DOI: https://doi.org/10.70749/ijbr.v3i1.566



# INDUS JOURNAL OF BIOSCIENCE RESEARCH

https://induspublishers.com/IJBR ISSN: 2960-2793/ 2960-2807







Assessing Maternal Satisfaction and Neonatal outcomes in Patients Scheduled for Elective Caesarean Section under Spinal Anaesthesia at Shah Medical Center Swat

Sami Ullah Khan<sup>1</sup>, Chanda Naseem<sup>1</sup>, Muhammad Tayyeb<sup>1</sup>, Israr Hussain<sup>2</sup>, Abdul Aziz<sup>1</sup>, Omama Shahid<sup>1</sup>

### ARTICLE INFO

### **Keywords**

Maternal, Neonatal, Outcomes, Satisfaction, Spinal Anesthesia, Caesarean Section.

**Corresponding Author:** Israr Hussain, Lecturer, Institute of Health Sciences, Khyber Medical University, Hazara, KP, Pakistan. Email: israrswat96@gmail.com

### **Declaration**

Author's Contributions: All authors equally contributed to the study and approved the final manuscript.

**Conflict of Interest:** No conflict of interest. **Funding:** No funding received by the authors.

#### **Article History**

Received: 12-11-2024 Revised: 09-01-2025 Accepted: 22-01-2025

### ABSTRACT

Introduction: Maternal satisfaction and baby outcomes are key indications of spinal anesthesia cesarean section quality. This study examined mother satisfaction and neonatal outcomes in elective cesarean sections at Shah Medical Center, Swat. Methodology: Patients scheduled for elective spinal anesthesia cesarean sections were studied crosssectionally. A standardized questionnaire examined maternal satisfaction with pain management, preoperative information, anesthetic team support, and overall experience. Neonatal outcomes were assessed by APGAR ratings at 1, 5, and 7 minutes. Statisticians examined relationships between satisfaction, demographics, and newborn outcomes. **Results:** The study included 267 individuals with a mean mother age of  $29.6 \pm 5.3$  years and a mean gestational age of  $38.4 \pm 1.2$  weeks. The majority of participants were multigravida (66.7%), housewives (83.5%), and belonged to the intermediate socioeconomic category (52.4%). Neonates primarily exhibited normal APGAR scores, with 78.7% at 1 minute, 91.8% at 5 minutes, and 96.3% at 7 minutes. Elevated mother satisfaction (53.9%) correlated with markedly improved infant APGAR scores at all intervals (p < 0.001). Effective pain treatment (OR: 4.5, p < 0.001), preoperative information (OR: 2.3, p = 0.002), and a supportive anesthesia team (OR: 3.1, p < 0.001) were significant predictors of satisfaction. Gestational age (p < 0.001), parity (p = 0.031), and socioeconomic level (p = 0.015) were significant determinants of satisfaction. Conclusion: Effective pain management, preoperative education, and supportive anesthesia care greatly increased maternal satisfaction with spinal anesthesia during cesarean sections. High satisfaction was linked to better newborn APGAR scores and outcomes.

### INTRODUCTION

A key factor influencing the quality of care in a hospital is satisfaction with service provision. The incidence of caesarian sections (CS) rose, as seen by its representation of 18.5 million out of 213 million global deliveries. The prevalence of CS has increased thrice in the last twenty years.(1). The incidence of cesarean sections in Eritrea is increasing. Orotta Maternity Hospital (OMH) recorded a cesarean section rate of 13.3%, whilst Sembel Hospital reported a rate of 35.3%. The preference for spinal anaesthesia over general anaesthesia for cesarean sections is attributed to several factors: maternal consciousness, less fetal depression, reduced drug dosage, low failure rate, early onset, and procedural simplicity. Moreover, infants born to mothers who had regional anaesthesia during their cesarean section demonstrated enhanced neonatal outcomes relative to those whose mothers received general anaesthesia.(2). Since 2001, there has been a rising prevalence of caesarean sections conducted under spinal anesthesia; nonetheless, certain countries have reported high rates of general anaesthesia for these procedures. (3,4). Similarly, spinal anaesthesia (SA) for cesarean sections has become the preferred and standard technique among Eritrean anaesthetists. Anaesthesia is administered by nurse anaesthetists in Eritrea due to the absence of anesthesiologists. As the incidence of CS increases, the demand for SA has also grown. Thus, ensuring the quality of obstetric anesthesia is a critical issue that the anesthesiologist must prioritize. Although spinal anesthesia is preferred by the majority of anaesthetists, it was crucial to evaluate the level of understanding among patients.(5,6). Assessing maternal satisfaction with spinal anesthesia during cesarean sections is a vital component in evaluating the quality of anesthetic care.



