Original Research Article

A prospective study of maternal satisfaction with spinal anaesthesia for caesarian delivery in a tertiary care hospital

Praveen S[1], Shivananda P T[2*]

[1]Assistant Professor, Department of Anaesthesia, Shimoga Institute of Medical Sciences, Shimoga, India
[2]Associate Professor, Department of Anaesthesia, Shimoga Institute of Medical Sciences, Shimoga, India

Received: 09-09-2020 / Revised: 31-10-2020 / Accepted: 18-11-2020

Abstract

Introduction: The choice of anaesthesia for any caesarean section depends on multiple factors such as the indication of surgery, urgency of surgery, and patient's as well as surgeon's desire. Anesthesiologists always prefer the method which is safe and most comfortable for the mother, least depressant to the newborn and provides the optimal working conditions for the obstetrician, regional anaesthesia fulfils all these criteria. The advantages of regional anaesthesia include an awake mother at delivery, minimal depression of the newborn, and avoidance of the risks of general anaesthesia.**Materials and Methods:** The study was designed as a cross-sectional survey. Interviews were conducted by the principal investigator and data collected in a standardized questionnaire. The study site was the Department of Anaesthesia, Shimoga Institute of Medical Sciences, Shimoga, general postnatal wards. Between 4000-4600 caesarean sections are performed every year at the hospitals. As the duration of the study was 1 year, the sample size was taken for convenience. The study was conducted from October 2018 to August 2019.**Results:** A total of 347 questionnaires were filled. Only one of the 347 questionnaires was spoilt, representing 99.7% rate of returns. The study was designed as a prospective cross-sectional survey. The level of satisfaction with involvement of the respondents in decision making was high (92.2%) A large majority of respondents felt that their expectations for caesarean delivery were fulfilled. (95.1%). Satisfaction with spinal anaesthetic technique was good and stood at 80.6%. The overall satisfaction with the birthing experience was high (95.3%). Mothers whose neonates died were more likely to be dissatisfied compared to mothers whose neonates were alive and well. Respondents whose neonates had a poor outcome (i.e. died) were 6.8 times more likely to be dissatisfied with spinal anaesthesia for caesarean delivery. Seven out of the 345 deliveries (0.2%) resulted in death of the newborn. 13.5% of the deliveries resulted in admission of the newborns to the newborn unit.**Conclusion:** Spinal anesthesia is effective in controlling pain during and immediately after caesarean delivery. Maternal satisfaction with involvement in decision making for caesarean delivery Shimoga Hospital is high. Spinal anaesthesia for caesarean delivery is associated with high levels of met expectations for Childbirth at Shimoga Hospital. Neonatal outcome is an important contributor to maternal satisfaction with caesarean delivery.

Keywords: caesarean section, postnatal, questionnaire, Spinal anesthesia.

Introduction

The choice of anaesthesia for any caesarean section depends on multiple factors such as the indication of surgery, urgency of surgery, and patient's as well as surgeon's desire[1]. Anesthesiologists always prefer the method which is safe and most comfortable for the mother, least depressant to the newborn and provides the optimal working conditions for the obstetrician, regional anaesthesia fulfils all these criteria[2]. The advantages of regional anaesthesia include an awake mother at delivery, minimal depression of the newborn,

**Correspondence*
Dr. Shivananda P T
Associate Professor, Department of Anaesthesia, Shimoga Institute of Medical Sciences,Shimoga,India.
E-mail: praveen4267@gmail.com

and avoidance of the risks of general anaesthesia. Recently, regional anaesthesia has gained worldwide acceptance, and its physiological effects provide a better outcome for caesarean section, moreover, general anaesthesia is associated with significantly high maternal morbidity and mortality[3]. However, complications occurring during or after anaesthesia as well as discomfort from the procedure, position, and neuraxial block might compel patients to prefer general anaesthesia [4]. To improve the quality of spinal anaesthesia and to enhance relationship with patients, this study was undertaken to determine patients satisfaction, the factors causing dissatisfaction as well as the reasons leading to future refusal for spinal anaesthesia [5].

Materials and methods

The study was designed as a cross-sectional survey. Interviews were conducted by the principal investigator and data collected in a standardized questionnaire. The study site was the Department of Anaesthesia, Shimoga Institute of Medical Sciences, Shimoga, general postnatal wards. Between 4000-4600 caesarean sections are performed every year at the hospitals. As the duration of the study was 1 year, the sample size was taken for convenience. The study was conducted from October 2018 to August 2019.

Study Population

Parturients who had delivered via caesarean section through the spinal anaesthetic technique and who had not completed 24 hours from the onset of anaesthesia.

