and certain patient characteristics are significant predictors of patient satisfaction results from previous studies done on the relationship between health status and patient satisfaction have found out that patients in better health tend to greater satisfaction with their health care than patients in poor health (11).

The researcher noted in Canada that the most uniform patient factors to influence patient satisfaction is age and other factors such as a good coordination in patient management and absence of complication also influence maternal satisfaction.(12)

Post-Operative Nausea And Vomiting

On study done in Britain for assessing the impact of post-operative nausea and vomiting (PONV) on 489 patients and found that nausea occurred in 383 patients and vomiting in 106 within 24 hours.(13) patient who had nausea and vomiting have overall significantly lower patient satisfaction compared to those who did not experience nausea and vomiting. There was strong relation between patient dissatisfaction and awareness moderate or severe post operative pain severe nausea and vomiting and lastly postoperative complications.

Pain

It is believed among anesthetists that regional anesthesia provides excellent anesthesia/analgesia; and that this will improve patients' satisfaction. As a result, most patients would have a similar block if needed in the future. However, fewer patients (18%–20%) still experience some degree of pain and discomfort during the block

procedure.(14)possibly due to differences in patients' perception of pain, or practitioners' experience. This may explain the reluctance by some anesthesiologists to perform regional anesthesia. Researcher noted that when reviewing studies that determine analgesic effect post-surgery that poor control of post operative pain generally correlated with decreased patient satisfaction.(15) patient satisfaction may also be influenced by place that provider care, previous experience, race, ethnicity and most often these patient factors may be mostly associated with different level of expectation or different level of comfort with communicating in their language.(16)

Post-Operative Backache

Post-operative backache was associated with dissatisfaction and refusal of spinal blocks in Korean studies (17). Although the backache might not directly be attributed to the spinal block, it was difficult to distinguish the actual cause of backache. Compared to general anesthesia it offers less maternal morbidity, ability to use few drugs, comparable less blood loss and provision of excellent

pain control.(18) A study was conducted to determine the patients' dissatisfaction after spinal anesthesia, and it showed the following factors resulting in patient dissatisfaction; increasing number of attempts of spinal block, pain during spinal block, inadequate analgesia and post-operative urinary retention (19).

Spinal anesthesia is relatively easy to perform, gives excellent anesthesia with a low potential of toxicity. It is preferred as it allows mother to be awake and interact immediately after the birth of baby. .

It also noted that patient factors especially those with history of anesthesia especially undergone spinal anesthesia have greater comfort than general anesthesia.(20) Often, patients have been found to be more concerned with the interpersonal skills of hospital staff than with their technical skills and competence.(21) In addition, expressions of patients are usually biased to please staff and to avoid repercussions for negative care appraisal.(22)

The study done in at Swaziland south Africa stated that patient factors of comfort, emotion physical independence, patient support , pain and hospital stay were shown to impact patient satisfaction.(23)

Age

In a study conducted at Jimma hospital, 57% of out patients reported satisfaction with delivered services (24). Satisfaction with care was found to have a direct relationship with an increase in age but had an inverse relation with increase in educational level of respondents. post operative nausea and vomiting

CHAPTER THREE

OBJECTIVES

3.1 General objective

To determine patients' perspective regarding spinal anesthesia, their level of satisfaction and the factors of dissatisfaction during Caesarean deliveries.

3.2 Specific objectives

1. To assess patient satisfaction for C-section who underwent spinal anesthesia
2. To determine patient level of satisfactions
3. To determine the factors of dissatisfaction with spinal anesthesia during caesarean deliveries.

CHAPTER FOUR

METHODOLOGY

4.1 Study area

The study was conducted in Gandhi Memorial hospital which is university affiliated maternity referral hospital in Addis Ababa Ethiopia and has 356 beds. The hospital has currently 12 fulltime anesthetists. It has also 2 operation room which is both functional. In rough estimation caesarean section with spinal anesthesia was done five cases per day.

