



Post Cesarean Section Patients Concept and Satisfaction about types of Anesthesia

¹Ejaimi Gamal, ⁴Fatimah A. Alzhrani ²Rishi Kr Bharti , ³Waleed H. Alfaifi, ¹Sittelnissa Saeed, ⁵Faisal M. alghadam, ²Yousif Alamin

¹Assistant professor , Anaesthesia and intensive care, department of surgery, college of medicine, King Khalid University.

²Assistant Professor, Department of Family and Community Medicine, College of Medicine, King Khalid University, Abha, P.O. Box 641, Kingdom of Saudi Arabia.

³Aseer Central Hospital. MBBS, ²Obstetrics and gynecology resident, Ministry of Health , KSA.

⁴ Medical student, King Khalid University.

⁵clinical director of anaesthesia and intensive care, armed forces hospital, Khamis mushayat, Aseer.

Correspondence:

Dr. Gamal A. M. Ejaimi, Assistant professor, Anesthesia & Intensive care. Department of Surgery, King Khalid University, Abha, Kingdom of Saudi Arabia, Aseer Central Hospital.

E-mail: gamalejaimi@hotmail.com

Abstract

Background: The aim of the study was to determine and assess the awareness, concept, and satisfaction of pregnant women about anesthesia for cesarean section and to evaluate the role of health staff, including anesthesia, in providing safe, efficient anaesthesia. **Methods:** A 170 post-caesarean section women admitted to the postnatal wards or attended the Postnatal Clinics at Abha Maternity and Children Hospital, KhamisMushaytCity Hospital, and KhamisMushayt Military Hospital were included. A self-administered questionnaire was designed. It comprised personal characteristics, types of anesthesia, satisfaction about anesthesia and complications during and after the procedure. **Results:** The use of general anesthesia among patients with previous and current cesarean section was found to be higher than spinal anesthesia. Excellent satisfaction about anaesthesia was demonstrated by 43.5% of patients, while 29.4% and 17% stated good, and fair respectively. A 9.4% of patients demonstrated poor satisfaction. Breastfeeding within the day of the procedure and one day after were 29.4% and 34.1% respectively. **Conclusion:** Utilization of general anaesthesia as a technique for cesarean section is high among parturients while dissatisfaction about anaesthesia is still high. Regional anesthesia should be used for cesarean section whenever it is feasible. Implementation of modes of birth delivery and modalities of anaesthesia for cesarean section in the antenatal program.

[Ejaimi Gamal, Fatimah A. Alzhrani Rishi Kr Bharti, Waleed H. Alfaifi, Sittelnissa Saeed, Faisal M. alghadam, Yousif Alamin. *Post Cesarean Section Patients Concept and Satisfaction about types of Anesthesia. Life Sci J* 2022;19(10):71-76]. ISSN 1097-8135 (print); ISSN 2372-613X (online). <http://www.lifesciencesite.com>. 09.doi:[10.7537/marslsj191022.09](https://doi.org/10.7537/marslsj191022.09).

Keywords: Cesarean Section(CS) , Delivery, Anesthesia, General anesthesia, Regional anesthesia.

Background:

The lower segment Cesarean Section is one of the most common surgical procedures worldwide. It could be performed under general or regional anesthesia. Regional anesthesia involved both spinal and epidural anaesthesia. Due to pregnancy accompanied physiological changes and the nature of pregnancy itself, a cesarean section may carry numerous complications range from mild to fatal. Many cases scheduled for normal vaginal delivery may end up with an emergency cesarean section within a short time due to unanticipated causes. With no underlying medical indication, both maternal and fetal complications rate will increase. [1,2,3,4] Many studies

showed the superiority of regional anaesthesia compared with general anaesthesia. However, the choice of anaesthesia might be affected by patients' factors, baby factors and clinician skills and knowledge. Patients' anxiety and psychological distress may accompany the cesarean section while many women are not aware of the procedure itself and the choice of their anaesthesia. These mandate the importance of good communication, counseling, support, and education prior cesarean section. [5,6] During top emergencies and high-risk patients, the choice and conduction of anaesthesia should be carried out by a senior, expert anaesthetists. In some world areas, the social factors have a direct influence on the

choice of anaesthesia. Thus, a poor satisfaction may result, and patients will not be able to understand some events which may take place.