Inclusion Criteria

1. Parturients who had undergone caesarean delivery through the spinal anaesthetic technique.
2. Parturients for whom less than 24 hours had elapsed from the time of delivery.
3. Both elective and emergency cases of caesarean delivery via the spinal anaesthetic technique.
4. Parturients who had consented to participating in the study.

Exclusion Criteria

- Non-consenting patients.
- 2. Parturients who were unable to adequately communicate with the principal investigator due to Illness, insurmountable language barrier or any other reason.

Statistical Analysis

The consecutive sampling technique was used. Data was collected using a pre-tested questionnaire. During data collection the principal investigator visited the wards, explained the study to the participants and then assisted the participants to fill the questionnaires. The data collected was quantitative. This data was captured electronically, and analysis done using SPSS version 17. To describe the study population univariate analysis was used to extract simple frequencies and the data presented graphically. A five-point Likert scale5was used to measure patients' satisfaction and various inferential statistics were derived to assess association. Chi square test was applied to compare normally distributed numerical variables between groups p-value ≤ 0.06 was considered for statistically significant.

Results

A total of 347 questionnaires were filled. Only one of the 347 questionnaires was spoilt, representing 99.7% rate of returns. The study was designed as a prospective cross-sectional survey.The level of satisfaction with involvement of the respondents in decision making was high (92.2%) A large majority of respondents felt that their expectations for caesarean delivery were fulfilled. (95.1%). Satisfaction with spinal anaesthetic technique was good and stood at 80.6%. The overall satisfaction with the birthing experience was high (95.3%). Mothers whose neonates died were more likely to be dissatisfied compared to mothers whose neonates were alive and well.

Respondents whose neonates had a poor outcome (i.e. died) were 6.8 times more likely to be dissatisfied with spinal anaesthesia for caesarean delivery. Seven out of the 345 deliveries (0.2%) resulted in death of the newborn. 13.5% of the deliveries resulted in admission of the newborns to the newborn unit.

Maternal Satisfaction with pain control

Table 1: Level of Satisfaction with Pain Control

	Percentage (%)
Very Dissatisfied	1.0
Dissatisfied	3.3
Neither satisfied or Dissatisfied	7.9
Satisfied	21.3
Very Satisfied	66.5
Total	100

Satisfaction with involment in decision making during spinal anaesthesia

	Percentage (%)
Very Dissatisfied	1.6
Dissatisfied	1.4
Neither satisfied or Dissatisfied	4.6
Satisfied	23
Very Satisfied	69.4
Total	**100**

Table 2: Maternal Satisfaction with Involvement in Decision Making During Spinal Anaesthesia

	Very Dissatisfied	Dissatisfied	Neither satisfied or Dissatisfied	Satisfied	Very Satisfied
Level of Communication from The Anesthesia Provider	.5	.7	4.6	13.3	81.5
The Amount of Explanation Received from Anaesthesia Practitioners During Birth	.9	1.5	6.6	13.9	77.2

Table 3: Communication and Explanations by the Anaesthesia Provider

		Overall Satisfaction level		P value
		Not Satisfied	**Satisfied**	
Marital Status	Married	4.5%	95.6%	0.696
	Single	5.8%	94.3%	
	0	3.0%	97.0%	
	1	9.6%	90.4%	
	2	2.2.%	97.8%	
Number of Previous Caesarean Sections	3	0%	100%	0.119
	4	0%	100%	
Type of Surgery	Elective	4.2%	95.6%	
	Emergency	4.9%	95.1%	0.821
	Alive and well	4.3%	97.7%	
Outcome of The Baby	In Nursery	2.1%	97.9%	
	Died	28.6%	71.4%	0.006
	Consultant 1	9.6%	90.6%	
	Anaesthetist 2	4.7%	95.2%	
Cadre of Anaesthesiologist	Registrar	5.4%	94.6%	
	PG Student	0%	100%	0.893

Table 4: Other Variables and Their Influence on Maternal Satisfaction

	Very Dissatisfied (%)	Dissatisfied(%)	Neither satisfied or Dissatisfied (%)	Satisfied (%)	Very Satisfied (%)
The Physical Care You Received from The Anaesthesia Practitioner During Birth	.3	.6	2.4	15.8	81.3
The Technical Knowledge, Ability & Competence of Anaesthesia Practitioners During Birth	.3	.9	7.5	22.5	68.8
The Personal Interest and Attention Given to You by Anaesthesia Practitioners During Birth	.6	.0	3.2	13.0	83.2
The Attitude of Anaesthesia Practitioners During Birth	.3	.3	3.2	10.7	85.5
The Satisfaction with Spinal Anesthetic Technique	2.5	3.6	14	26	54
The Anaesthesia Practitioner's Sensitivity to Your Needs During Birth	.6	.3	2.0	12.2	84.9