4.2 Study period

The study was conducted from March20-May30, 2015

4.3 Study design

Cross-sectional study of 175 patients who undergoing caesarean section under spinal anesthesia in the operating rooms of Gandhi Memorial hospital from March20 to May30,2015 was conducted and evaluated.

4.4. Population

4.4.1 Source population

All patients who underwent caesarean section from march20 - may30,2015.

4.4.2 Study population

All patients who underwent caesarean section under spinal anesthesia at Gandhi Memorial hospital.

4.4.3 Inclusion criteria

Patients who underwent caesarean section with spinal anesthesia .

4.4.4 Exclusion criteria

Patients with psychological disorders was excluded from the study.

4.5 Sample size

Sample size was computed based on single proportion formula assuming $p = q = 0.5$ since there is no research has been conducted on this topic in Ethiopia

$$n = \frac{z^2 p (1-p)}{d^2}$$

$$n = \frac{(1.96)^2 \times (0.5) (1-0.5)}{(0.05)^2} = 384.16$$

So with adjustment for non-response (10% contingency) $n = (384+38)$, the final sample size was 422. since the total population is less than ten thousand by using correction formula,, $n_{final} = \frac{n}{1+\frac{n}{N}}$, $n_{final} = \frac{422}{1+\frac{422}{300}} = \underline{175}$ is the final number of patients who was included in the study.

Where:

n = sample size

N = total population

P = percentage

$q = 1-p$

d = desired degree of precision

Z = is the standard normal value at 95% confidence level

4.6 Sampling technique:

Non-probability sampling methods ; Convenience sampling

4.7 Study variables

4.7.1 Dependent variable

Patient satisfaction towards spinal anesthesia.

4.7.2 Independent variables

- Age
- Educational status
- Parity
- Employed status
- Patient's past medical illness
- Quality, attention , pain and preoperative satisfaction
- Previous experience of surgery and anesthesia
- Technique
- Intraoperative compliant like pain, nausea/vomiting and backache

4.8 Operational Definitions:

In this study define patient satisfaction as it depends on congruence between what is expected by the patient and what occurs to the patient, it is just balance expectation the patient has and perception of what the anesthetist delivered.

Preoperative: the amount of information given from the anesthesia practitioners and clarity of information.

Quality: It is balanced expectation between the patient and what the anesthetist delivered quality services in all aspect of the patient perspective

Pain: how much relief of pain patient perceived or experienced.

Attention: how much the patient getting attention from anesthetist for their compliant

4.9 Data collection technique

4.9.1 Data collection:

After getting ethical clearance and permission from Gandhi Memorial hospital. Post-operative survey of patients on the day after surgery was conducted by collecting pre-operative , intra-operative and Post-operative data, on a constructed questionnaire.

4.9.2 Data collector

The data was collected by trained nurses from the hospital.

4.9.3 Data quality assurance

Training was given for data collectors. All data was collected and properly filled on the prepared format. it The questionnaire was checked for its accuracy, clarity and consistency. If any ambiguous or incompleteness seen, it was corrected. The researcher was supervised the data collectors and checked for the completeness of the data daily.

4.9.4 Data entry, analysis and interpretation

Data was summarized and analyzed by using SPSS version 20. Associations analyzed by binary regression; all factors to identify what factors and to what extent those factors influence overall satisfaction. overall satisfaction has four subscale component: preoperative (5 items), quality (7 items), pain (3 items) and attention (2 items).each items was rated on a sex- point Likert-scale .having overall satisfaction 52-102 is satisfied whereas patient who have overall satisfaction 17-51 is dissatisfied. The variable having P-value < 0.05 will be taken as significant .

4.9.5 Ethical Consideration

An institutional review board (IRB) approval was obtained from anesthesia department, college of health science ,AAU. After the permission from IRB , Official letter was submitted to the Addis Ababa health bureau , then the letter of recommendation was obtained and distributed Gandhi Memorial hospital, the purposes and the importance of the study were explained and verbal consent was secured from each participant. Confidentiality was maintained at all levels of the study.