<sup>&</sup>lt;sup>1</sup>Faculty of Allied Health Sciences, Superior University, Lahore, Punjab, Pakistan.

<sup>&</sup>lt;sup>2</sup>Institute of Health Sciences, Khyber Medical University, Hazara, KP, Pakistan.

Identifying factors that improve or detract from maternal satisfaction will facilitate the development of protocols for obstetric anesthesia services.

The associated risks and repercussions for both mothers and neonates are significant when contrasted with the safer alternative of SA. The use of general anaesthesia for cesarean delivery increases the likelihood of maternal complications, like as aspiration, airway management challenges, and prolonged recovery time. These factors result in extended hospital stays and elevated healthcare expenses.(1,7,8). Furthermore, the postoperative decline in hematocrit levels and the incidence of mothers requiring transfusions were significantly higher in those who underwent general anesthesia compared to those who got spinal anesthesia. Numerous meta-analyses demonstrate that general anaesthesia (GA) is associated with lower Apgar scores, increased neonatal depression, more uteroplacental drug transfer, and reduced umbilical venous pH relative to neuraxial anesthesia.(9). Thus, the American Society of Anesthesiologists Practice Guidelines for Obstetric Anaesthesia advocate for the preference of neuraxial techniques over general anaesthesia in most caesarean sections. Neuraxial treatments are advised as the optimal method for most cesarean deliveries instead of general anaesthesia.(10).

Afolabi and Lesi's 2012 meta-analysis revealed no significant differences in infant Apgar scores of 6 or less, scores of 4 or less at 5 minutes, or the requirement for neonatal resuscitation between general anaesthesia and neuraxial anesthesia after cesarean delivery.(11,12). Recently, Skoog et al. presented a meta-analysis indicating that gestational age was not associated with negative infant outcomes in cesarean deliveries. Furthermore, neuraxial anesthesia carries a significant risk of maternal hypotension, potentially detrimental to both the mother and the fetus. While spinal anesthesia is generally considered preferable to general anaesthesia for cesarean sections, this matter remains debatable. Research studies regarding maternal satisfaction with spinal anesthesia for cesarean sections revealed inconsistencies. Some industrialized nations reported high satisfaction levels.

This study sought to assess maternal satisfaction and newborn outcomes in patients following elective cesarean delivery with spinal anesthesia.

# MATERIALS AND METHOD

A cross-sectional study was conducted at Shah Medical Centre in Swot during six months. The sample consisted of 267 participants, determined by an anticipated maternal satisfaction rate of 77.6%, employing a convenience (non-probability) sampling technique. The inclusion criteria comprised women aged 18 to 45 years who had undergone a caesarean section with spinal anesthesia and were prepared to participate, having

provided informed consent. Women requiring emergency caesarean sections with general anaesthesia or those with significant medical or psychiatric conditions that impede consent or survey completion were excluded.

The study adhered to the ethical principles outlined in the Declaration of Helsinki. All participants granted informed consent, and confidentiality and anonymity were maintained. Ethical approval was secured from the Institutional Review Board (IRB) of Shah Medical Centre, Swot.

**Participant** Recruitment and Baseline Data Collection: The research commenced with the enrollment of participants from the group of mothers who underwent caesarean sections with spinal anesthesia at the partnering hospital(s). Qualified participants were located through medical records and approached for consent. Inclusion criteria were defined, and informed consent was obtained from every participant. Demographic data, including age, parity, socioeconomic status, alongside clinical information such as the indication for the cesarean section, duration of surgery, and any intraoperative or postoperative complications, were recorded.

Survey Instrument **Development** and Administration: A standardized questionnaire was developed to comprehensively assess maternal satisfaction across multiple domains, including pain relief, overall comfort, contact with healthcare providers, and perceived quality of anesthetic care. The questionnaire was validated using a pilot test to determine its reliability and clarity. Primary data collection occurred at three pivotal intervals: immediately postoperatively, 24 hours post-surgery, and at discharge. Follow-up surveys were conducted one week and one month post-discharge to evaluate longterm satisfaction. The survey was administered either inperson interviews or electronically, depending on the participant's preference, thereby ensuring privacy and anonymity.