This study aims of patients concept and satisfaction about the choice of the anaesthesia for caesarian section and also to evaluate the awareness of the pregnant women about general and spinal anaesthesia .

Material and Methods:

This study was conducted during the period from December 2016 till March 2017. A cross-sectional analytical comparative design has been followed. This study has been conducted in Abha City hospitals, at the southwestern region of Saudi Arabia .

Following a cross-sectional study design, 170 Saudi and non Saudi post caesarian section women admitted at Abha Maternity and Children Hospital, Khamis Mushayt Maternity and Children Hospital, and Khamis Mushayt Military Hospital Saudi Arabia were included in this study. A self administered questionnaire has been developed by the researchers.

It comprised personal characteristics , types of anesthesia, satisfaction of anesthesia and complications after anesthesia. Satisfaction about the anaesthesia was measured from 1 to 12 variables used in questionnaire categorized as excellent (10-12) , good(7-9) ,fair (4-6) and bad (1-3).

A pilot study for validation has been conducted in the Medical Services Department for Armed Forces Scientific Research Center, as the Arabic version of the questionnaires .After modification , questionnaire was given to the participants and then modulated by the research team . The purpose the study was fully explained to the patients and consent was taken from the patient . Investigator was also available to explain aim and purpose of this research .

Frequency tables were analyzed with mean and standard deviation. Chi square test were applied to observe the associations . p-value less than 0.05 was considered as statistically significant.

Data entry and analysis were performed using the Statistical Package for Social Sciences (SPSS version 23.0).

Results :

We collected data from 170 women who had recently underwent cesarean section. Of those, 159 patients (93.5%) were Saudi. The mean age of the patients was 30.32 years (± 6.19), with the youngest being 19 year-

olds (3 patients), and oldest is 47 year-olds (2 patients). Forty patients were nulliparous, and the mean for parity was 3.2 births (± 2.17).

In regard to occupation, 113 (66.5%) were unemployed. Out of the remaining 57 patients, 20 (11.8%) were healthcare workers, and 37 (21.7%) were non-healthcare workers.

In regard to occupation, 113 (66.5%) of the sample were housewives, 21 (12.4%) were teachers, 11 (6.5%) were doctors, 8 (4.7%) were nurses, 8 (4.7%) were students, and 6 (3.5%) were employees. As well, there were one seller, one lab-worker, and one worker. For educations, 14 patients (8.2%) were illiterate, 12 patients (7.1%) finished elementary school, 21 patients (12.4%) finished middle school, and 59 patients (34.7%) finished high school. In comparison, 64 patients (37.7%) had attained a higher education grade (bachelors and above). Only 67 patients (39.4%) were elective CS.

Of the 170 patients, 105 (61.8%) had a previous CS prior to this one. Of those 37 (35.2%) underwent the procedure with spinal anesthesia, 64 (61.0%) with general anesthesia, and 4 (3.8%) patients do not know the type of the anesthesia used. However, for the current CS, 91 patients (53.5%) underwent spinal anesthesia, 73 patients (42.9%) underwent general anesthesia, and 6 patients (3.6%) do not know the anesthesia type used. For these patients, only 62 patients (36.5%) had the option to choose the anesthesia type. Out of those 62, 18 (29.0%) based their choice of the anesthesia on recommendations and experience from other patients, while 32 (51.6%) followed the recommendations of their physicians, and 12 (19.4%) had their choice based on internet and other resources.

One-hundred-five patients were satisfied with the last CS, with 74 (43.5%) stating it was excellent procedure. However, only 47 patients (27.6%) stated that the last procedure was better than the previous CS. For the last CS, only 37 (21.8%) required blood transfusion.

In regard to complications, 51 patients (30.0%) experienced pain, 43 patients (25.3%) had nausea, 27 patients (15.9%) complained of vomiting, 9 patients (5.3%) had headache, 3 patients (1.8%) experienced DVT, and 2 patients (1.2%) had urine retentions. Seventy-seven patients (45.3%) think that the complications were a direct effect from the anesthesia. While 51 patients (30.0%) think the complications are permanent. Only 61 patients (35.9%) were consented for the CS.