4.9.6 Presentation and dissemination plane

The result of the study was presented using tables and figures. The copies of final results will be disseminated to AAU department of anesthesia , Ethiopian anesthetists association , Addis Ababa health bureau and at large for Minister of health. It will be presented on workshop and different seminars.

CHAPTER FIVE

RESULT

A total of 175 patients were surveyed with response rate of 100%. When studying the distribution of cases on the basis of age groups it was found that majority of the patients 113(64%) were aged between 25 and 34 years, 43(24%) were aged between 18 and 24 years, 19(10.9%) were aged between 34 and 44 years and no patient were aged above 45 years, mean age was determined as 29.5 years. majority of the patient 87(49%) were 8th grade and less , 58(33%) of the patient were 9- 12 grade, 21(12%) of the patient were Some college graduate and 9(5%) of patient were 4th year graduate and above.

More over 101(57%)of the respondents were unemployed whereas 74(43%) of the patient were % employed and 32(18%) of patient had history of medical illness , from this 11(6%)of the them is RVI patient and 9(5%) of the patient is hypertensive ,the rest 12(7% o)f the patient did not know what was the diagnosis.

Furthermore, parity distribution revealed that 89(50.9%) patients were multigravida, whereas 86(49.1%) were primigravida . majority of the surgeries were performed as emergency 116(66%) whereas 59(34%) were conducted as elective cesarean section and 68 (38 %) of patient had history of anesthesia, from this 14(8%)of patient took general anesthesia and 54(30%) of patient was taken spinal anesthesia, complication from pervious anesthesia 31(18%)of patient had headache,8(5%)of the patient had nausea and vomiting.

Table 1: socio demographic characteristics of the participant

	frequency	Percent
Age		
18- 24	43.6	24.6
25-34	113	64.6
35-44	19	10.9
Label of education		
8th grade and less	87	49.7
9 12 grade	58	33.1
Some college graduate	21	12.
4th year graduate and above	9	5.1
Employed status		43.3
Employed	74	57.7
Unemployed	101	
Medical history		18.3
Yes	32	81.7
No	143	
Parity		49.1
Prime	86	50.9
Multi	89	
type of operation		33.7
elective	59	66.7
emergency	116	
anesthesia before		38.3
yes	67	61.7
No	108	
Technique		8
GA	14	30.9
RA	54	61.1
Not taking	107	
Complication		18
Headache	31	5
Nausea/ vomiting	8	

In this study 115(66 %)of the patient had compliant of postoperative backache ,78(45%)of the patient had compliant of more than two attempt at puncture site,33(19%) of the patient complain they had intraoperative nausea /vomiting and 22(13%)of the patient experienced intraoperative pain .

Table 2: patient compliant in intra and postoperative period.

	frequency	Percentage
Interooperative pain		
yes	23	13
no	152	87
postoperative backache		
yes	116	66
no	59	34
interoperative N/V		
yes	33	19
no	142	81
more than two attempt		
yes	79	45
no	96	55

Majority of the patient 171(98%) were satisfied by getting attention ,following with quality of care114 (65%), pain 110(63%),and preoperative 110(63%).