Data Collection and Quality Assurance: Qualified research professionals conducted the surveys and gathered the data. They ensured that all replies were meticulously recorded and that participants fully understood the questions. The data was entered into a secure database for analysis. Comprehensive quality evaluations were conducted to identify and rectify any inconsistencies or missing information. The research meticulously gathered and analyzed data to clarify maternal satisfaction following cesarean sections with spinal anesthesia, thereby informing improvements in clinical practice and patient care.

**Assessing Newborn Outcomes:** Newborn outcomes after spinal anesthesia were evaluated using critical metrics to ensure the infant's health and well-being.

Newborn weight, measured in grams, and size, measured in centimeters, functioned as first indicators of growth and development. Head circumference, measured in centimeters, was an essential metric for evaluating brain growth potential neurological and identifying abnormalities. The requirement for admission to the Neonatal Intensive Care Unit (NICU) highlighted critical postnatal complications demanding specialized attention. The rates of neonatal mortality were assessed to ascertain the overall safety and effectiveness of spinal anesthesia during parturition. Furthermore, APGAR scores recorded at 1, 5, and 7 minutes after birth provided a swift and reliable assessment of the neonate's physiological condition, including heart rate, respiratory effort, muscle tone, reflex response, and skin coloration. These scores enabled the evaluation of the pressing need for medical intervention and ongoing surveillance.

### **Data Analysis**

The analysis plan started with descriptive statistics to summarize the demographic and clinical characteristics of the study population. Comparative analyses employed t-tests, chi-square tests, to identify differences in satisfaction ratings among distinct subgroups. Temporal fluctuations in satisfaction were assessed utilizing repeated measures ANOVA. Multivariate regression analyses were employed to identify independent predictors of maternal satisfaction, encompassing characteristics like as age, parity, surgical duration, complications, and specific care components. Results were presented as adjusted odds ratios or regression coefficients with 95% confidence intervals, clarifying the key factors influencing maternal satisfaction after caesarean sections with spinal anesthesia.

# **RESULTS**

The study involved 267 individuals, with an average maternal age of 29.6  $\pm$  5.3 years, ranging from 20 to 42 years, and an average gestational age of  $38.4 \pm 1.2$ weeks, ranging from 37 to 41 weeks. The average BMI was  $28.7 \pm 4.1 \text{ kg/m}^2$ , with a range of 20.5 to 35.0. Among the individuals, 33.3% were primigravida, whereas 66.7% were multigravida. Regarding educational achievement, 20.2% were illiterate, 28.5% had primary education, 29.6% owned secondary education, and 21.7% attained higher education. The predominant proportion of participants (83.5%) were homemakers, whilst 16.5% were in employment. The socioeconomic distribution comprised 28.8% low, 52.4% intermediate, and 18.7% high levels. Neonatal outcomes demonstrated a nearly similar sex distribution, with 51.7% male and 48.3% female newborns.

**Table 1**Demographic Characteristics among participants

Variable	Mean ± SD / N (%)	Range
Maternal Age (years)	$29.6 \pm 5.3$	20 - 42

Gestational Age (weeks)	$38.4 \pm 1.2$	37 - 41
BMI (kg/m²)	$28.7 \pm 4.1$	20.5 - 35.0
Parity		
- Primigravida	89 (33.3%)	
- Multigravida	178 (66.7%)	
Educational Status		
- Illiterate	54 (20.2%)	
- Primary	76 (28.5%)	
- Secondary	79 (29.6%)	
- Higher Education	58 (21.7%)	
Occupation		
- Housewife	223 (83.5%)	
- Working	44 (16.5%)	
Socioeconomic Status		
- Low	77 (28.8%)	
- Middle	140 (52.4%)	
- High	50 (18.7%)	
Neonatal Sex		
- Male	138 (51.7%)	
- Female	129 (48.3%)	

The APGAR scores exhibited progressive improvement over time. At one minute, 78.7% of neonates demonstrated normal scores (8-10), 16.9% exhibited intermediate levels (6–7), and 4.5% showed poor scores (3–5). After 5 minutes, the proportion of babies displaying normal scores increased to 91.8%, while intermediate scores decreased to 6.7% and low scores to 1.5%. At 7 minutes, 96.3% of neonates achieved normal scores, while 3.0% had moderate scores and 0.7% remained the low category, indicating predominantly positive trend in neonatal adaptation post-delivery.