Table 1: General Characteristics in Population

Characteristic	Mean (or Proportion)
Age (years)	30.32 (± 6.19)
Nationality	
Saudi	93.5% ($n = 159$)
Non Saudi	6.5% ($n = 11$)
Parity	3.2 (± 2.17)
Occupation	
Unemployed	66.5% ($n = 113$)
Healthcare workers	11.8% ($n = 20$)
Non-healthcare workers	21.7% ($n = 37$)
Education	
Illiterate	8.2% ($n = 14$)
Elementary School	7.1% ($n = 12$)
Middle School	12.4% ($n = 21$)
High School	34.7% ($n = 59$)
Higher education	37.7% ($n = 64$)

Table 2: Anesthesia Type, Selection, Complications and Satisfaction

Patients with previous CS	61.8% ($n = 105$)
Type of Anesthesia for Previous CS	
Spinal	35.2% ($n = 37$)
General	61.0% ($n = 64$)
Don't Know the Type	3.8% ($n = 4$)
Type of Anesthesia for Current CS	
Spinal	53.5% ($n = 91$)
General	42.9% ($n = 73$)
Don't Know the Type	3.6% ($n = 6$)
Did You Select the Anesthesia Type?	
Yes	36.5% ($n = 62$)
No	63.5% ($n = 108$)
Why Did You Choose This Type?	
Other Patients' Experience	29.0% ($n = 18$)
Physicians' recommendations	51.6% ($n = 32$)
Internet and other resources	19.4% ($n = 12$)
Blood Transfusion	21.8% ($n = 37$)
Complications	
No Complications	20.5% ($n = 35$)
Pain	30.0% ($n = 51$)
Nausea	25.3% ($n = 43$)
Vomiting	15.9% ($n = 27$)
Headache	5.3% ($n = 9$)
DVT	1.8% ($n = 3$)
Urine retention	1.2% ($n = 2$)
Satisfactions	
Excellent	43.5% ($n = 74$)
Good	29.4% ($n = 50$)
Fair	17.7% ($n = 30$)
Poor	9.4% ($n = 14$)

Sixty-two patients (36.5%) never breastfed their infants after the procedure. Fifty patients (29.4%) started breastfeeding within the first 24 hours of life, and 58 patients (34.1%) started breastfeeding their infants after the 1st day of life.

Selection of the anesthesia type seemed not to affect the satisfaction of patients from the procedure ($p = .719$). Urgency of the procedure (i.e., emergent CS) was not considered a determining factor when it comes to satisfactory experience from the procedure ($p = 1.00$). As well, urgency of the procedure did not affect the patient choice of breastfeeding ($p = 0.413$).

Furthermore, urgency of the procedure did not seem to increase the risk of complications.

Table 3: Experienced complications by the patients

Complications	P value*
Blood transfusion	0.326
Pain	0.472
Nausea	0.270
Vomiting	0.560
Headache	0.278
DVT	0.828
Urine retention	0.078

* $p < 0.05$

Our data showed that the higher the education level, the more likely women would think that anesthesia is related to complications ($p < 0.0001$), or that complications would be permanent ($p < 0.0001$).

Discussi

on:

Cesarean section is one of most common surgical procedures that have been carried every day. The rate of complications is increased due to the nature of pregnancy, physiological changes, and family stress. These will danger maternal and fetal life especially when there is no indication for it. Souza JP et al. 2010 found a high association between perinatal complications and a non-medical indication of cesarean section. This association is stronger in Africa when compared to Asia and Latin America. [1]

Poor communications, fears, missing out, or other emotions factor paly a big role in patient dissatisfaction. Other factors which also distress women are surgical complications and infections. However, anesthesia was the single factor that caused most distress. [7]

Pregnancy has deleterious effects on patients' airway including failed intubation, ventilation and aspiration. Aspiration incidence in Caesarean section under general anaesthesia is 1 in 400–600. Neuraxial anesthesia for cesarean delivery will minimize these risks compared with general anesthesia. The study revealed that the rate of general anesthesia among patient with previous cesarean section was found to be higher than spinal anesthesia, 64 (61.0%) and 37 (35.2% of patients), respectively. [8,9,10]

