Original Article

Sources of Preoperative Information and Satisfaction of Pregnant Women Undergoing Cesarean Section

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Abstract

Introduction: Patient satisfaction with preoperative counselling is increasingly recognized as a relevant indicator of the quality of perioperative care in obstetrics, particularly in the context of elective caesarean section.

Objective: To evaluate the primary sources of information and the level of satisfaction among pregnant women regarding preoperative counselling for caesarean section.

Materials and Methods: A total of 60 pregnant women with a medical indication for elective caesarean section, hospitalized at the Clinic for Gynecology nad Obstetrics Petrova, University Hospital Centre Zagreb, participated in this cross-sectional study. Data were collected using a structured, anonymous questionnaire administered prior to the procedure.

Results: Out of 60 distributed questionnaires, 54 (90.0%) were fully completed. The majority of respondents (83.02%; N=44) indicated the operating gynecologist as the most informative and satisfactory source of preoperative counselling, emphasizing their key role in preparing patients for the surgical procedure. Furthermore, the participants rated the anesthesiologists' preoperative consultations highly, with a mean score of M=4.60 (SD=0.76), highlighting both the clarity and adequacy of the information provided. Nursing staff also received favourable evaluations, with a mean score of M=4.55 (SD=0.78), indicating their significant contribution to the overall preoperative preparation process.

Conclusion: Pregnant women undergoing elective caesarean section due to medical indications expressed a high level of satisfaction with the preoperative counselling provided by medical personnel, particularly valuing the contributions of the operating gynecologists, anesthesiologists, and nursing staff. These findings underscore the importance of multidisciplinary communication in enhancing the quality of obstetric care.

Keywords: elective caesarean section; preoperative counselling; patient satisfaction; quality of care; obstetric anesthesia

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Received September 8, 2025, accepted November 5, 2025

1 Introduction

Adequate counselling of parturients regarding the perioperative course of caesarean section—including its inherent risks and potential complications—is a key component in their physical, psychological, and emotional preparation for what is often a highly stressful event. Over recent decades, the global rate of caesarean deliveries has increased markedly. This trend has been attributed to broader interpretations of patient rights, particularly regarding maternal autonomy in choosing the mode of delivery, as well as the growing prevalence of elective caesarean sections in private healthcare institutions, even in the absence of strict medical indications. Additionally, heightened medicolegal awareness among healthcare professionals—particularly in response to increasing litigation concerning adverse perinatal outcomes in high-risk pregnancies—has further contributed to this rise (1, 2).

Regional disparities remain pronounced: in Sub-Saharan Africa, caesarean section rates are approximately 3%, while in both the United States and Europe, the figure reaches 32.2%. In Germany, for example, 15.3% of deliveries were performed via caesarean section in 1991, compared to 31.7% in 2012—indicating that one in three children is now born in this manner. Notably, strict medical indications are present in less than 10% of these cases. According to the Croatian Institute of Public Health, there were 8,523 caesarean sections performed in Croatia in 2016, accounting for 22.97% of all births (2). This represents a 10.3% increase from 2015, when 7,724 caesarean deliveries were recorded.

The patient's right to be informed and to participate in decision-making regarding their treatment is a fundamental tenet of modern medical ethics, enshrined in national legislation, including the Croatian Act on the Protection of Patients' Rights (3). Research conducted by the World Health Organization (WHO) across various healthcare settings has demonstrated that well-informed patients tend to experience better health outcomes and shorter hospital stays (4).

Recent studies further suggest that measuring patients' experiences—rather than solely their satisfaction—provides a more accurate and actionable assessment of healthcare quality, offering valuable insights for continuous improvement (5).

2 Objectives

The primary objective of this study was to assess the level of satisfaction among pregnant women with the preoperative counselling they received regarding caesarean section.