**Table 2** *Neonatal outcome at different intervals* 

APGAR Score	1 Minute (N, %)	5 Minutes (N, %)	7 Minutes (N, %)
3–5 (Low)	12 (4.5%)	4 (1.5%)	2 (0.7%)
6–7 (Moderate)	45 (16.9%)	18 (6.7%)	8 (3.0%)
8–10 (Normal)	210 (78.7%)	245 (91.8%)	257 (96.3%)

The survey results revealed a considerable level of satisfaction with spinal anesthesia among participants. Regarding overall satisfaction, 80.9% of respondents either agreed (52.4%) or strongly agreed (28.5%) that they were satisfied with the spinal anesthesia, while just 6.4% indicated disagreement or strong disagreement. Similarly, 84.2% agreed or strongly agreed that the anesthetic effectively relieved their pain, while only 5.2% expressed dissatisfaction. Regarding preoperative information, 75.3% expressed feeling sufficiently informed about the procedure, whilst 9.7% voiced dissatisfaction. The support provided by the anesthetic team met the expectations of 88.4% of participants, with

minimal dissatisfaction at 4.1%. Ultimately, 81.3% had a positive overall experience, whilst only 6.7% expressed dissatisfaction. These findings highlight the effectiveness of spinal anesthesia and the necessity for thorough communication and support during the treatment process.

Table 3 Maternal satisfaction

Maternat satisfaction					
Statement	SD (N, %)	D (N, %)	N (N, %)	A (N, %)	SA (N, %)
1. I am satisfied with the spinal anaesthesia I received during my caesarean section.	5 (1.9%)	12 (4.5%)	34 (12.7%)	140 (52.4%)	76 (28.5%)
2. The spinal anaesthesia effectively managed my pain during the caesarean section.	4 (1.5%)	10 (3.7%)	28 (10.5%)	145 (54.3%)	80 (29.9%)
3. I felt well- informed about the spinal anaesthesia procedure before my caesarean section.	8 (3.0%)	18 (6.7%)	40 (15.0%)	130 (48.7%)	71 (26.6%)
4. The support from the anaesthesia team during my caesarean section met my expectations.	3 (1.1%)	8 (3.0%)	20 (7.5%)	150 (56.2%)	86 (32.2%)
5. My overall experience with spinal anaesthesia during the caesarean section was positive.	4 (1.5%)	14 (5.2%)	32 (12.0%)	138 (51.7%)	79 (29.6%)

The participants indicated increased satisfaction about several aspects of spinal anesthesia throughout their caesarean deliveries. Regarding pain management, 83.2% either concurred (56.2%) or strongly concurred (27.0%) that the spinal anesthesia met their expectations, while just 7.5% expressed dissatisfaction. Similarly, 82.0% reported comfort throughout the surgery, while 6.7% raised objections or extreme dissatisfaction. Regarding preoperative knowledge, 75.7% participants agreed or strongly agreed that the information on spinal anesthesia was adequate, whilst 11.2% expressed dissatisfaction. The anesthetic team's support and attentiveness garnered a positive assessment, with 85.8% of respondents agreeing or strongly agreeing, while merely 4.8% expressed dissatisfaction. The results underscore the effectiveness of spinal anesthesia and the quality of patient care provided during the surgeries.

Table 4 Post Operative Factors

Statement	SD (N, %)	D (N, %)	N (N, %)	A (N, %)	SA (N, %)
1. The level of pain management provided by the spinal anaesthesia met my expectations.	5 (1.9%)	15 (5.6%)	25 (9.4%)	150 (56.2%)	72 (27.0%)
2. I felt comfortable throughout the surgical procedure due to the spinal anaesthesia.	6	12	30	145	74
	(2.2%)	(4.5%)	(11.2%)	(54.3%)	(27.7%)
3. The information provided about spinal anaesthesia before the procedure was adequate.	10	20	35	130	72
	(3.7%)	(7.5%)	(13.1%)	(48.7%)	(27.0%)
4. The anaesthesia team was supportive and attentive during my caesarean section.	3	10	25	147	82
	(1.1%)	(3.7%)	(9.4%)	(55.1%)	(30.7%)

