

**MATERNAL SATISFACTION AFTER SPINAL ANESTHESIA FOR CESAREAN DELIVERY IN GANDHI MEMORIAL HOSPITAL, ETHIOPIA****Hagos Gebregziabher Gebremedhin\*, Desaleng Belay Mihrete and Kore menjie Binwe**

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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. 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 March 20 - May 30, 2016 G.C. **Methodology:** Analytic Cross-sectional study was conducted at Gandhi Memorial hospital from March 20-May 30, 2016; G.C. Patients who underwent caesarean section under spinal anesthesia during the study period were used as a sample. **Results:** Majority of the patients 113(64%) were aged between 25 and 34 years. Sixty two percent (62%) of patient was satisfied and thirty eight (38 %) of the patient was dissatisfied. Eighty two (82 %) patients would opt for spinal anesthesia in future for similar surgery, eighteen (18%) of patient would not require. **Conclusion and recommendations:** Postoperative backache, inadequate analgesia, nausea /vomiting and bad memory of post dural puncture headache and inadvertent mistakes and unskillful techniques are main contributor for dissatisfaction. Patient's opinion is very important when deciding the anesthetic method; the anesthetists should have good rapport and must provide clear explanations regarding spinal anesthesia before surgery with their patients. They should manipulate the patient gently, sedate the patients if necessary.

**KEYWORDS:** *spinal anesthesia, patient satisfaction, caesarean section.*

**INTRODUCTION**

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 pathophysiology of hypotension may have contributed to a rising popularity of spinal anesthesia.<sup>[1]</sup> Even if spinal anesthesia for caesarean 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 spinal anesthesia.

In fact satisfaction is measured by patients through evaluation and assessment of the experience after consuming a good service of care by health providers.<sup>[2]</sup> Patient satisfaction is a subjective and complex concept involving physical, emotional, mental, social, and

cultural factors.<sup>[3]</sup> It is determined by the quality of the provided care and the expectations of that care.<sup>[4]</sup>

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. 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.<sup>[5]</sup> In addition to the potential for impact on provider payments, patient satisfaction surveys are playing an increasing role in competency assessment.

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.<sup>[6]</sup> 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.

## MATERIALS AND METHODS

Analytic cross-sectional study was conducted from March 20-May 30, 2016 G.C at Gandhi Memorial hospital which is university affiliated maternity referral hospital found in Addis Ababa. Addis Ababa is the largest city in Ethiopia with a population of 3,384,569 according to the 2007 population census in an estimated area of 530.14 square kilometres. The hospital has also 2 operation room which is both functional. In rough estimation caesarean section with spinal anesthesia was done five cases per day.

All patients who underwent caesarean section during study period were used as a sample. Selection of hospital for the study was carried out using purposive sampling. Patients who underwent caesarean section with spinal anesthesia during the study period were included in the study.

Post-operative survey of patients on the day after surgery was conducted by collecting pre-operative, intra-operative and Post-operative data by constructed questionnaires.

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 six-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 was taken as significant.

## Ethical Consideration

The institutional review board (IRB) approval was obtained from anesthesia department, college of health science, Addis Ababa University. After the permission from IRB, Official letter was submitted to the Addis Ababa health bureau, then the letter of recommendation was obtained and distributed to 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.

## Operational Definitions

**Preoperative:** A visit to the patient by the anesthetist before the operation to give and get necessary information to the patient

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

**Pain:** It is physical suffering /feeling experienced by client caused by surgical intervention.

**Attention:** Degree of attention given by the anesthetist for patient's compliant.

## RESULT

From a total of 175 respondents, all were included in the study as they were complete and showed consistency of response. Complete study analysis was done for 175 patients, with response rate of 100%.

In Socio-demographic characteristics of the study, 113( 64%) were aged between 25 and 34years.and mean age was determined as 29.5 years, the academic level of patients 87(49%) were 8th grade and less, 9(5%) of patient were 4th year graduate and above,101( 57%) of the respondents were unemployed.

Majority of the surgeries 89(50.9%) were multi gravid and 166(66%) performed as emergency cesarean section, 32(18%) of patient had history of medical illness and 68(38 %) of patient had history of anesthesia, from this 54(30%) of patient was taken spinal anesthesia, 31(18%) of patient had headache and 8(5%) of the patient had nausea and vomiting as complication from pervious anesthesia.

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.

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

**Table 1: Socio demographic characteristics of the participant**

	frequency	Percent
<b>Age</b>		
18- 24	43.6	24.6
25-34	113	64.6
35-44	19	10.9
<b>Label of education</b>		
8th grade and less	87	49.7
9 12 grade	58	33.1
Some college graduate	21	12.
Degree graduate and above	9	5.1

<b>Employed status</b>		
Employed	74	43.3
Unemployed	101	57.7
<b>Medical history</b>		
Yes	32	18.3
No	143	81.7
<b>Parity</b>		
Prime	86	49.1
Multi	89	50.9
<b>Type of operation</b>		
Elective	59	33.7
emergency	116	66.7
<b>Anesthesia before</b>		
Yes	67	38.3
No	108	61.7
<b>Technique</b>		
GA	14	8
RA	54	30.9
Not taking	107	61.1
<b>Complication</b>		
Headache	31	18
Nausea/ vomiting	8	5

Table 2: patient complaints.

