INCIDENCE AND FACTORS FOR MATERNAL SATISFACTION AFTER CAESAREAN SECTION: A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: To evaluate the factors for perioperative patient satisfaction in parturient undergoing lower section cesarean section, with a view assess anesthesia quality.

Study Design: Cross sectional, analytical study.

Place and Duration of Study: Department of Anesthesiology and Gynecology & Obstetrics, Combined Military Hospital, Okara Cantt, from Jan to Apr 2019.

Methodology: A total of 400 parturient undergoing cesarean section were included in our study. No changes in preoperative preparation were done for our study. The patients were interviewed by anesthetist on the day of surgery and informed consent for anesthesia was taken. The patients were given a questionnaire to fill on discharge. Our outcomes were frequency of patient satisfaction and various factors affecting it. SPSS version 20 was used to analyze data. Mean ± SD was described for quantitative variables and frequency (percentage) for qualitative variables. Student t-test and chi square used to analyze significance. *p*-value ≤0.05 taken as significant.

Results: A total of 400 questionnaires were assessed in final analysis. The overall patient satisfaction was 382 (95.5%) with 4 (1%) showing dissatisfaction; whereas 14 (3.5%) didn't answer this question. The mean age of our participants was 28.38 years ± 4.56. 395 (98.8%) underwent LSCS under spinal anesthesia, whereas 5 (1.2) underwent LSCS under general anesthesia. There was no difference in patient satisfaction in regards to intra-operative concern alleviation, discomfort, previous number of LSCS, parturient age, choice of anesthesia; *p*-value >0.05. There was higher dissatisfaction in patients who experienced post-operative complaints, most notably pain; *p*=0.000. Patient satisfaction was higher in mothers who experienced joy on hearing their newborns cries; *p*=0.000

Conclusion: The overall patient satisfaction in our study was high and only few factors causing patient dissatisfaction which included postoperative complaints most notably pain.

Keywords: General anesthesia, Patient dissatisfaction, Patient satisfaction, Spinal anesthesia.

INTRODUCTION

Patient's satisfaction is a measure of quality of health care services being provided by the hospital[1]. If patients' perceptions and emotional requirements are not addressed, it may lead to peri-operative dissatisfaction. Human satisfaction level for various events in life is different for different people as it is a balance between how they perceive that event and to which extent their expectations are fulfilled. A study by Myles *et al* reported intra-operative awareness; severe nausea and vomiting and moderate to severe pain as a cause of peri-operative patient dis-satisfaction[2]. Due to improved patient safety, spinal anesthesia has become anesthesia of choice for lower segment cesarean section[2]. Hearing the news of operative delivery can put tremendous mental stress and triggers anxiety and indirectly affects their level of satisfaction under spinal anesthesia. Adding to this, knowledge of being awake under spinal anesthesia and listening to doctors' conversation and seeing male operating staff working in operating room with the gynecologist, sound of suction machine and cry of the baby at birth puts pregnant female patients under lot of stress and can jeopardize the skills and care of highly skillful anesthetists opting for regional anesthesia[3,4].

The common concerns of the female patients which make spinal anesthesia less popular amongst them may be unfamiliar environment of operation theatre for primi-gravida; fear of inability

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to move, postoperative backache; headache; weakness in the lower limbs and number of needle pricks in the back[5]. All the parturient presenting for cesarean section should be explained risks and benefits of general as well as regional anesthesia and an informed consent should be taken for choice of anesthesia[6]. Adequate counseling should be done in the preoperative anesthesia period and addressing the patients concerns[7]. In addition, the anesthesiologist must not force his decision to proceed with the spinal anesthesia[8]. Patient's satisfaction is expected to be low if patient perceives the anesthetist and operation room staff to be discourteous or non-comforting; despite being given best medical care. Few calm words by operating room nurse can do wonders in this situation and patients can be easily counseled provided they are satisfied that the basic principles of medical ethics will not be compromised and the doctor is guiding her in what is in the best interest of the patient[9]. Common maternal apprehensions regarding spinal anesthesia are fear of pain during surgery (49.3%) followed by fear of needle pricks (48.7%)[10]. Knowledge of the patient's demographic profile, education level and social and cultural background helps understanding patients' perceptions leading to patient centered care[11,12]. Educating and explaining the procedure improves the confidence level of the parturient and thereby maternal satisfaction[10].

