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Evaluation of patient satisfaction with provided spinal anesthesia for Cesarean delivery – a survey in Leskovac General Hospital, Serbia

Евалуација сатисфакције пацијенткиња спиналном анестезијом за царски рез – истраживање у Општој болници „Лесковац", Србија

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Евалуација сатисфакције пацијенткиња спиналном анестезијом за царски рез – истраживање у Општој болници „Лесковац", Србија

SUMMARY

Introduction/Objective To ensure that all patients receive the best possible anesthetic care, it is essential to continuously evaluate our practices and strive for improvement.
The objective of this study is to internally assess the anesthesia services provided during the peripartum period.

Methods The Anesthesiology Department of Leskovac General Hospital, Serbia (LGH) aimed to evaluate patient satisfaction with spinal anesthesia (SA) for Cesarean delivery (CD) using a questionnaire consisting of four open-ended questions. Following Institutional Review Board approval, an institutional-based survey was conducted from August 2021 to July 2022. During the study period, 624 (40.6%) of the total 1,535 deliveries in LGH were CDs, with 311 (49.8%) of them performed under SA. Of the patients who underwent CD under SA, 87 agreed to anonymously complete the questionnaire.

Results Although patients had sufficient space to provide detailed responses, the majority of participants opted for brief answers, often limited to "yes" or "no". Of the surveyed participants, 78% were informed about SA for CD before delivery, and 96.6% expressed satisfaction with the information provided during the preoperative anesthesiologist's visit. Additionally, the majority of participants (94.3%) reported satisfaction with the postoperative analgesia they received.

Conclusion Our patients expressed high levels of satisfaction with the preoperative anesthesiologist's visit and the SA provided for CD. However, there is a need to improve antenatal education for expectant mothers in the field of anesthesia. Conducting a new and more detailed survey would be necessary to further explore the influence of patient education and socioeconomic status on patient satisfaction.

Keywords: spinal anesthesia; cesarean delivery; patient satisfaction; quality improvement

САЖЕТАК

Увод/Циљ Када настојимо да сви пацијенти буду што боље збринути, неопходно је стално преиспитивање како радимо и да ли је могуће да своје поступке унапредимо. Циљ ове студије је унутрашња евалуација анестезиолошких техника пружаних током порођаја.

Методе Одељење анестезиологије Опште болнице „Лесковац", Србија (ОБ ЛЕ) је желело да процени задовољство пацијенткиња примљеном спиналном анестезијом (СА) за царски рез (ЦР) путем испитивања (тако што ће пацијенткиње попунити упитник од четири питања отвореног типа). Након сагласности Етичког одбора ОБ ЛЕ, спроведено је испитивање током периода од августа 2021. до јула 2022. године. Током испитивања у ОБ ЛЕ, од укупно 1535 порођаја 624 (40,6%) је завршено ЦР-ом, а од тога 311 (49,8%) урађено је у СА. Попуњавањем упитника у истраживање се укључило 87 пацијенткиња које су добиле СА за ЦР.

Резултати Највећи број пацијенткиња је дао одговор у краткој форми „да" или „не", без додатних појашњења, без обзира што је било довољно простора за детаљнији одговор. Укупно 78% испитаница је одговорило да су биле претходно информисане о планираној техници анестезије и разлозима за извођење СА за ЦР, и 96,6% је било задовољно оствареним дијалогом с анестезиологом током преоперативне посете. Већина пацијенткиња (94,3 %) је била задовољна и постоперативном контролом бола.

Закључак Наше пацијенткиње су врло задовољне преоперативним анестезиолошким прегледом, и СА за ЦР. Неопходно је да се анестезиолог укључи у антенатално саветовалиште за труднице како би биле боље информисане о питањима везаним за анестезију. Ново, детаљније испитивање је неопходно да се разјасни утицај образовања и социо-економског статуса породиља на њихову сатисфакцију пруженим лечењем.

Кључне речи: спинална анестезија; царски рез; сатисфакција пацијента; унапређење квалитета лечења

INTRODUCTION

To ensure that all patients receive the best possible anesthetic care, it is necessary to

continually examine our practices, methods, and opportunities for improvement. This quality improvement strategy should be an integral part of everyday anesthesia practice, where we evaluate what we do, how we do it, and how we can do it better. The Society for Obstetric Anesthesia and Perinatology (SOAP) has published guidelines and recommendations for peripartum care [1], which we have implemented to the best of our ability.