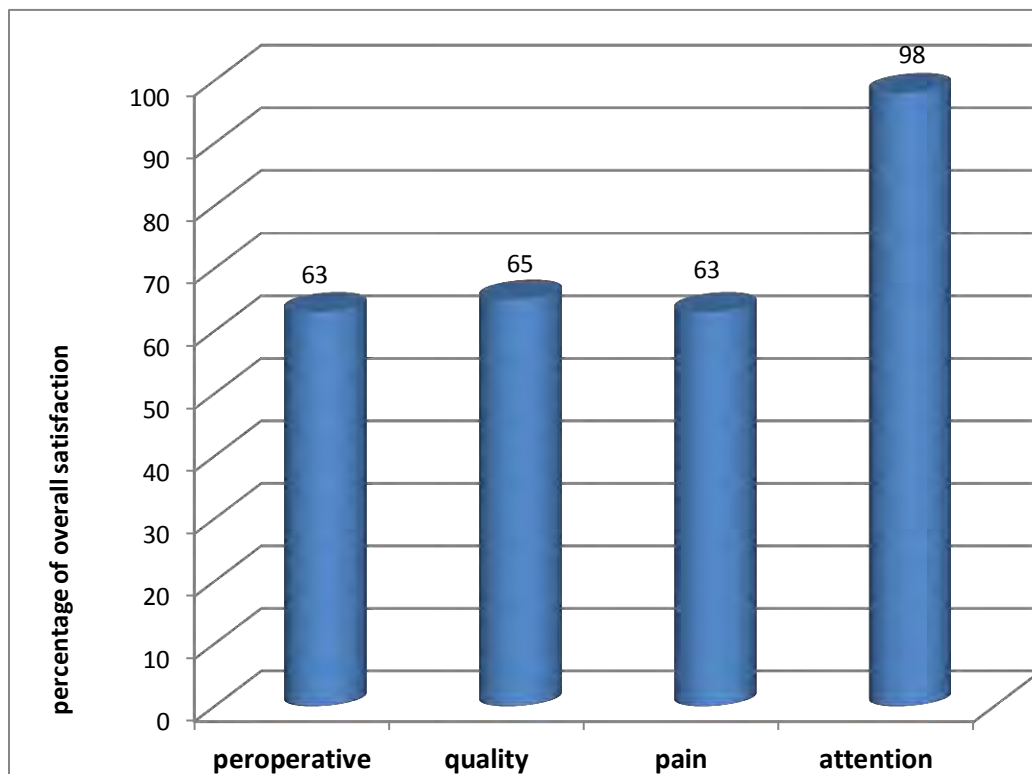


fig 1: four component of overall satisfaction

The overall satisfaction of spinal anesthesia 108(62%) of patient was satisfied and 67 (38 %) of the patient was dissatisfied. Furthermore, 143(82 %)patients would opt for spinal anesthesia in future for similar surgery, if required; 32(18%) of patient would not. The reasons for refusal; fear of spinal complication (headache, backache and nausea and vomiting), fear of awareness during operation and some of them said fear to hear baby sound.

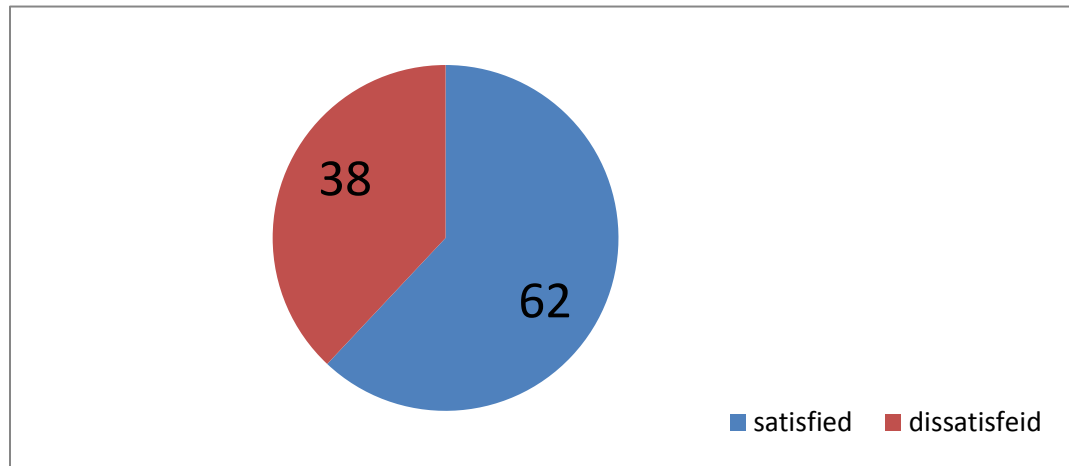


fig 2:percentage of overall satisfaction of patient

The results of bivariate logistic regression on patient characteristics level of education, history of anesthesia and had history of complication were found to be statistically significant in determining respondents' overall satisfaction. The study participants who belonged to 9 -12 grade two times more likely satisfied, than Some college graduate ,4th year graduate and above. This is because of the expectation of patients with relatively higher educational attainment was high and as a result experienced less satisfaction.