The regression analysis revealed significant factors influencing maternal satisfaction with spinal anesthesia. Gestational age (B = 0.23,  $\beta$  = 0.21, p < 0.001) was a significant positive predictor, indicating that greater gestational age was associated with better pleasure. Socioeconomic status (B = 0.152,  $\beta$  = 0.174, p = 0.015) demonstrates a positive association, with persons from higher socioeconomic strata reporting increased enjoyment. Parity (primigravida) had a significant negative connection (B = -0.21,  $\beta = -0.143$ , p = 0.031), suggesting that primigravid women reported poorer satisfaction compared to multigravid women. Maternal age (p = 0.52) and BMI (p = 0.08) were not statistically significant factors. The results highlight the importance of clinical and demographic factors in influencing maternal satisfaction with spinal anesthesia.

Table 5 Associated factors

Variable	Unstandardized Coefficients (B)	Standard Error (SE)	Standardized Coefficients (β)	t-value	p-value
Maternal Age (years)	0.015	0.023	0.043	0.65	0.52
BMI (kg/m²)	-0.032	0.018	-0.092	-1.78	0.08
Gestational Age (weeks)	0.23	0.058	0.21	3.97	<0.001**
Parity (Primigravida)	-0.21	0.097	-0.143	-2.16	0.031*
Socioeconomic Status	0.152	0.062	0.174	2.45	0.015*

The analysis of maternal satisfaction levels and their association with APGAR scores demonstrated a substantial correlation (p < 0.001). Mothers with low

satisfaction (16.9%) displayed reduced APGAR scores at 1 minute (6.8  $\pm$  1.0), 5 minutes (8.2  $\pm$  0.8), and 7 minutes (9.0  $\pm$  0.6). Individuals experiencing moderate pleasure (29.2%) demonstrated increased APGAR scores at 1 minute  $(7.5 \pm 0.8)$ , 5 minutes  $(8.8 \pm 0.5)$ , and 7 minutes  $(9.3 \pm 0.4)$ . Mothers reporting great satisfaction (53.9%) demonstrated the highest APGAR scores at 1 minute (8.2  $\pm$  0.6), 5 minutes (9.1  $\pm$  0.3), and 7 minutes (9.6  $\pm$  0.2). The data demonstrate that heightened maternal satisfaction is associated with enhanced neonatal outcomes.

Table 6 Association between Maternal Satisfaction and Neonatal Outcomes

Maternal Satisfaction Level	N (%)	APGAR Score at 1 Minute (Mean ± SD)	APGAR Score at 5 Minutes (Mean ± SD)	APGAR Score at 7 Minutes (Mean ± SD)	p-value
Low Satisfaction	45 (16.9%)	6.8 ± 1.0	8.2 ± 0.8	9.0 ± 0.6	<0.001**
Moderate Satisfaction	78 (29.2%)	7.5 ± 0.8	8.8 ± 0.5	9.3 ± 0.4	
High Satisfaction	144 (53.9%)	8.2 ± 0.6	9.1 ± 0.3	9.6 ± 0.2	

The logistic regression analysis identified several important determinants of maternal satisfaction with spinal anesthesia. Effective pain management shown the highest correlation (OR = 4.5, 95% CI: 2.85–7.10, p < 0.001), followed by a supportive anesthesia team (OR = 3.1, 95% CI: 1.85-5.20, p < 0.001) and comfort during surgery (OR = 2.8, 95% CI: 1.70-4.60, p < 0.001). Thorough preoperative information significantly increased the likelihood of satisfaction (OR = 2.3, 95%CI: 1.45-3.65, p = 0.002). The socioeconomic status had a minor but significant effect (OR = 1.8, 95% CI: 1.05– 3.10, p = 0.032). These findings highlight the critical significance of effective communication, patient comfort, and pain management in enhancing maternal satisfaction.

