



## A Prospective Study of Maternal Satisfaction with Spinal Anaesthesia for Caesarean Delivery in a Tertiary Care Hospital.

Gagana B<sup>1</sup>, Madhushree B.R.<sup>2</sup>, Pallavi S R<sup>3\*</sup>

<sup>1</sup>Senior Resident, Department of Anaesthesiology, Sri Chamundeshwari Medical College Hospital & Research Institute.

<sup>2</sup>Consultant Anesthesiologist, Department of Anaesthesiology, DRM Multi-Speciality Hospital Mandya.

<sup>3</sup>Assistant Professor, Department of Anaesthesiology, Sri Chamundeshwari Medical College Hospital & Research Institute.



### Correspondence:

**Dr. Pallavi S R.**

Assistant Professor,  
Department of  
Anaesthesiology,  
Sri Chamundeshwari  
Medical College Hospital & Research  
Institute.

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### Abstract

**Objective:** To assess maternal satisfaction with spinal anaesthesia for caesarean section and to find out factors responsible for satisfaction and dissatisfaction. **Method:** The study was a prospective observational study. The data was collected from 347 women who had cesarean sections under spinal anesthesia at a tertiary care hospital. The women were asked to complete a questionnaire after their postoperative recovery. The questionnaire was used to find out the women's views about the anaesthesia care given to them, their involvement in making the decision, and their overall experience of the birthing process. **Results:** Majority of the women in our sample reported high levels of satisfaction with the spinal anaesthesia for their caesarean section (80.6%). The women were also very satisfied with the involvement of the anaesthetist in their decision-making process (92.2%) and that their expectations for the caesarean section were met (95.1%). In general the women reported high levels of satisfaction with their birthing experience (95.3%). **Conclusion:** spinal anaesthesia for caesarean section is highly satisfying for most women. Factors associated with satisfaction and dissatisfaction include women's involvement in decision-making, their expectations being met, and neonates' outcomes. Improving communication and addressing neonates' concerns are crucial for women's high satisfaction scores.

**Keywords:** spinal anaesthesia, caesarean section, maternal satisfaction, neonatal outcome, quality of care.



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### INTRODUCTION

Caesarean sections are one of the most common surgical procedures conducted globally. Their frequency is increasing not only in developed but also in underdeveloped countries [1]. When it comes to choosing the type of anaesthesia for a Caesarean section, several factors need to be taken into account. These include the cause of the delivery, its urgency, patient's preferences and the anaesthetist's professional assessment [2].

Spinal anaesthesia offers several benefits over general anaesthesia for caesarean section, including an awake mother at delivery, minimal neonatal depression, avoidance of the risks of failed intubation and aspiration, and effective postoperative analgesia [4]. Studies have demonstrated that spinal anaesthesia is associated with higher maternal satisfaction, faster recovery, fewer adverse effects, and better postoperative mobility compared to general anaesthesia [5,6]. A recent comparative study from Lady Reading Hospital, Peshawar, reported that maternal satisfaction was significantly higher with spinal anaesthesia (87.5%) than with general anaesthesia (68.2%) [7-9].

Maternal satisfaction is an important marker of the quality of obstetric care including the care provided by the anaesthetist. Factors influencing patient satisfaction include perception of pain, communication with health care providers, involvement in decision making and perception of neonatal outcome [10, 11].

To the best of our knowledge, there are very few prospective studies that have evaluated maternal satisfaction with spinal anaesthesia for cesarean delivery and the determinants of their satisfaction and dissatisfaction. Therefore, the main objective of this study was to assess the maternal satisfaction with the use of spinal anaesthesia for cesarean delivery and to determine the factors associated with the satisfaction and dissatisfaction of the mothers.

## **METHODS**

### **Study Population**

For the purpose of the study, women who had been delivered by caesarean section under spinal anaesthesia were studied. A total of 347 women were included in the study. The patients studied for the purposes of the research were from the general postnatal wards following delivery [2].