The rate of spinal anaesthesia was increased during the current CS. Spinal anesthesia was demonstrated by 91 patients (53.5%) compared with 73

patients (42.9%) of general anesthesia. However, 6 patients (3.6%) do not know the anesthesia type used. However, this is still away from the standard of The Royal College of Anaesthetists which recommended that 85% of emergency caesarean sections should be carried out under regional anaesthesia. When regional anaesthesia can be effectively feasible within time, this should be pursued, due to its fewer detrimental effects on both infant and mother. [11,12]

In regards to patient satisfaction about the procedure, 74 (43.5%) stated it as excellent, 50 patients (29.4%) as good and 30 (17%) as fair. Only 14 patients (9.4%) said it was poor. [13,14] Comparing last procedure with the one before, 47 patients (27.6%) stated that the last procedure was better than the previous CS. Patient satisfaction plays a major role in measuring the quality of health care. One of these parameters is satisfaction with anesthesia. Anaesthesia is a stressful event for many patients, especially during cesarean section. [13,14] Dharmalingam TK, Ahmad Zainuddin NA 2013 during their survey showed a 97% satisfaction about spinal anaesthesia during cesarean section. [5]

Counseling, education, highlighting, and support for the patient will help parturients during the procedure. [13,14] A total of 62 patients (36.5%) had been counseled about anaesthesia and their right to select. Out of them 18 (29.0%) based their choice of the anesthesia on recommendations and experience from other patients, 32 (51.6%) followed the

recommendations of their physicians, and 12 (19.4%) had their choice based on the internet and other resources. Maheshwari D et al. 2015 observed that there is a high association between the selection of general anaesthesia compared with regional anaesthesia. Preoperative anxiety was seen in 72.7% of patients in patients selecting GA (97.18%, n = 71/154) as compared to those selecting RA (51.81%, n = 83/154) for elective CS. [15] Only 61 patients (35.9%) had consented for the CS.

Complications of surgery and anaesthesia during cesarean section will inevitably be decreased when multidisciplinary team involving obstetricians, midwives and anaesthetists and early involvement of senior staff for high-risk cases are followed. Also, following the ASA Task Force on Obstetric Anaesthesia guidelines to ensure a standard care for obstetric patients is highly valuable. [16,17] in the study 51 patients (30.0%) experienced pain, 43 patients (25.3%) had nausea, 27 patients (15.9%) complained of vomiting, 9 patients (5.3%) had headache, 3 patients (1.8%) experienced DVT, and 2 patients (1.2%) had urine retentions. Seventy-seven patients (45.3%) think that the complications were a direct effect of the anaesthesia, while 51 patients (30.0%) think, the complications are permanent. Furthermore, the urgency of the procedure did not seem to increase the risk of complications. It was found that the higher the education level, the more likely women would think that anaesthesia is related to complications ($p < 0.0001$), or the complications would be permanent ($p < 0.0001$). Only 37 (21.8%) required a blood transfusion.

Sixty-two patients (36.5%) never breastfed their infants after the procedure. Fifty patients (29.4%) started breastfeeding within the first 24 hours of life, and 58 patients (34.1%) started breastfeeding their infants after the 1st day of life. Hemanth Kumar V et al. 2014 found that the women who fed their babies within 4 hours of delivery were 86.9%. [6] Delivery by emergency cesarean section might affect breastfeeding. A percentage of 41 % difficulty in breastfeeding was demonstrated by Amy J. Hobbs et al. [18]

Conclusion

Maternal and fetal safety are a priority. During cesarean section, any efforts to increase maternal and fetal safety are highly essential. Utilization of general anaesthesia as a technique for cesarean section is high among parturients while dissatisfaction about anaesthesia is still high. Improving safety and care for mothers and babies by following the Confidential Enquiry into Maternal and Child Health reports and the Update Practice guidelines for obstetric anaesthesia. Implementation of anaesthesia clinic for patients who are booked for elective cesarean section is recommended. Modes of birth delivery and modalities of anaesthesia for cesarean section should be included in

the antenatal program to increase patients' awareness and enhance in decreasing anxiety when an emergency cesarean section indicated.