Discussion

Graham and Hundley also had similar results. Met expectations for childbirth is the most important determinant of maternal satisfaction. While each of these studies studied different factors that influenced satisfaction during caesarean delivery, their overall satisfaction ratings were similar[6]. Other aspects of intraoperative anaesthetic care that were tested in the study all showed satisfaction scores of over 90%. These included technical ability and competence of the anaesthesia provider and anaesthesia provider's sensitivity to the respondents' needs. The cadre of anaesthetist, urgency of the operation, marital status and number of prior caesarean deliveries had no influence on maternal satisfaction[6]. It is unclear whether the dissatisfaction with spinal anaesthesia for respondents who had a poor neonatal outcome was due to blaming the anaesthetic technique itself or due to an unfavorable recall bias due to the unfavorable outcome. Future studies should be designed to determine this[7].
A study done in Greece to compare maternal preference of anaesthetic technique found that recovery from surgery was much faster after spinal anaesthesia compared to general anaesthesia. Spinal anaesthesia was also associated with less pain, fewer days of hospital stay and higher satisfaction scores compared to general anaesthesia [8]. 80% of the women interviewed said they would choose spinal anaesthesia for a future caesarean section. A similar study carried out on antenatal mothers in Nigeria revealed most respondents preferred general anaesthesia and the commonest reason for the preference was various forms of fear about the conduct of anaesthesia. Maternal preference for anaesthetic technique may be influenced by various factors such as age, occupation, culture, religion, socio-economic status and level of education. While satisfaction after spinal anaesthesia is usually higher compared to general anaesthesia, this does not necessarily translate to greater maternal preference for spinal anaesthesia[9].Despite considerable research, satisfaction is still poorly defined. It is a multi-dimensional concept influenced by a variety of factors. This means that women can be satisfied with some aspects of child birth and dissatisfied with others. Porter and colleagues found that patients undergoing caesarean delivery find the most distressing factors, and by extension the factors most likely to influence their satisfaction, are of a psychological or general nature such as poor communication, fears, missing out on the birth or immediate postpartum period[10].

Conclusion

Spinal anesthesia is effective in controlling pain during and immediately after caesarean delivery. Maternal satisfaction with involvement in decision making for caesarean delivery Shimoga Hospital is high. Spinal anaesthesia for caesarean delivery is associated with high levels of met expectations for Childbirth at Shimoga Hospital. Neonatal outcome is an important contributor to maternal satisfaction with caesarean delivery.

References

1. Juhani TP, Hannele H. Complications during spinal anaesthesia for caesarean delivery: a clinical report of one year's experience. Reg Anesth. 1993;18(2):128–131.
2. Hawkins JL, Koonin LM, Palmer SK, Gibbs CP. Anesthesia-related deaths during obstetric delivery in the United States, 1979-1990. Anesthesiology. 1997;86(2):277–284.
3. Teoh WH, Shah MK, Mah CL. A randomized controlled trial on beneficial effects of early feeding post-caesarean delivery under regional anaesthesia. Singapore Med J. 2007;48(2):152–157.
4. Siddiqi R, Jafri SA. Maternal satisfaction after spinal anaesthesia for caesarean deliveries. J Coll Physicians Surg Pak. 2009;19(2):77–80.
5. Charuluxananan S, Sriprajittichai P, Sirichot vithyakorn P, Rodanant O, Kyokong O. Factors related to patient satisfaction regarding spinal anaesthesia. J Med Assoc Thai. 2003;86(2 Supp):S338–343.
6. Bhattarai B, Rahman TR, Sah BP, Singh SN. Central neural blocks: a quality assessment of anaesthesia in gynaecological surgeries. Nepal Med Coll J. 2005;7(2):93–96.
7. Sindhvananda W, Leelanukrom R, Rodanant O, Sriprajittichai P. Maternal satisfaction to epidural and spinal anesthesia for cesarean section. J Med Assoc Thai. 2004;87(6):628–635.
8. Rhee WJ, Chung CJ, Lim YH, Lee KH, Lee SC. Factors in patient dissatisfaction and refusal regarding spinal anesthesia. Korean J Anesthesiol. 2010;59(4):260–264.
9. Roy KE, George AM. Levels of Consciousness During Regional Anesthesia and Monitored Anesthesia Care: Patient Expectations and Experiences. A & A. 2009;108(5):1560–1563.

10. Ansari T, Yousef A, El Gamassy A, Fayez M. Ultrasound-guided spinal anaesthesia in obstetrics: is there an advantage over the landmark technique in patients with easily palpable spines? Int J Obstet Anesth. 2014;23:213–6.

Conflict of Interest: Nil
Source of support:Nil