The measurement of anesthesia patient experience is an emerging public and academic focus [2]. The patient experience has a direct effect on the patient's opinion of the quality of care that was received. The purpose of this study is to internally evaluate the anesthesia services we provide during the peripartum period at the Leskovac General Hospital, Serbia (LGH). We hope to improve on areas requiring assistance and acknowledge our team for its success. This is the first study of its kind in the obstetric anesthesia in the entire country to our knowledge.

METHODS

The Anesthesiology department of LGH wanted to evaluate the patient satisfaction with provided anesthetic care for Cesarean delivery (CD) via a questionnaire. Following the Institutional Review Board approval (approval no. 6528/2), an institutional-based survey was conducted from August 2021 to July 2022. Every patient who had CD done under SA was offered to participate in the survey. Consent was taken after explaining all the study details, including voluntary inclusion and data confidentiality. The inclusion criteria were at least 18 years old patient and the ability to complete a questionnaire. The exclusion criterion was a rejection of participation in the survey. We interviewed the patients on postoperative day 2.

During the study period (from August 2021 to July 2022), there were 1535 deliveries in LGH, and 624 (40.6%) of them were CDs. There were 311/624 (49.8%) CDs done under SA (Table 1). Eighty-seven patients who had CD done under SA accepted to fill out the questionnaire anonymously and were enrolled in a study.

The questionnaire was printed on a card in an envelope containing four open-ended questions (Figure 1). The first question was: “Did you have any information or knowledge about spinal anesthesia or labor analgesia before your procedure?” The second question was: “Did your anesthesiologist explain the procedure and communicate with you so that you could understand the procedure?” The third question was: ”Was your pain well-controlled during your stay in the hospital?” The fourth question was: “Would you use the same anesthesia technique again?” There were no offered answers. Patients were able to write what they wish, on their own.

In LGH, SA for CD is performed using 12.0-15.0 mg of 0.5% bupivacaine/levobupivacaine, along with 15-25 mcg of fentanyl (based on the patient's body habitus). Efforts to implement intrathecal (IT) morphine use were not successful. Only several anesthesiologists use it occasionally. However, we use exclusively pencil-point needles 25 G.

This study, done according to the Declaration of Helsinki, was approved by the Ethical Committee of Leskovac General Hospital (approval no. 6528/2).

RESULTS

The majority of patients provided brief answers, often limited to “yes” or “no”, even though they had the option to write longer sentences (Figure 2).

Sixty-eight of 87 patients (78.2%) were informed about the usage of SA for CD before their hospital admission. During the preoperative visit, the approach of the anesthesiologist was deemed satisfactory by most patients (96.6%). Only 3 out of 87 patients (3.4%) had difficulty fully understanding the anesthesiologist's explanation of the SA procedure.

A significant majority of patients (94.3%) reported good postoperative analgesia. However, 5 out of 87 patients (5.7%) expressed dissatisfaction with the provided postoperative analgesia at times during their hospital stay. These patients experienced periods of well-

controlled pain followed by breakthrough pain that lasted longer than expected.

Almost all surveyed patients expressed high levels of satisfaction with SA for CD. Only one patient (1.1%) stated that she would never accept SA for CD again. Two patients (2.2%) had some doubts about their experience, responding 'maybe' when asked if they would accept SA for their next CD.

DISCUSSION

As early as the 1960s, the fields of marketing and healthcare began collaborating to understand patient satisfaction [3]. Patient satisfaction is a subjective, complex, and multi-dimensional measure of healthcare system functioning influenced by cultural, sociodemographic, cognitive, and affective factors [4]. It is a concept in healthcare system evaluation that quantifies and scores specific services based on subjective experiences and affective reactions [3, 5]. Patient satisfaction is the result of patients' expectations and experiences after receiving services from healthcare providers [5]. If patients receive lower or weaker service than their expectations, they may be dissatisfied. Conversely, if the received service meets or exceeds their expectations, patient satisfaction will be higher [5].

Improving the quality of healthcare provision involves identifying current problems. One way to recognize such issues is by assessing patient satisfaction [3]. Considering patients' opinions helps establish appropriate policies, administrative practices, and resource allocation priorities [3].