3 Materials and Methods

This study was conducted at the Department of Gynecology and Obstetrics, University Hospital Centre Zagreb, during February, March, and April 2018, following the approval of the institution's Ethics Committee. Participation in the study was voluntary and anonymous. The inclusion criterion was pregnancy with a confirmed medical indication for an elective cesarean section.

A total of 60 participants were enrolled in the study. For the purposes of this research, a structured questionnaire was specifically designed to assess the sources of information and the level of satisfaction among pregnant women regarding preoperative counselling for cesarean section.

The collected data were analyzed using descriptive statistical methods and are presented in tabular and graphical form.

4 Results

Out of 60 pregnant women scheduled for elective caesarean section, 54 participants (90.00%) completed the questionnaire in full. Six questionnaires (10.00%) were returned incomplete and were therefore excluded from the data analysis.

Sociodemographic characteristics of the participants, including age, educational level, employment status, and place of residence, are presented in Table 1. The mean age of respondents was 32.74 years (N=54, SD=5.60).

Half of the participants (N=27; 50.00%) reported having completed secondary education, while 26 women (48.14%) had obtained higher education (college or university degree).

Employment data showed that the majority of respondents were employed at the time of the study, specifically 77.77% (N=42). Regarding place of residence, 16.66% (N=9) lived in rural areas, 24.07% (N=13) in smaller towns, and the majority, 59.25% (N=32), resided in urban centres.

Table 1. Descriptive data on age, educational level, employment status, and place of residence of the participants (N=54)

Variable	**Category**	**N**	**%**
Education level	Primary education	0	0
	Secondary education	27	50.00
	Higher education/ College/University	26	48.14
	Prefer not to answer	1	1.85
Employment status	Employed	42	77.77
	Unemployed	12	22.22
Place of residence	Rural area	9	16.66
	Small town	13	24.07
	Urban area	32	59.25
		M	**SD**
Age (years)		32.74	5.60

***N** – number of participants; **%** – percentage of participants; **M** – mean; **SD** – standard deviation*

Data on information provided about caesarean section, anesthesia, and hospital admission by

nurses and medical technicians show significantly better outcomes compared to the information provided by primary care gynaecologists (Table 2).

Table 2. Overview of data on sources of information about caesarean section, anesthesia, and hospital admission (N=54)

Source of information	Answer	N	%
Primary care gynecologist	Yes	18	33.33
	No	24	44.44
	Partially	12	22.22
Nurses/Medical technicians	Yes	43	79.63
	No	3	5.56
	Partially	8	14.81

To assess the extent to which parturients participate in decision-making regarding cesarean section and the choice of anesthesia, their level of information, the attitude of medical professionals towards admitted patients, and the impact of these factors on reducing fear and discomfort, a set of statements was created. Participants evaluated their experiences using a Likert scale (Table 3).

Table 3. Display of data on the Likert scale of attitudes for different statements (N=54)

	1	2	3	4	5	Positive	Negative
(a) Participation in decisions regarding cesarean section and necessary diagnostic tests							
N	3	0	10	14	27	41	3
%	5.56	0.00	18.52	25.93	50.00	75.93	5.56
(b) Information provided by the gynaecologist regarding complications, benefits, and risks							
N	2	7	11	12	22	34	9
%	3.70	12.96	20.37	22.22	40.74	62.96	16.66
(c) Information provided by the anesthesiologist about anesthesia and its complications							
N	3	1	9	14	27	41	4
%	5.56	1.85	16.67	25.93	50.00	75.93	7.41
(d) Participation in decision-making regarding the choice of anesthesia							
N	3	0	5	9	37	46	3
%	5.56	0.00	9.26	16.67	68.52	85.19	5.56
(e) Attitude of hospital staff towards the patient							
N	2	1	5	9	37	46	3
%	3.70	1.85	9.26	16.67	68.52	85.19	5.55
(f) Quality of preoperative preparation provided by nurses/medical technicians							
N	1	2	5	16	30	46	3
%	1.85	3.70	9.26	29.63	55.56	85.19	5.55
(g) Impact of the quality of information on reducing fear and discomfort							
N	2	2	7	13	30	43	4
%	3.70	3.70	12.96	24.07	55.56	79.63	7.40

***N** – number of participants; **Ratings:** 1 – strongly disagree, 2 – disagree, 3 – neither agree nor disagree, 4 – agree, 5 – strongly agree; **Positive** = ratings 4–5; **Negative** = ratings 1–2*

The results of the study show that 100.00% (N=54) of the respondents received the Consent Form for caesarean section and anesthesia (Table 4).