In developing countries, most of the obstetric patients belong to poor or middle socioeconomic status and the preoperative preparation is being done by the obstetrician and most of the parturients' interaction with the anesthetist is on the day of surgery. In addition, the parturient presenting for emergency surgery have not met the anesthetist beforehand. The purpose of our study was to assess the frequency of patients' satisfaction and various factors responsible for patient satisfaction with a view to assess anesthesia quality and help improve peri-operative policy.

METHODOLOGY

After the approval of Hospital ethics Committee (IERB/Anes/2018/06); this cross-sectional analytical study was conducted at Departments of Anesthesiology and Department of Gynecology & Obstetrics, Combined Military Hospital, Okara Cantt for the duration of 4 months from 1st Jan to 30th Apr, 2019. WHO sample size calculator was used to calculate size of n=384 using results from our pilot study, with 48% full satisfactory perioperative experience. A total of 400 parturient presenting for lower segment cesarean section were included in our study by non-probability convenient sampling. Our patients presented for cesarean section as same-day admission with pre-operative preparation done by the obstetrician. This includes nothing per oral for at least 06 hours in elective cases; continuation of anti-hypertensive, asthma, anti-epileptic medication and omission of morning dose of hypoglycemic. Pre-anesthesia assessment by anesthetist was performed on day of surgery, counselling was done regarding pros and cons of spinal anesthesia and written informed consent is taken. No changes were made in preoperative assessment or preparation for our study. The patient data including age, history of previous surgeries were recorded on a pre-designed porforma. The patients were asked about any questions, fears or queries they had about the choice of anesthesia. The pre-operative questions were asked by a consultant anesthetist and consent for spinal anesthesia confirmed. Any patient refusing spinal anesthesia, were administered general anesthesia with endotracheal intubation. Patient with failed or ineffective spinal anesthesia were offered respinal anesthesia with lower dose local anesthetic or general anesthesia. Patient were asked their satisfaction with perioperative care and expe-rience with 10 multiple choice questions asked at the time of discharge from hospital. These included: if their fears about spinal anesthesia were allayed by pre-operative discussion with anesthetist, any specific perioperative complaints they had, if their complaints were adequately addressed by anesthetist intra-operatively, if they would themselves like to undergo further surgeries under spinal or general anesthesia or recommend other patients for spinal or general anesthesia and their

grading of their peri-operative experience. The subjective perceived patient satisfaction was taken as a two point scale as described by the patient on discharge; with answers as satisfaction or dissatisfaction. Subjective patient satisfaction was further subdivided into full satisfaction and satisfaction.

The data was analyzed using SPSS version 20. The descriptive value like age, number of previous surgery presented as mean ± SD. The qualitative variables presented as frequency and percentage. The effect of age, numbers of surgeries on patient satisfaction was also analyzed by chi-square. *p*-value of ≤0.05 was taken as significant.

RESULTS

A total of 400 parturient were included in our study. Thirty patients returned the porforma with more than 50% questions unanswered. They were excluded from the study and more patients were included to achieve our sample size. The mean age of our participants was 28.38 years ± 4.56. 395 (98.8%) underwent LSCS under spinal anesthesia, whereas 5 (1.2%) underwent LSCS under general anesthesia. The mean number of LSCS in patients who were satisfied was 1.26 ± 1.13 versus 1 ± 0.82 in the dissatisfied parturient; *p*-value 0.139. The correlation between patient satisfaction with age and previous history of lower segment cesarean section (LSCS) is tabulated as table-I.

The overall satisfaction was 382 (95.5%) with 4 (1%) showing dissatisfaction; whereas 14 (3.5%) didn't answer this question. The participant response regarding grade of satisfaction was: full satisfaction by 165 (41.3%), satisfactory by 217 (54.3%) and dissatisfaction by 4(1%) and 14 (3.5%) didn't answer this question. Most 395 (98.8%) were performed under spinal anesthesia (SA) and 5 (1.3%) under general anesthesia; with no difference in level of satisfaction *p*=0.888 between the two groups. A total 2 (0.5%) required moderate sedation intraoperatively to alleviate their anxiety, 02 (0.5%) were given general anesthesia due to ineffective spinal anesthesia, 02 (0.5%) were unwilling for SA and 1 (0.3%) was done under GA due to thrombocytopenia. Patient who underwent LSCS under spinal anesthesia graded their satisfaction as: full satisfied 163 (40.8%), satisfaction 214 (53.5%) and dissatisfaction 4 (1%) versus full satisfaction in 2 (0.5%), satisfaction in 3 (0.8%) and no dissatisfaction in general anesthesia patients; *p*-value=0.967.