References:

- [1]. Souza JP, Gülmezoglu A, Lumbiganon P, Laopaiboon M, Carroli G, Fawole B, et al. Cesarean section without medical indications is associated with an increased risk of adverse short-term maternal outcomes: the 2004-2008 WHO Global Survey on Maternal and Perinatal Health. *BMC Med.* 2010 Nov;10;8:71.
- [2]. Mylonas I, Friese K. Indications for and Risks of Elective Cesarean Section. *DtschArztebl Int.* 2015 Jul; 112(29-30): 489-495.
- [3]. Lumbiganon P, Laopaiboon M, Gülmezoglu AM, Souza JP, Taneepanichskul S, Ruyan P, et al. Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health 2007-08. *Lancet.* 2010 Feb 6;375(9713):490-9.
- [4]. Villar J, Valladares E, Wojdyla D, Zavaleta N, Carroli G, Velazco A, et al. Cesarean delivery rates and pregnancy outcomes: the 2005 WHO global survey on maternal and perinatal health in Latin America. *Lancet.* 2006 Jun 3;367(9525):1819-29.
- [5]. Dharmalingam TK, Ahmad Zainuddin NA. Survey on maternal satisfaction in receiving spinal anaesthesia for caesarean section. *Malays J Med Sci.* 2013 May; 20(3): 51-54.
- [6]. Hemanth Kumar V, Jahagirdar SM, Athiraman UK, Sripriya R, Parthasarathy S, Ravishankar M. Study of patient satisfaction and self-expressed problems after emergency caesarean delivery under subarachnoid block. *Indian J Anaesth.* 2014 Mar;58(2):149-53.
- [7]. Porter M, van Teijlingen E, Chi Ying Yip L, Bhattacharya S. Satisfaction with Cesarean Section: Qualitative Analysis of Open-Ended Questions in a Large Postal Survey. *Birth.* 2007 Jun;34(2):148-54.
- [8]. Mark Rollins, Jennifer Lucero. Overview of anesthetic considerations for Cesarean delivery. *Br Med Bull* (2012) 101 (1): 105-125.
- [9]. Rawlinson E, Mincon A. Pulmonary aspiration. *Anaesth Intensive Care,* 2007;8:365-7.
- [10]. Russell R. Failed intubation in obstetrics: a self-fulfilling prophecy, *Int J ObstetAnesth,* 2007;16(1):1-3.
- [11]. Confidential Enquiry into Maternal and Child Health. Why mothers die: Report on confidential enquiries into maternal deaths in the United Kingdom 2000 – 2002. RCOG Press, London 2004

- [12]. Bowring J, Fraser N, Vause S, Heazell AE. Is regional anaesthesia better than general anaesthesia for caesarean section? *J ObstetGynaecol*. 2006 Jul;26(5):433-4.
- [13]. Fung, D, Cohen, MM Measuring patient satisfaction with anesthesia care: A review of current methodology. *AnesthAnalg*. (1998). 87 1089–98.
- [14]. Sarah F. Barnett,Ravi K. Alagar,Michael P. W. Grocott,John R. Dick,SuneethaRamaniMoonesinghe. Patient-Satisfaction Measures in Anesthesia: Qualitative Systematic Review. *Anesthesiology* 08 2013, Vol.119, 452-478.
- [15]. Darshana Maheshwari, Samina Ismail. Preoperative anxiety in patients selecting either general or regional anesthesia for elective cesarean section. *J AnaesthesiolClinPharmacol*. 2015 Apr-Jun; 31(2): 196–200.
- [16]. American Society of Anesthesiologists Task Force on Obstetric Anesthesia. Practice guidelines for obstetric anesthesia: an updated report by the American Society of Anesthesiologists Task Force on Obstetric Anesthesia. *Anesthesiology*. 2007;106:843–63.
- [17]. Ashok Jadon. Complications of regional and general anaesthesia in obstetric practice. *Indian J Anaesth*. 2010 Sep-Oct; 54(5): 415–420.
- [18]. Amy J. Hobbs, Cynthia A. Mannion, Sheila W. McDonald, Meredith Brockway, Suzanne C. Tough. The impact of caesarean section on breastfeeding initiation, duration and difficulties in the first four months postpartum. *BMC Pregnancy Childbirth*. 2016; 16: 90.

10/8/2022