Table 4. Overview of data on the receipt of the Consent Form for caesarean section and anesthesia (N=54)

Did you receive a written informed consent form?	**N**	**%**
Yes	54	100
No	0	0
Not sure	0	0

Out of the total of 54 surveyed parturients, 31 (57.41%) stated that they were familiar with patients' rights (Table 5).

Table 5. Overview of data on familiarity with patients' rights (N=54)

Were you informed about your rights as a patient?	**N**	**%**
Yes	31	57.41
No	23	42.59

According to the study results, participants expressed the highest level of satisfaction with the information received from the gynecologist who performed the cesarean section (M=4.62, SD=0.95). Respondents reported being highly satisfied with the amount and quality of information provided by the anesthesiologist during preoperative preparation, assigning an average rating of M=4.60 (SD=0.76). Similarly, the preoperative counselling provided by nurses and medical technicians was rated highly, with a mean score of M=4.55 (SD=0.78).

The respondents also recognised the value of written informational materials, rating them favourably with an average score of M=4.30 (SD=1.02), thereby underscoring their importance in the counselling process. The competence of primary care gynecologists in providing preoperative information was rated somewhat lower, with an average score of M=3.94 (SD=1.30). Notably, 50.00% of participants (N=25) gave the highest possible rating, while 8.00% (N=4) felt that the information provided by their primary care gynecologist did not meet their expectations.

Table 6. Satisfaction ratings by source of information (%)

Source of information	**1**	**2**	**3**	**4**	**5**	**Total**
Primary care gynecologist	8.00	8.00	16.00	18.00	50.00	100.00
Operating gynaecologist	3.77	1.89	5.66	5.66	83.02	100.00
Anesthesiologist	1.89	0.00	5.66	20.75	71.70	100.00
Nurses/Medical Technicians	1.85	0.00	7.41	22.22	68.52	100.00
Written informed consent forms	3.77	3.77	7.55	28.30	56.60	100.00
Friends/Family	5.77	11.54	21.15	30.77	30.77	100.00
Internet	7.55	16.98	18.87	41.51	15.09	100.00
Other	13.04	8.70	34.78	30.43	13.04	100.00

Ratings: *1 = very dissatisfied; 5 = very satisfied*

5 Discussion

Patient satisfaction with healthcare services is known to correlate, at least to some extent, with sociodemographic characteristics. Several studies have explored these associations, with some reporting higher satisfaction among older respondents, particularly in outpatient or day hospital settings (6, 7), while others present opposing findings (8). Two key hypotheses may explain the greater satisfaction observed among older patients. Firstly, older individuals may have more realistic expectations regarding healthcare outcomes and limitations. Secondly, they often report a stronger rapport with their physicians, which can enhance the overall perception of care received (9).

In our study, half of the women scheduled for elective cesarean section had completed secondary education (N=27; 50.00%), while nearly the same proportion had attained higher education (N=26; 48.14%). These findings reflect a relatively well-educated patient population.

Previous research has suggested that patients with higher education levels tend to have higher expectations and may rate their satisfaction more critically. However, in the cited study conducted by Croatian authors, the differences in satisfaction scores between education levels were not statistically significant (10). Similar trends have been observed in international settings, including studies conducted in Spain and Sweden, where both age and education level demonstrated variable—but generally modest—influence on reported satisfaction (6, 11).