Some studies [5–8] identified a range of non-modifiable factors affecting patient satisfaction, such as socio-demographic characteristics like age, sex, education, occupation, and marital status. Furthermore, patient satisfaction is associated with many modifiable factors, such as convenience, including the availability of services (drugs, ordered labs and X-ray in the hospital), accessibility of services (waiting time, cost of services, transport to the service),

and clinician-patient communication [5, 7]. Many anesthesiologists and surgeons believe that patient satisfaction with their perioperative experience is a function of technical variables such as surgical and anesthetic techniques. However, patients may not always have the comprehensive perspective or expertise required to make such evaluations. Furthermore, their satisfaction reflects their subjective impressions regarding staff hospitality, physician-patient communication, nurse-patient communication, provided information about the perioperative course, and overall perioperative experience [7, 8, 9]. Involvement in decision making significantly increases patient satisfaction [10].

It was found that older patients, poor patients, female patients, patients with lower levels of education, patients not working for private enterprises (or foreign enterprises), and rural patients in countries with limited healthcare resources and ongoing healthcare reforms reported higher levels of overall satisfaction [6]. On the contrary, Endale Simegn et al. [8] showed that males and patients from urban neighborhoods had higher satisfaction.

Factors associated with women's satisfaction with skilled delivery care were wanted pregnancy, planned delivery at a health facility, ambulance service, privacy, short waiting time and duration of labor, proper management of labor pain, healthy newborn outcomes [11], and the opportunity to breastfeed the baby within the first hour of life [12]. Implemented enhanced recovery after surgery and CD also improves patient satisfaction [13]. Involvement in decision making, and fulfilment of expectations are better predictors of a positive birth experience than factors such as pain and medical intervention [14]. An inverse relationship between preoperative anxiety and maternal satisfaction in patients undergoing CD is well known [15]. However, a recently published randomized controlled trial by Singh and Heralal [16] showed that the use of a simple educational anesthetic video might be associated with reduced anxiety and improved maternal satisfaction in patients scheduled for elective CD under regional anesthesia (RA).

A higher level of satisfaction with the childbirth experience is also related to satisfactory antenatal care [12, 14]. Brinkler and coauthors [14] have shown that good quality antenatal information on analgesia and anesthesia significantly influences parturients' confidence in making decisions about analgesia and their satisfaction with the analgesia used. Good antenatal preparation may reduce the time an anesthesiologist spends obtaining consent for interventions. Improvements in information provision and retention require a coordinated approach with the services that women already use and trust, such as their obstetricians, midwives and antenatal classes. As anesthesiologists, we can offer support to these colleagues to promote antenatal delivery of information regarding peripartum anesthesia care [14].

Maternal satisfaction had immediate and long-term effects on their health. Women who feel a lack of control during the delivery, those who are dissatisfied with their pain relief, and those who undergo unplanned procedures are more likely to develop a negative birth experience. Such experience puts them at an increased risk of postnatal depression and post-traumatic stress disorder [14]. Dissatisfied parturients decrease the use of maternal health services, which influences an increasing rate of maternal morbidity and mortality [11]. Disrespect and abuse of women during childbirth are decisive factors in skilled delivery care utilization, especially in low- and middle-income countries. The birth experience in one labor has a lasting effect on subsequent labors. Both CD and the use of non-pharmacological analgesia (such as water, transcutaneous electrical nerve stimulation, hypnobirthing) in a previous labor were associated with less confidence in the current delivery [14]. The World Health Organization recommends monitoring and evaluating maternal satisfaction to improve the quality and efficiency of skilled delivery care [11].

Good patient-staff communication and effective pain control during a hospital stay may improve overall patient satisfaction [4, 17]. The absence of pain immediately after anesthesia recovery, the absence of postoperative nausea and vomiting, and the postoperative

anesthesiologist's visit are the main factors significantly contributing to higher patient satisfaction with perioperative anesthesia services [8, 9]. Furthermore, patients who underwent surgery under SA had higher satisfaction scores than those under GA [8, 9]. The level of satisfaction with RA was higher in the age group of 18-25 years, male gender, patients with previous RA experience, and patients who received comprehensive information about RA during the preoperative anesthetic evaluation. Dissatisfaction with RA was influenced by failed SA during surgery [18].