Table 7 Predictors of Maternal Satisfaction Using Logistic Regression

Variable	Odds Ratio (OR)	95% CI	p-value
Effective Pain Management	4.5	2.85 - 7.10	<0.001**
Preoperative Information	2.3	1.45 - 3.65	0.002**
Supportive Anesthesia Team	3.1	1.85 - 5.20	<0.001**
Comfort During Surgery	2.8	1.70 - 4.60	<0.001**
Socioeconomic Status	1.8	1.05 - 3.10	0.032*

## **DISCUSSION**

The current study involved a total of parturients, demonstrating an overall mother satisfaction rate of 82.3% (95% CI = 78.3-85.9%) and a readiness to use spinal anesthesia for future procedures of 78.6% (95%) CI = 81.5 - 88.5%). Our results corresponded with a study

by Sadaghi M and colleagues regarding maternal satisfaction with spinal anesthesia for elective cesarean sections, revealing that 83.8% of parturients reported satisfaction(13–15). Additionally, 78.5% of parturients indicated a preference for spinal anesthesia in subsequent surgical interventions. A study by Rashad Siddigi and Syed Asadullah revealed that the overall satisfaction rate among parturients who received spinal anaesthesia during cesarean delivery was 81.4%, whereas 53.66% showed a preference for spinal anaesthesia in subsequent surgeries. A research by Morris Senghor and Everlyne Nyanchera on maternal satisfaction with spinal anesthesia for cesarean delivery indicated an overall satisfaction percentage of 85%. However, other studies demonstrated that maternal satisfaction ratings surpassed those recorded in this research (17,18). A 2013 study by Dharmalingam and Zainuddin on maternal satisfaction following spinal anesthesia revealed an overall satisfaction rate of 97%, with 88.5% expressing a willingness to undertake similar procedures in the future. The mismatch may be ascribed to the use of the 2-point Likert scale (satisfaction or dissatisfaction). A distinct randomized controlled trial demonstrated that overall parturient satisfaction was  $89.48 \pm 9.31\%$ with no statistically difference observed between spinal and epidural anesthesia. This discrepancy may be ascribed to the control of confounding variables and therapies for side effects in their study. The current study involved a total of parturients, demonstrating an overall mother satisfaction rate of 82.3% (95% CI = 78.3-85.9%) and a readiness to use spinal anesthesia for future procedures of 78.6% (95% CI = 81.5-88.5%). Our results corresponded with a study by Sadaghi M and colleagues regarding maternal satisfaction with spinal anesthesia for elective cesarean sections, revealing that 83.8% of parturients reported satisfaction(13–15). Additionally, 78.5% of parturients indicated a preference for spinal anesthesia in subsequent surgical interventions. A study by Rashad Siddiqi and Syed Asadullah revealed that the overall satisfaction rate among parturients who received spinal anaesthesia during cesarean delivery was 81.4%, whereas 53.66% showed a preference for spinal anaesthesia in subsequent surgeries. A research by Morris Senghor and Everlyne Nyanchera on maternal satisfaction with spinal anesthesia for cesarean delivery indicated an overall satisfaction percentage of 85%. However, other studies demonstrated that maternal satisfaction ratings surpassed those recorded in this research (17, 18). A 2013 study by Dharmalingam and Zainuddin on maternal satisfaction following spinal anesthesia revealed an overall satisfaction rate of 97%, with 88.5% expressing a willingness to undertake similar procedures in the future. The mismatch may be ascribed to the use of the 2-point Likert scale (satisfaction or dissatisfaction). A distinct randomized controlled trial

demonstrated that overall parturient satisfaction was  $89.48 \pm 9.31\%$ , with no statistically significant difference observed between spinal and epidural anesthesia. This discrepancy may be ascribed to the control of confounding variables and therapies for side effects in their study.

This study revealed that satisfaction with preanesthesia information about the surgery was 29.1%, which is quite low compared to Dharmalingam and Ahmad Zainuddin (98%), Shisanya and Morema (36%), and Makoko et al. (67.1%). Client dissatisfaction may stem from the predominance of emergency caesarean deliveries (84.1%), during which parturients are often in labor discomfort, impairing their capacity to concentrate on preoperative information. This is supported by Shisanya et al., who shown that labor pain negatively impacts parturients' satisfaction with preanesthesia information (13,14).

Educational attainment is recognized as a determinant of maternal satisfaction among the demographic variables. A study by Muneer et al. revealed that maternal satisfaction after spinal anesthesia is inversely connected to higher educational levels. This link has been clarified by highly educated persons who often articulate their feelings, engage in information-seeking behavior, and exhibit awareness of potential concerns.(13,14).