A total of 46 (11.5%) patients had pre-operative questions regarding choice of anesthesia for LSCS. However there was no difference in satisfaction in patients who had queries (42, 10.5%) versus 339 (84.8%) in patients who had no queries, *p*=0.324. The most frequent apprehensions or queries amongst patient during pre-anesthesia counseling (done on OT table) are shown in fig-1.

The majority 172 (43%) were not bothered by the numbness caused by SA with 93 (23.3%) reporting some botheration by the numbness and 120 (30%) reported botheration by the numbness.

Table-I: The correlation between patient satisfaction with age and previous LSCS.

Variable		Patient Satisfaction		*p*-value
		Yes (%)	No (%)	
Previous LSCS	Yes	250 (62.5)	3 (0.8)	0.590
	No	118 (29.5)	1 (0.3)	
Age (years)	18-30	235 (63.5)	3 (0.8)	0.374
	≥ 31	76 (19)	1 (0.3)	

Table-II: Correlation between perioperative experience and patient satisfaction.

Variable		Patient Satisfaction		*p*-value
		Yes (%)	No (%)	
Patient anxiety relieved after PAA	Yes	321(80.3)	3 (0.8)	0.166
	No	14 (3.5)	1 (0.3)	
	Somewhat	38 (9.5)	-	
Intraoperative concerns were listened to and adequately resolved	Yes	312 (78)	4 (1)	0.989
	No	3 (0.8)	-	
	Somewhat	53 (13.3)	-	
Maternal feeling on hearing neonates first cries	Very happy	362 (90.5)	3 (0.8)	0.001
	Nothing special	6 (1.5)	-	
	Uneasiness	5 (1.3)	1 (0.3)	

However, there was no correlation between overall satisfaction and numbness; *p*=0.810. The correlation between perioperative experience and patient satisfaction is tabulated as table-II.

Two hundred and fourteen (53.5%) parturient complaint of some level of intra-operative disturbance. However, there was no difference in patient satisfaction amongst group irrespective of them reporting intra-operative disturbance or not, 2 (50%) in each group, *p*-value 0.454. The distribution of intra-operative complaints is shown as fig-2.

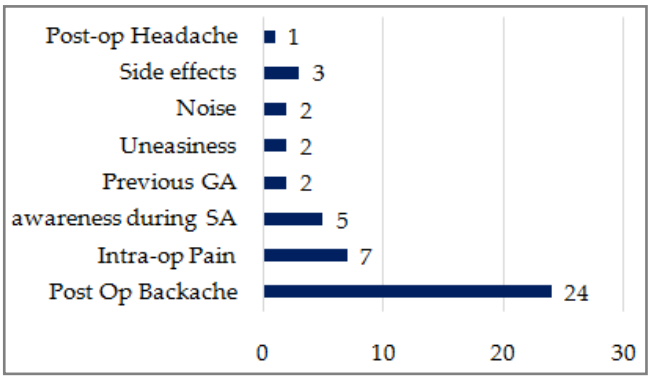

Figure-1: Most common apprehensions of parturient during pre-anesthesia interview.

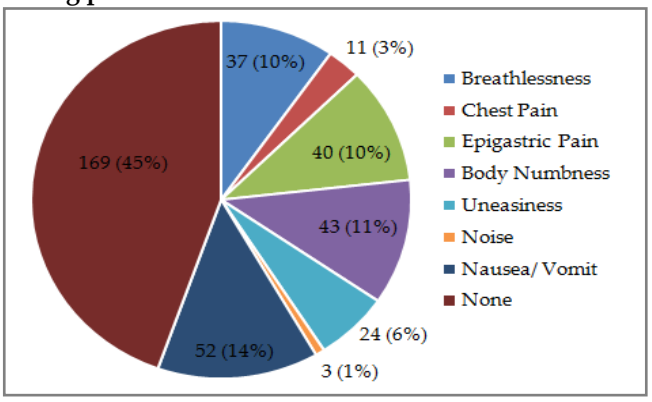

Figure-2: Intra-operative complaints of patients.

The parturient were asked regarding their choice of anesthesia for future surgeries. 259 (64.8%) reported that they would prefer SA for future surgeries as well, 31 (7.8%) would prefer not to have SA and 101 (25.3%) were undecided. Similarly, 278 (69.5%) reported that they would advise other pregnant females to undergo LSCS under SA, versus 17 (4.3%) who would advise against it and 91 (23.2%) who were undecided. We found no statistical significant correlation between patients who preferred SA in future LSCS for themselves or other pregnant ladies; *p*-values 0.468 and 0.161 respectively.