Patient who had history anesthesia before was less likely satisfied compare to those had not history of anesthesia and patients who had history of complication like headache, nausea/vomiting were less likely satisfied than who had not history of complication , from this patients who had headache was less likely satisfied than who had not history of headache in the previous anesthesia. This is because of history of bad memory

Table 3: The results of bivariate logistic regression on patient characteristics

Background characteristics	Percentage of Overall Satisfaction	Total	P value	Bivariate Results (OR : 95% C.I)
Age			0.72	1
18- 24	43	8		0.96 (0.46, 2.01)
25-34	65	73		0.39 (0.13, 1.18)
35-44	65	28	0.01	
Label of education				1
8th grade and less	63	87		1.63(0.78, 3.39)
9 -12 grade	74	57		0.44(0.17,1.15)
Some college graduate	43	21		0.166(0.03,0.85)
4th year graduate and above	22	9		
Employed status			0.22	1
Employed	57	74		1.48(0.8, 2.75)
Unemployed	65	101		
Medical history			0.27	1
Yes	53	32		1.54(0.71,3.35)
No	64	143		
HIV	50	11	0.6	0.5(0.15,1.7)
HTN	100	8		1.8(0.35,9)
Parity	51	89	0.13	1
Multi	67	86		1.61(0.87, 3)
Prime				
Type of operation	58	59	0.43	1
elective	64	116		1.3(0.68, 2.46)
emergency				
anesthesia before	47	66	0.01	1
yes	71	109		0
No				0
Technique				1
GA	57	54	0.4	0.6(0.18,2)
RA	44	14		1
Complication				0.22(0.1,0.52)
Headache	29	31	0.01	0
Nausea/ vomiting	50	8		

The results of bivariate logistic regression on patients' compliant, postoperative backache, intraoperative nausea/vomiting were found to be statistically significant in determining respondents' overall satisfaction. intraoperative pain and more than two attempt at puncture site were not statistically significant in determining respondents' overall satisfaction. from this significant compliant patient who had postoperative backache 16% less likely satisfied and who

intraoperative nausea /vomiting 27% less likely satisfied relative to those who had not the compliant.

Table 4: bivariate result Of patient compliant

Background characteristics	Overall Satisfaction	Total	P value	Bivariate Results (OR : 95% C.I)
Interaoperative pain			0.15	
yes	48	23		0.52 (0.23,1.23)
no	64	152		1
postoperative backache			0.03	
yes	22	9		0.16(0.03, 0.8)
no	64	166		1
interaoperative N/V			0.01	
yes	36	33		0.27(0.12,0.6)
no	67	142		1
more than two attempt			0.6	
Yes	59	79		0.84(0.46,1.6)
No	63	96		1

CHAPTER SIX

DISCUSSION

Patients who attained higher education were 16% less satisfied than patients with lower level of education. This is because of the expectation of patients with relatively higher educational attainment was high and as a result experienced less satisfaction.

This result is in line with the study conducted at Jimma hospital in 2001, which showed the percentage of satisfied patients decreased with increasing level of educational attainment (25).

It also sported with the study done in India, New Delhi (2007) the educated people showed greater dissatisfaction than the uneducated patients at all levels of anesthesia care except for the postoperative period where they were comparable (26).

Patient who had history anesthesia before was less likely satisfied compare to those had not history of anesthesia and patients who had history of complication like headache, nausea/vomiting were less likely satisfied than who had not history of complication, from this patients who had headache was 22% less likely satisfied than who had not history of headache in the previous anesthesia. This is reason why they had bad memory. .

In this study as bivariate analysis showed that patient who had compliant of intraoperative nausea and vomiting 27% less likely satisfied. This is because of discomfort make the patient dissatisfied.