Research evaluating patient satisfaction post-spinal anaesthesia indicated that a failed block (AOR = 2.28, 95% CI = 0.09–0.87) was a predictor of maternal satisfaction, consistent with the results of the present

# REFERENCE

- 1. Sung, T., Jee, Y. S., You, H., & Cho, C. (2021). Comparison of the effect of general and spinal anesthesia for elective cesarean section on maternal and fetal outcomes: A retrospective cohort study. *Anesthesia and Pain Medicine*, 16(1), 49-55. https://doi.org/10.17085/apm.20072
- 2. Al-Husban, N., Elmuhtaseb, M. S., Husban, H., Nabhan, M., Abuhalaweh, H., Yousef, M., Alkhatib, Y. M., Aloran, B., Elyyan, Y., & Alghazo, A. (2021). Anesthesia for cesarean section: Retrospective comparative study. International Journal of Women's Health, 13, 141-152. https://doi.org/10.2147/ijwh.s292434
- 3. Väänänen, A. J., Kainu, J. P., Eriksson, H., Lång, M., Tekay, A., & Sarvela, J. (2017). Does obesity complicate regional anesthesia and result in longer decision to delivery time for emergency cesarean section? *Acta*

study (AOR = 7.17, 95% CI = 3.33-15.43, p < 0.001). Multiple studies have demonstrated that needle prick pain serves as an independent predictor of maternal satisfaction after spinal anesthesia. In the current study, whereas needle prick discomfort was reported more frequently (191 occasions, or 49.9%), it does not significantly correspond with maternal satisfaction. Our findings corresponded with another study suggesting that needle prick discomfort was not significantly associated with maternal satisfaction levels.(15–17). Research has demonstrated that postoperative nausea and vomiting is an independent risk factor affecting satisfaction, which contradicts the conclusions of the present study. This discrepancy may be ascribed to the current study's inclusion of 162 parturients (42.3%) who received prophylactic antiemetics, alongside diminished use of intrathecal opioids. A study by Ida et al. examining factors affecting anaesthetic satisfaction after caesarean delivery under neuraxial anaesthesia revealed that the use of intraoperative antiemetics (AOR = 0.71; 95% CI = 0.53-0.94) was positively associated with patient satisfaction, consistent with the results of the present study (AOR = 0.35, 95% CI = 0.19 - 0.66, p value = 0.001).(18,19).

### **CONCLUSION**

Maternal satisfaction with spinal anesthesia during elective cesarean sections was affected by efficient pain management, preoperative information, and support from the anesthesia team. Enhanced satisfaction levels correlated with superior newborn outcomes and favorable overall experiences.

- *Anaesthesiologica Scandinavica*, *61*(6), 609-618. <a href="https://doi.org/10.1111/aas.12891">https://doi.org/10.1111/aas.12891</a>
- 4. Smaoui, M., Ayedi, M., Derbel, A., Barkia, R., Akrout, S., & Kolsi, K. (2012). Factors of patient dissatisfaction after spinal anesthesia for cesarean section. *European Journal of Anaesthesiology*, 29, 164. <a href="https://doi.org/10.1097/00003643-201206001-00540">https://doi.org/10.1097/00003643-201206001-00540</a>
- 5. Sadeghi, M., Bayat, R., Azimaraghi, O., & Saliminia, A. (2017). Maternal satisfaction of spinal anesthesia for elective cesarean section in an academic hospital. *Annals of Anesthesiology and Critical Care*, 2(2). https://doi.org/10.5812/aacc.62239
- 6. Bogra, J., Arora, N., & Srivastava, P. (2005). Synergistic effect of intrathecal fentanyl and bupivacaine in spinal anesthesia for cesarean section. *BMC*Anesthesiology, 5(1). <a href="https://doi.org/10.1186/14">https://doi.org/10.1186/14</a>
  71-2253-5-5