It has been observed that patients evaluated the care received during their hospital stay differently at different time points. Joseph at al. [19] compared the orthopedic patient satisfaction scores given 2 days after admission to an academic hospital with their satisfaction scores obtained 4 to 6 weeks after discharge via email or phone call. They reported that patient satisfaction after discharge was discordant with their inpatient experience. Patients had a better impression of the care they had received during the hospital stay several weeks following their discharge compared to the impression expressed in a survey conducted 2 days after hospital admission. However, Berning et al. concluded in their prospective observational cohort study that the quality of recovery had only a marginal additional effect on total patient satisfaction with anesthesia and surgery [4]. Based on expert opinion, the American Society of Anesthesiologists (ASA) and its Committee on Performance and Outcomes measurement (CPOM) determined that the survey should be administered within two weeks of discharge [20].

For accurate evaluation of patient satisfaction that may assist in quality improvement in clinical practices, validated tools should be used [10]. The Consumer Assessment of Healthcare Providers and Systems (CAHPS) surveys belong to a family of validated tools. These questionnaires capture self-reported patient assessments of multiple points of contact during the healthcare experience, which can then be used to compare facility performance [21].

Covering multiple clinical settings, some of these surveys include several questions relevant to anesthesia care, but in general do not include questions related specifically to patient satisfaction for anesthesia services and thus may not be suitable for benchmarking.

The ASA recognized the importance of assessing and measuring patient satisfaction and experience with anesthesia. ASA CPOM had reviewed the existing literature on the assessment of the patient experience with anesthesia and developed an ASA recommended set of survey questions to be used to evaluate the patient experience with anesthesia care in 2013 [22]. Furthermore, the ASA recommended that anesthesia practices report the results of this survey to the Anesthesia Quality Institute (AQI). These data could help in improving anesthesia services and compare the anesthesia facilities throughout the country. The survey includes some general questions such as the time of survey, the surgical procedure, and patient demographic information. There are also a set of questions from the following dimensions: provided information, involvement in decision making, pain management, attention, practitioner-patient relationship, and anesthesia related sequelae. Three questions reflect global satisfaction with anesthesia. One question reflects global satisfaction with the facility. Response to questions was standardized to a 5-point Likert Scale as this has been shown to be optimal for surveys of patient satisfaction [22].

The last update from the ASA on patient satisfaction measures relevant to anesthesia services was conducted in 2019 [20]. The update includes a list of available facility-based and practice-based tools. Facility-based surveys are well-validated surveys that are customized to specific service lines and care settings. They incorporate the official CAHPS program questions and serve as a good benchmark at the national level. However, these surveys usually require a third party to administer them, collect patient responses, and provide reports to anesthesia services, which results in additional costs.

Anesthesia practice-based surveys are newer and may have less established scientific

rigor compared to facility-based surveys. These questionnaires specifically focus on anesthesia care. Anesthesia practice-based surveys can be administered either by vendors or locally without the involvement of vendors. While locally-instituted practice-based surveys can only be used to assess performance, they are less expensive.

We live in a country with limited healthcare resources and ongoing healthcare reforms. In our setting, patients are rarely prepared to complete complex surveys. Furthermore, analyzing and interpreting the surveys can be challenging. However, we have taken the first steps in communicating with our patients using a simple questionnaire. Although it does not allow us to compare our service with other anesthesia facilities, it provides us with valuable patient feedback. The answers from patients can highlight the main issues related to perioperative anesthesia services.

Our patients were primarily young females who expressed a high level of satisfaction. We did not analyze their social, economic, and educational backgrounds. More than 20% of our patients had no information about SA for CD before their preoperative visit with an anesthesiologist. This statistic suggests that anesthesiologists should play a role in educating expectant mothers during the antenatal period. However, 96.6% of the surveyed parturients had appropriate communication with an anesthesiologist prior to their surgery. This indicates that the approach of our anesthesiologists to patients is well-received.

Our survey has certain limitations. The answers to the questions are descriptive and qualitative in nature. The majority of patients (94.3%) expressed satisfaction with the treatment of postoperative pain during their hospital stay. However, there are no quantitative measurements of the care provided. We did not differentiate the duration of the postoperative hospital stay based on the number of postoperative days. Typically, post-Cesarean hospital stays range from 4 to 5 days. Nevertheless, it remains unclear what level of analgesia was provided immediately after anesthesia recovery, as well as the analgesic levels given after the

day of surgery. To assess the influence of patient demographics (education and socioeconomic status) on patient satisfaction, further follow-up studies are needed.