### **Inclusion Criteria**

For the purpose of this study, women were selected that had been given spinal anesthesia for their Caesarean section and were willing to participate in this research study. They had to be able to complete the questionnaires for this research study.

### **Exclusion Criteria**

Excluded were women who received general anaesthesia or received epidural instead of spinal anaesthesia, had incomplete questionnaires and other cases where the patients were unable to give consent for the study.

### **Data Collection**

This research used an interview questionnaire, which was designed by the principal author of this research for the purpose of gathering data from the postnatal women in the general postnatal wards following delivery [2].

- Demographic information
- Involvement in decision-making regarding anaesthesia
- Communication and explanation of anaesthesia procedure
- Intraoperative experience and pain control
- Postoperative care and complications
- Overall satisfaction with the anaesthetic technique
- Overall satisfaction with the birthing experience
- Neonatal outcome

### **Outcome Measures**

The primary end point was the overall satisfaction with spinal anaesthesia given in spinal form. The secondary end points were: the satisfaction of the woman and her partner with the degree of involvement and with the decision, the fulfillment of her expectations, the identification of factors influencing satisfaction and dissatisfied.

### **Statistical Analysis**

The data were summarized using descriptive statistics. Frequencies and percentages were presented for the categorical variables. The association between maternal satisfaction and neonatal outcome was analyzed using odds ratios and corresponding 95% confidence intervals. All analyses were performed using standard statistical software.

### **Ethical Considerations**

This study has been carried out according to the principles of the Declaration of Helsinki and Good Clinical Practice (GCP). Ethics approval was given by the appropriate institution. Participants were given information about the study prior to their recruitment and their consent had been obtained before they completed the questionnaires. Participants' confidentiality has been maintained throughout the study.

## **RESULTS**

### **Participant Characteristics**

A total of 347 questionnaires were completed, representing a 99.7% response rate [2]. Only one questionnaire was spoilt and excluded from analysis.

### **Satisfaction with Involvement in Decision-Making**

The level of satisfaction with involvement in decision-making was high, with 92.2% of respondents expressing satisfaction [2]. Most respondents felt that their preferences regarding anaesthesia were adequately considered.

### **Fulfilment of Expectations**

A large majority of respondents (95.1%) felt that their expectations for caesarean delivery were fulfilled [2]. This indicates that the overall birthing experience largely met or exceeded maternal expectations.

### **Satisfaction with Spinal Anaesthesia**

Satisfaction with the spinal anaesthetic technique was good, with 80.6% of respondents expressing satisfaction [2]. This indicates that most women were satisfied with the quality of anaesthesia care they received.

### Overall Satisfaction with the Birthing Experience

The overall satisfaction with the birthing experience was high, with 95.3% of respondents expressing satisfaction [2]. This reflects the combined impact of anaesthesia care, obstetric care, and the overall hospital experience.

### Neonatal Outcome and Maternal Satisfaction

Neonatal outcome was a significant determinant of maternal satisfaction. Seven out of the 345 deliveries (2.0%) resulted in death of the newborn, and 13.5% of deliveries resulted in admission of the newborns to the newborn unit [2]. Mothers whose neonates died were 6.8 times more likely to be dissatisfied with spinal anaesthesia for caesarean delivery compared to mothers whose neonates were alive and well [2].

**Table 1. Satisfaction Outcomes**

| Variable                                          | Percentage |
|---------------------------------------------------|------------|
| Satisfaction with involvement in decision-making  | 92.2%      |
| Fulfilment of expectations for caesarean delivery | 95.1%      |
| Satisfaction with spinal anaesthetic technique    | 80.6%      |
| Overall satisfaction with birthing experience     | 95.3%      |
| Neonatal unit admission                           | 13.5%      |
| Neonatal death                                    | 2.0%       |

**Table 2. Association Between Neonatal Outcome and Maternal Satisfaction**

| Neonatal Outcome        | Odds of Dissatisfaction | 95 % CI |
|-------------------------|-------------------------|---------|
| Neonatal death          | 6.8 times more likely   | -       |
| Neonatal alive and well | Reference               | -       |