Study done in Britain for assessing the impact of post -operative nausea and vomiting (PONV) on 489 patients and found that nausea occurred in 383 patients and vomiting in 106 within 24 hours.(16) patient who had nausea and vomiting have overall significantly lower patient satisfaction compared to those who did not experience nausea and vomiting.

Postoperative backache 16% from less likely satisfied comparing from those who had not the compliant. Although the backache might not directly be attributed to the spinal block, it was difficult to distinguish the actual cause of backache. Other variables such as positioning during surgery, a tightly applied surgical dressing, surgical trauma, operation time, age, pregnancy, needle type, and the number of punctures can also contribute to post-operative backache.

Post-operative backache was associated with dissatisfaction and refusal of spinal blocks in Korean studies (20)

In this study patient who had intraoperative pain were 55% less likely satisfied than who did not experience pain during intraoperative time and patient who had more than two attempt at the puncture sit 84% less likely satisfied than those who had not multiple attempt.

Side effects, inadvertent mistakes and unskillful techniques, can negatively affect patient perspectives about spinal anesthesia and possibly due to differences in patients' perception of pain, or practitioners' experience.

This study was supported by study which was conducted to determine the patients' dissatisfaction after spinal anesthesia, and it showed the following factors resulting in patient dissatisfaction; increasing number of attempts of spinal block, pain during spinal block, inadequate analgesia and post-operative urinary retention (22) .

It is believed among anesthesiologists that regional anesthesia provides excellent anesthesia/analgesia; However, fewer patients (18%–20%) still experience some degree of pain and discomfort during the block procedure.(17)

In this study, the dissatisfaction rate of spinal anesthesia was 38% and the refusal rate for spinal anesthesia in the future was 18%.

Ensuring good quality of spinal anesthesia and improving clinical skill of anesthesiologist might improve patient satisfaction rate.

Spinal complication like headache and backache were the main reason for refusal. This refusal can be managed by explaining advantages of regional anesthesia which can avoid the incidence of general anesthetics complications (failed intubation and aspiration pneumonia) as well as early bonding between the mother and the newborn because the mother is awake during the procedure.

Backache, inadequate analgesia, nausea /vomiting and bad memory of post Dural puncture headache were main contributor factor of dissatisfaction.

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CHAPTER SEVEN

CONCLUSION AND RECOMMENDATION

7.1 Conclusion

Patients who attained higher education were 16% less satisfied than patients with lower level of education, patient who had history headache 22% less likely satisfied than those who had not.

Patient who had compliant of intraoperative nausea and vomiting, intraoperative pain and backache were less satisfied than who had not these compliant.

Satisfaction rate of spinal anesthesia 62% whereas the dissatisfaction rate of spinal anesthesia was 38% and the refusal rate for spinal anesthesia in the future was 18%.

Side effects, inadvertent mistakes and unskillful techniques, can negatively affect patient perspectives about spinal anesthesia.

Some factors which can increase the satisfaction rate of patients who are underwent a surgery with spinal anesthesia are as follows; a patient's opinion is very important when deciding the anesthetic method, the anesthetists must provide complete explanations regarding spinal anesthesia before surgery and the anesthetists should have good rapport with their patients, Finally, the anesthetist should manipulate the patient skillfully and sedate the patients if they wish.

7.2 Recommendations

By taking in to account the results and analysis of this study the following recommendations are forwarded.

To ministry of health:

In Ethiopia little has done to ascertain patient satisfaction on anesthesia delivery, there Should implement up-to-date guidelines and training to anesthetists about patient satisfaction. All factors compromising patient satisfaction indicate an urgent need of safety and quality guidelines or protocols in the service of anesthesia.

there should stimulate or incite policy makers to develop anesthetic standards that promote satisfaction and as well as health facilities.

To hospital administrators:

The hospital administrator should work together with governmental and nongovernmental organizations and should provide trainings for every level of anesthetists about patient satisfaction.