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

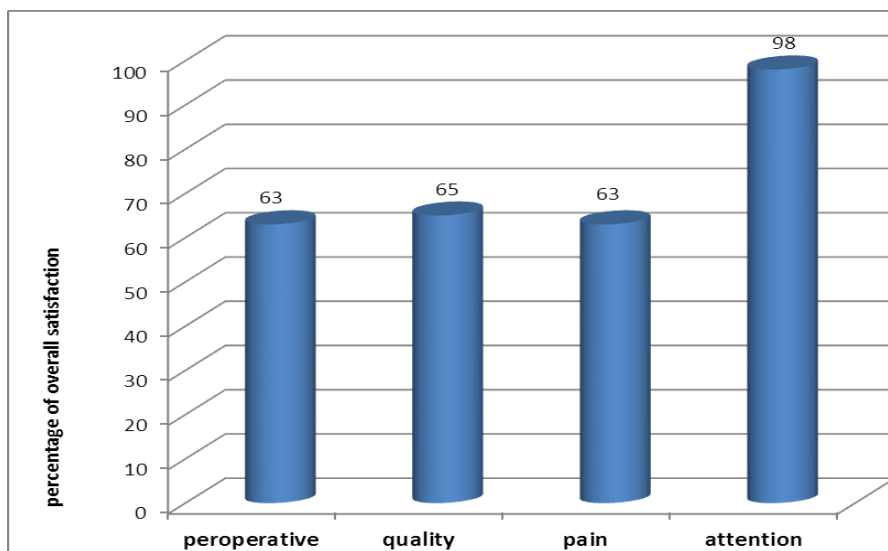
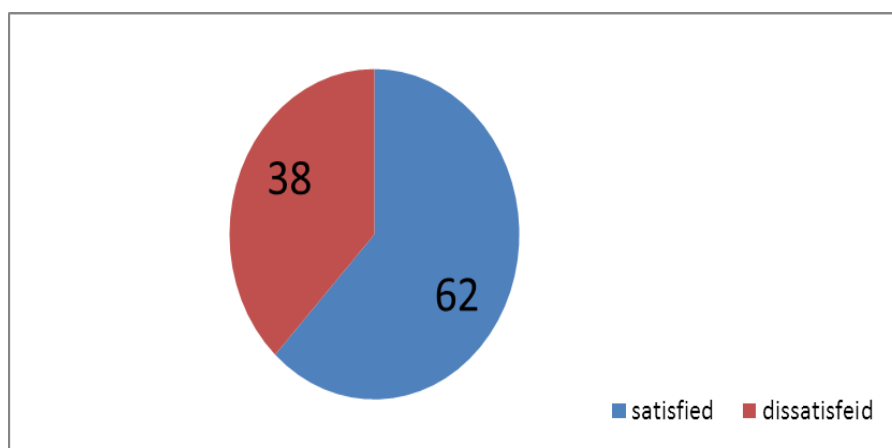


Fig. 1: four component of overall satisfaction.

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, ( $p = 0.01$ ) history of anesthesia ( $p = 0.017$ ) and had history of complication ( $p = 0.005$ ) 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 of anesthesia before was less satisfied compared to those had not history of anesthesia.

Patients who had history of complication like headache, nausea/vomiting were less 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 may be because of history of bad memory in previous experience.

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

Background characteristics	Percentage of Overall Satisfaction	Total	P - value	Odds ratio with 95 % CI
Age			0.72	
18- 24	43	8		1
25-34	65	73		0.96 (0.46, 2.01)
35-44	65	28		0.39 (0.13, 1.18)
Label of education			0.01	
8th grade and less	63	87		1
9 -12 grade	74	57		1.63(0.78, 3.39)
Some college graduate	43	21		0.44(0.17,1.15)
4th year graduate and above	22	9		0.166(0.03,0.85)
Employed status			0.22	
Employed	57	74		1
Unemployed	65	101		1.48(0.8, 2.75)
Medical history			0.27	
Yes	53	32		1
No	64	143		1.54(0.71,3.35)
Parity			0.13	
Multi	51	89		1
Prime	67	86		1.61(0.87, 3)
Type of operation			0.43	
elective	58	59		1

emergency	64	116		1.3(0.68, 2.46)
Anesthesia before			0.017	
yes	47	66		1
No	71	109		1.54 (0.35, 6.79)
Technique			0.4	
GA	57	54		0.6(0.18,2)
RA	44	14		1
Complication			0.005	
Headache	29	31		0.22(0.1,0.52)
Nausea/ vomiting	50	8		1

## 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.<sup>[7]</sup>

It also supported 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.<sup>[8]</sup>

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. This may be had bad memory in previous experience.

In a 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.<sup>[9]</sup> Patient who had nausea and vomiting have overall significantly lower patient satisfaction compared to those who did not experience nausea and vomiting.

Postoperative backache 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.<sup>[10]</sup>

In this study patient who had intraoperative pain were less satisfied than who did not experience pain during intraoperative time and patient who had more than two attempt at the puncture sit 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.<sup>[11]</sup>

It is believed among anesthetists that regional anesthesia provides excellent anesthesia/analgesia; However, fewer patients (18%–20%) still experience some degree of pain and discomfort during the block procedure.<sup>[12]</sup>

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 anesthetist 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.

## CONCLUSION

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%.

Patients who attained higher education were 16% less satisfied than patients with lower level of education. Patient who had compliant of intraoperative nausea and vomiting, intraoperative pain and backache were less satisfied than who had not these compliant.

Postoperative backache, inadequate analgesia, nausea /vomiting and bad memory of post dural puncture headache and Inadvertent mistakes and unskillful techniques are main contributor for dissatisfaction.

Patient's opinion is very important when deciding the anesthetic method; the anesthetists must provide clear explanations regarding spinal anesthesia before surgery and should have good communication with their patients. The anesthetist should manage the patient skillfully and sedation is sometimes necessary.

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