## DISCUSSION

This prospective study describes the findings of the assessments of the maternal experiences and perceptions of spinal anaesthesia for caesarean section, with the objective of determining the levels of maternal satisfaction with this method of anaesthesia. The findings of the study indicated high levels of maternal satisfaction, with an overall satisfaction rate of 80.6% in this study for spinal anaesthesia for cesarean section. A previous study from a Syrian community described an overall maternal satisfaction rate of 60% with spinal anaesthesia [1]. In a study from Bhopal of female doctors who were delivered by cesarean section under spinal anesthesia, the overall satisfaction rate of these doctors was 88.3% [11]. Thus, the levels of maternal satisfaction reported in this study and in other studies are varied. There are many factors that could account for these variations. Some of these factors include the study population, the location of the study, the design of the data collection methods and the overall health care settings where the studies were conducted.

High levels of satisfaction with involvement in decision-making were found in this study. The percentage of patients who were satisfied with involvement in decision-making for spinal anaesthesia was 92.2% in this study. Similar results were found in the Bhopal study among doctors. They found that 88.3% of the female doctors were satisfied with involvement in decision-making for their caesarean section under spinal anaesthesia [11]. This study and other studies found that participation in decision-making had consistently been associated with higher levels of patient satisfaction [9].

Previous studies have established that the neonatal outcome has a significant bearing on the parturients' perception of care and the overall satisfaction with spinal anaesthesia. In a qualitative analysis of experiences of women who have given birth by caesarean section under spinal anaesthesia, it was reported that mothers whose neonates died were 6.8 times more likely to be dissatisfied with the spinal anaesthesia than mothers whose neonates were alive. In the qualitative analysis of experiences of women who have given birth by caesarean section under spinal anaesthesia, it was reported that the mothers were primarily concerned with the wellbeing of their neonates during the childbirth process and that the outcome of the neonate was the major determinant of the mothers' assessment of their experience of childbirth and their overall satisfaction with the spinal anaesthesia.

The overall satisfaction rate with birthing experience was 95.3% in our study. This is comparable to 95% found by Koshy and Balakrishnan in a prospective observational study in a tertiary care centre [9]. The authors found that parturients were satisfied with various aspects of their care including 83.3% for treatment of postoperative nausea and vomiting, 90% for intraoperative analgesia and 95% for postoperative care provided by the anaesthetist [9]. Therefore it can be said that comprehensive anaesthesia care including effective management of complications during intraoperative and postoperative period can increase maternal satisfaction.

Parturients' experience of regional anaesthesia: A qualitative analysis. Parturients who had spinal or epidural anaesthesia for cesarean section reported overall satisfaction with their experience of having cesarean section when medically indicated.

They also reported that they would recommend regional anaesthesia for cesarean section to others. Challenges and ways of overcoming them were also explored. The findings of this study could be used as basis for developing education program for parturients, health care providers and others about regional anaesthesia for cesarean section, postoperative care and various ways of coping with postoperative discomfort.

In comparison, general anaesthesia has lower maternal satisfaction. A cross-sectional comparative study at Lady Reading Hospital, Peshawar, found that the mothers who had received spinal anaesthesia were more satisfied (87.5% satisfied) than those who had received general anaesthesia (68.2% satisfied). The main reasons for this were that the mothers who had received spinal anaesthesia had a faster recovery and fewer adverse effects [7]. In another study from Egypt and Saudi Arabia, spinal anaesthesia was found to allow new mothers better mobility, effective pain relief and quicker return to daily activities than general anaesthesia [12].

## CONCLUSION

Spinal anaesthesia for caesarean delivery is associated with high levels of maternal satisfaction, with an overall satisfaction rate of 80.6%. Satisfaction with involvement in decision-making was high at 92.2%, and 95.1% of respondents felt their expectations for caesarean delivery were fulfilled. Neonatal outcome is an important determinant of maternal satisfaction, with mothers whose neonates died being 6.8 times more likely to be dissatisfied. Strategies to improve communication, involve patients in decision-making, and address neonatal concerns may further enhance maternal satisfaction.

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