To concerned NGOs:

There is need of training of anesthetists which are working in each level so that we can increase the knowledge and attitude on patient satisfaction.

To the researchers:

As we know the assessment of patient satisfaction and the patient experience are key performance measures the quality of care in anesthesia services ,so that similar studies with large sample size which includes all other anesthetic care good to notice the gap behind patient satisfaction , especially on factors associated with dissatisfaction.

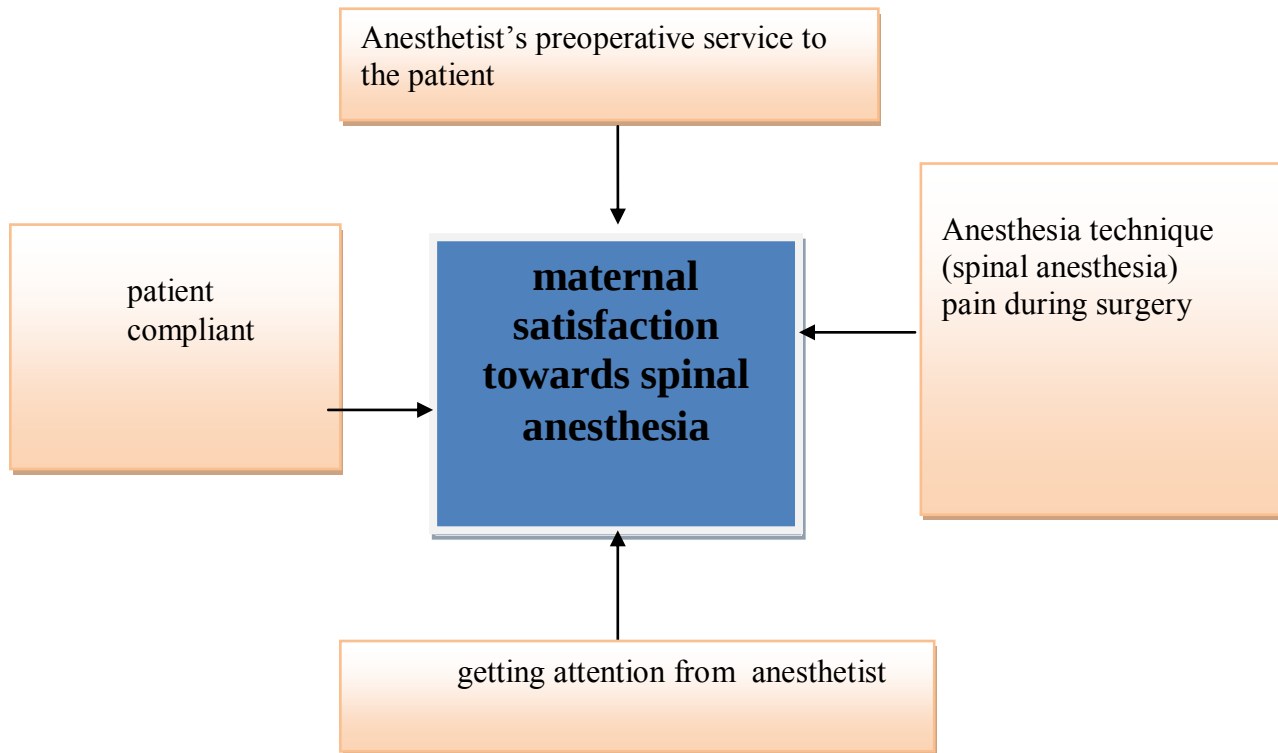
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ANNEX I

FRAMEWORK OF THE STUDY



ANNEX II
LISTS OF DUMMY TABLES

Table 1. **socio demographic characteristics of the participant**

	frequency	percent
Age		
18- 24		
25-34		
35-44		
Label of education		
8th grade and less		
9 -12 grade		
Some college graduate		
4th year graduate and above		
Employed status		
Employed		
Unemployed		
Medical history		
Yes		
No		
Parity		
Prime		
Multi		
type of operation		
elective		
emergency		
anesthesia before		
yes		
No		
Technique		
GA		
RA		
Not taking		
Complication		
Headache		
Nausea/ vomiting		