Most of our patient 255 (63.7%) reported some postoperative complaints. Three (0.8%) parturient who had post-operative complaints also reported dissatisfaction with their peri-operative course; *p*-value 0.001. 175 (43.8%) patient reported pain as their major complaint at 24 hours post-operative, followed by 46 (11.5%) uneasiness, 15 (3.75%) nausea/vomiting and 6 (1.5%) breathlessness; *p*-value <0.001.

DISCUSSION

Pregnancy is a stressful event for a woman. Knowledge of going for anesthesia and surgery puts a lot of mental stress on the pregnant patient. She has certain expectations from the doctors, operating room staff and the nurses[1,20]. If these expectations are accomplished, it leads to maternal satisfaction. The common fears or apprehensions are that she should be properly looked after, there will be no comments on her body shape and her privacy will be taken care of[6,7]. Anxiety level can be so high that the patient can even faint while being given spinal anesthesia due to vasovagal syncopeleading to maternal dis-satisfaction with the procedure[13]. She expects and deserves polite attitude of doctors and that her opinion regarding selection of anesthesia will be given due consideration. About 28.6% mothers have fear regarding perioperative awareness[5,6]. Some of them have undergone caesarean section previously under spinal anesthesia with low satisfaction level due to being fully awake. Sedation with propofol or midazolam can address this issue. But minimal sedation should be provided that does not affect the ability of the patient to maintain the patency of the airway. About 75% of the patients given midazolam were satisfied as compared to 50% who were given propofol for sedation[14].

Spinal anesthesia has advantage that the patient remains awake, the risk of failed intubation and pulmonary aspiration is almost elimi-

nated and fetus is not exposed to the depressant effects of anesthetic drugs compared to the mothers given general anesthesia[15]. Furthermore the uterine atony due to use of inhalational agents is avoided and spinal anesthesia is also cost effective and pain in immediate postoperative period is addressed.

In-fact maternal satisfaction is directly related to addressing her concerns regarding selection of anesthesia and her fears of intra-operative and postoperative period. In developing countries, like Pakistan, qualified anesthetist are deficient and are over-worked due to their duties in operating room and intensive care units; they sometimes lack and proceed with the choice of anesthesia in which they are comfortable ignoring patients expectations[7,16]. Counseling in a polite tone and involving the operating room nurse who just hold the patients hands goes a long way in improving the confidence level of the parturient by distracting her, who can face the situation in a better way[17]. It will not be wrong to say that anesthetist usually give due respect to the perceptions of the pregnant patients and sometimes wrongly estimate leading to patients refusal or dissatisfaction for spinal anesthesia[11]. Few rely on pamphlets' or video based education in their centers but at the time of surgery the anxiety level of the pregnant patients is so high that very few opt to read the material[18]. To improve the quality of obstetrics anesthesia, it is mandatory for the anesthetist to know the maternal concerns as only then he will be able to address them. The common reasons of maternal dissatisfaction leading to her refusal to opt for spinal anesthesia are: postoperative nausea and vomiting (20.4%); backache (29.5%) which may be due to number of attempts and positioning during spinal anesthesia; headache (4.5%); memory of previous negative experience under spinal anesthesia (32%) and 28.6% anxious about being awake during surgery[1,5,6]. Few rare occurrences have happened like persistence of PDPH even after epidural blood patch and it later proved on imaging studies to be due to arachnoid cyst. Similarly patients with PIH and chronic hypertension are more prone to postoperative headache[19]. Infact up to 75.3% parturient fear preoperatively when they comes to know for surgery under regional anesthesia. If we compare gender; female to male ratio of anxiety under regional anesthesia is 86.3% versus 67.7%[10]. As regards maternal satisfaction, overall satisfaction rate was 96.3% in one study and in other maternal satisfaction was moderate at 56.3% with refusal rate of 3.2% and ratio of conversion from spinal to general anesthesia is 2%[1,9,11,20,21].

Timely and adequate management of perioperative complaints like hypotension/bradycardia, nausea and vomiting can also result in improved patient outcomes and satisfaction[22,23]. Similarly, sedating the patients and preemptive management of postoperative complications like shivering improves maternal satisfaction[24,25].

RECOMMENDATIONS

Based on our study finding the post-operative analgesic regime is being optimized for improved patient experience at our institute.

CONCLUSION

The overall patient satisfaction in our study was high and only few factors causing patient dissatisfaction which included postoperative complaints most notably pain.

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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