Although SA with IT morphine use has been recommended as the preferred anesthesia choice for CD [1], we had a low rate of IT morphine use and a significantly higher rate of CD performed under GA. It would be interesting to compare the satisfaction scores of patients who received IT morphine during SA to those who underwent SA without IT morphine. Furthermore, we could also compare the satisfaction scores of patients who underwent SA to those who had GA.

CONCLUSION

Patient feedback plays a crucial role in identifying communication gaps between patients and hospital staff, and it can influence strategies to improve patient care. Our patients have expressed high levels of satisfaction with the preoperative visit by an anesthesiologist and the SA provided for CD. It is imperative for us to enhance antenatal education for expectant mothers in the realm of anesthesia by involving an anesthesiologist in the antenatal education team.

Conducting a new and more comprehensive survey would be necessary to elucidate the impact of patient education and socioeconomic status on patient satisfaction. Additionally, a more detailed analysis of postoperative pain control could be conducted.

Conflict of interest: None declared.

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Table 1. The total number of deliveries at Leskovac General Hospital during the study period

Type of delivery	Number of patients	Percentage
Total	1535	100
Vaginal delivery	911/1535	59.4
CD	624/1535	40.6
CD done under GA	313/624	50.2
CD done under SA	311/624	49.8
Survey participants	87/311	28

CD – Cesarean delivery; SA – spinal anesthesia; GA – general anesthesia

Figure 1. Questionnaire (printed card in the envelope)

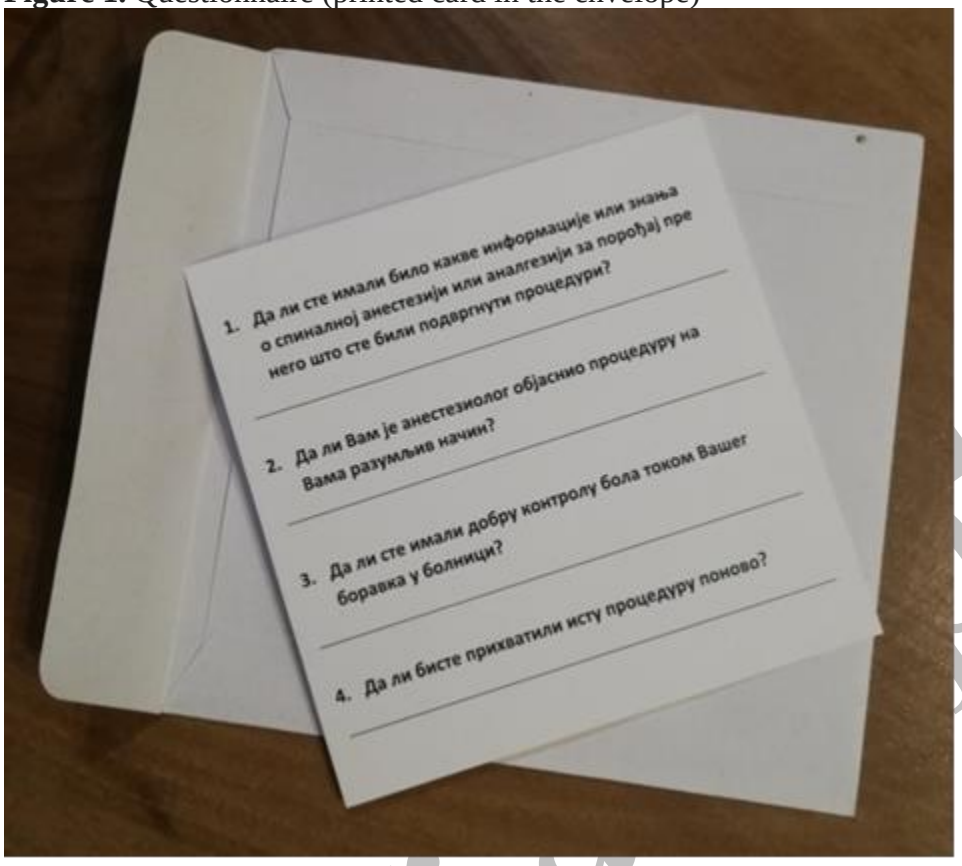

Figure 2. Patients' answers to the questions