Table 2: patient compliant in intera and postoperative period.

	frequency	percentage
Interaoperative pain		
yes		
no		
postoperative backache		
yes		
no		
interaoperative nausea/vomiting		
yes		
no		
more than two attempt		
yes		
no		

Table 4 Bivariate Results of four component of overall satisfaction

Background characteristics	Overall Satisfaction	Total	P value	Bivariate Results (OR : 95% C.I)
Interaoperative pain				
yes				
no				
postoperative backache				
yes				
no				
interaoperative nausea/vomiting				
yes				
no				
more than two attempt				
yes				
no				

Table 3:bivariant respondents overall satisfaction score on patient characteristics

Background characteristics	Overall Satisfaction High score(>51)	Total	P value	Bivariate Results (OR : 95% C.I)
Age 18- 24 25-34 35-44 Label of education 8th grade and less 9 -12 grade Some college graduate 4th year graduate and above Employed status Employed Unemployed Medical history Yes No HIV HTN Parity Multi Prime Type of operation elective emergency anesthesia before yes No Technique GA RA Complication Headache Nausea/ vomiting				

ANNEX III
QUESTIONNAIRE
ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCE
DEPARTMENT OF ANESTHESIA

Data collection format prepared for patient satisfaction towards spinal anesthesia and contributing factors.

1. Demographic status of the patient.

A . Age (year)

18-24

25-34

35-44

45 and above

B. Level of Education

8th grade or less

9-12 grade

Some college graduate

4 year graduate and above

C. Employment status

Employed

Unemployed

2. Does patient have any medical history _____

3. Parity_____

4. Has patient received anesthesia before ?

5. Yes_____No_____

What technique?_____

6. Had patient complication from receiving anesthesia before?

Yes_____ No_____

what was the complication?_____

7. Did you have intra operative pain

- 1. sever pain
- 2. moderate pain
- 3.mild pain
- 4. no pain

8. Did you have post operative backache?

- A. sever backache
- B. moderate backache
- C. mild backache
- D. no backache

9. Did you have post -operative nausea and vomiting?

- A. Once
- B. Twice
- C. Only nausea
- D .No nausea and vomiting

10. Attempts (NO.) at puncture site?

- A. 1st trial
- B. 2nd trial
- C. 3rd trial
- D. >3trials

11. Are you happy to take spinal anesthesia for same procedure?

- A. Yes
- B .No

12. If your answer is NO in Q10 why_____

12.supplementary satisfaction questions

The following are assessing the level of satisfaction on listed factors. Please, provide appropriate responses using tick “√” mark in front of the corresponding items.

key: Very dissatisfied=1, dissatisfied =2 , slightly dissatisfied = 3 , slightly satisfied =4, satisfied =5 , very satisfied =6

		1	2	3	4	5	6
No.	preoperative						
1	what degree you satisfied with the amount of information given from the anesthesia practitioners?						
2	Was The information understandable						
3	The Anesthesia practitioners explained to me how I would feel after anesthesia						
4	Were you satisfied with preoperative visit						
5	How you satisfied information about postoperative complication						
	quality						
1	How would you rate the quality of your overall care at the facility?						
2	How satisfied were you with treatment of nausea and vomiting after the operation						
3	How you satisfied to have the same anesthetic again						
4	what degree did you have confidence in your anesthesia practitioners						
5	Were you satisfied with your anesthetic care						
6	what degree did you find your anesthesia practitioners professional						
7	would recommend the anesthesia team to others in my family						
No	pain						
1	How satisfied were you with pain therapy after surgery						
2	How you satisfied absence of pain at puncture site						
3	How you satisfied absence of pain during operation						
No.	Attention						
1	To what degree did your anesthesia practitioners pay attention to your complaints like pain and nausea						
2	what degree was the anesthesia team willing to listen to your questions						