- 7. Kearns, R. J., Shaw, M., Gromski, P. S., Iliodromiti, S., Pell, J. P., Lawlor, D. A., & Nelson, S. M. (2021). Neonatal and early childhood outcomes following maternal anesthesia for cesarean section: A population-based cohort study. *Regional Anesthesia & Pain Medicine*, 46(6), 482-489. https://doi.org/10.1136/rapm-2020-102441
- 8. Yun, S. H., Song, S. W., & Park, J. C. (2017). Beneficial effects of the addition of intrathecal fentanyl to bupivacaine for spinal anesthesia in cesarean section. *Anesthesia and Pain Medicine*, 12(3), 233-239. <a href="https://doi.org/10.17085/apm.2017.12.3.23">https://doi.org/10.17085/apm.2017.12.3.23</a>
- 9. Sung, T., Jee, Y. S., You, H., & Cho, C. (2021). Comparison of the effect of general and spinal anesthesia for elective cesarean section on maternal and fetal outcomes: A retrospective cohort study. *Anesthesia and Pain Medicine*, 16(1), 49-55. https://doi.org/10.17085/apm.20072
- Demilew, B. C., 10. Tesfaw, A., Tefera, A., Getnet, B., Essa, K., & Aemro, A. (2021). Incidence and associated factors of postdural puncture headache for parturients underwent cesarean section with spinal anesthesia at Debre Tabor General Hospital, Ethiopia: 2019. SAGE Open Medicine, 9. https://doi.org/10.1177/205031212 11051926
- 11. Adegboye, M. B., Kolawole, I. K., Adegboye, K. A., Oyewopo, C. I., & Oladosu, O. O. (2022). MATERNAL SATISFACTION TOWARDS SPINAL ANAESTHESIA FOR CAESAREAN SECTION. Egyptian Journal of Anaesthesia, 38(1), 236–241. <a href="https://doi.org/10.1080/11101849.2022.2069345">https://doi.org/10.1080/11101849.2022.2069345</a>
- 12. Adegboye, M. B., Kolawole, I. K., Adegboye, K. A., Oyewopo, C. I., & Oladosu, O. O. (2022). MATERNAL SATISFACTION TOWARDS SPINAL ANAESTHESIA FOR CAESAREAN SECTION. Egyptian Journal of Anaesthesia, 38(1), 236–241. https://doi.org/10.1080/11101849.2022.2069345
- 13. Saeed, A., Raana, T., Saeed, A. M., & Humayun, A. (2015). Effect of antenatal

- depression on maternal dietary intake and neonatal outcome: A prospective cohort. *Nutrition Journal*, *15*(1). <a href="https://doi.org/10.1186/s12937-016-0184-7">https://doi.org/10.1186/s12937-016-0184-7</a>
- 14. Saeed, A., Raana, T., Saeed, A. M., & Humayun, A. (2015). Effect of antenatal depression on maternal dietary intake and neonatal outcome: A prospective cohort. *Nutrition*Journal, 15(1). <a href="https://doi.org/10.1186/s12937-016-0184-7">https://doi.org/10.1186/s12937-016-0184-7</a>
- 15. Ibanez, G., Charles, M., Forhan, A., Magnin, G., Thiebaugeorges, O., Kaminski, M., & Saurel-Cubizolles, M. (2012). Depression and anxiety in women during pregnancy and neonatal outcome: Data from the EDEN mother—child cohort. *Early Human Development*, 88(8), 643-649. <a href="https://doi.org/10.1016/j.earlhumdev.2012.01.014">https://doi.org/10.1016/j.earlhumdev.2012.01.014</a>
- 16. Ibanez, G., Charles, M., Forhan, A., Magnin, G., Thiebaugeorges, O., Kaminski, M., & Saurel-Cubizolles, M. (2012). Depression and anxiety in women during pregnancy and neonatal outcome: Data from the EDEN mother—child cohort. *Early Human Development*, 88(8), 643-649. <a href="https://doi.org/10.1016/j.earlhumdev.2012.01.014">https://doi.org/10.1016/j.earlhumdev.2012.01.014</a>
- 17. Ibanez, G., Charles, M., Forhan, A., Magnin, G., Thiebaugeorges, O., Kaminski, M., & Saurel-Cubizolles, M. (2012). Depression and anxiety in women during pregnancy and neonatal outcome: Data from the EDEN mother—child cohort. *Early Human Development*, 88(8), 643-649. <a href="https://doi.org/10.1016/j.earlhumdev.2012.01.014">https://doi.org/10.1016/j.earlhumdev.2012.01.014</a>
- 18. Andersson, L. (2004). Neonatal Outcome following Maternal Antenatal Depression and Anxiety: A Population-based Study. *American Journal of Epidemiology*, 159(9), 872–881. <a href="https://doi.org/10.1093/aje/kwh122">https://doi.org/10.1093/aje/kwh122</a>
- 19. Andersson, L. (2004). Neonatal Outcome following Maternal Antenatal Depression and Anxiety: A Population-based Study. *American Journal of Epidemiology*, *159*(9), 872–881. https://doi.org/10.1093/aje/kwh122