Preparation for childbirth can also be effectively supported through the organization of multidisciplinary antenatal education programs, which pregnant women can attend from the fourth month of pregnancy onward. These programs enable gradual physical and psychological preparation, adapted to each woman's condition and gestational stage (12). According to a 2014 study conducted at the Department of Gynecology and Obstetrics, "Sveti Duh" University Hospital, 44% of women with a medical indication for cesarean section attended such antenatal classes (12). This finding is consistent with our results, where 46.3% of participants reported having attended a prenatal education course.

Overall, the findings suggest that respondents were most satisfied with the attitude of hospital staff, 85.19% of participants rated their experience positively, with only 5.55% expressing dissatisfaction. A similarly positive trend was observed in their experience with shared decision-making regarding the choice of anesthesia: 85.19% (N=46) reported a positive experience, whereas only 5.56% were dissatisfied. These results align with patient experience measurements from University Hospital Merkur in Zagreb, which showed a high level of satisfaction with communication and information provided by physicians and nursing staff (53–89% positive responses, N=407) (5).

Participants also positively evaluated the quality of preoperative preparation provided by nurses and medical technicians, with 85.19% (N=46) giving favourable ratings. According to questionnaire data, women expressed high satisfaction with how effectively healthcare personnel

helped reduce their fear and discomfort regarding the surgical procedure. Specifically, 79.63% (N=43) of respondents felt that high-quality counselling by doctors and nurses significantly alleviated their anxiety about undergoing a cesarean section, while only four respondents (7.40%) felt they could have been better informed and more thoroughly prepared.

Regarding their involvement in decisions about undergoing a cesarean section and associated preoperative diagnostics, 75.93% of participants gave a high satisfaction rating. This suggests that most women felt adequately included in the decision-making process, based on prior counselling and an appropriate level of understanding of the procedure.

Importantly, the results show that 100% (N=54) of participants received a written informed consent form for both cesarean section and anesthesia, indicating full compliance with current legal and ethical standards. Furthermore, 90.74% of the women stated that the form was written in an understandable manner and that they had signed it with clear awareness of the associated risks and potential complications.

When it comes to patients' rights, 57.41% of participants reported being informed about their rights at the time of hospital admission. Conversely, 42.59% (N=23) stated they had not been adequately informed, which highlights an area for improvement in patient education. These results are consistent with a 2015 study from University Hospital Merkur, which revealed a similar trend: about half of patients (N=407) were aware of their rights upon admission, while one-third were only partially informed. Among those, one-third learned about their rights via hospital notice boards, one-third through hospital staff, and the remaining patients received information through other channels. Notably, only 53% of surveyed patients knew whom to contact if they needed to protect their rights, suggesting that there is still a substantial gap in the effective communication of this important information.

Consistent with earlier findings, the participants reported the highest satisfaction levels with the information provided by the operating gynecologist (M=4.62, SD=0.95), with 83.02% (N=44) giving the maximum rating, believing that the surgeon had best prepared them for the procedure. The essential role of the anesthesiologist was also confirmed: women expressed high satisfaction with the amount and quality of information received, reflected in a mean rating of M=4.60 (SD=0.76).

Finally, the role of nurses in the perioperative period proved to be one of the most significant contributors to overall patient satisfaction. Their individualised approach and ability to provide comprehensive care both before and after surgery were particularly valued. The participants rated the information and preoperative support provided by nurses/medical technicians highly, with a mean score of M=4.55 (SD=0.78).

6 Conclusion

The findings of this study indicate that pregnant women with a medical indication for elective caesarean section expressed a high level of satisfaction with both the interpersonal approach of hospital staff and the quality of preoperative counselling provided by nurses, anesthesiologists, and

the operating gynaecologist. Participants also rated their experience with shared decision-making regarding the procedure and necessary diagnostic work-up very positively.

These results confirm the beneficial impact of thorough and structured preoperative counselling in reducing fear and discomfort associated with caesarean delivery. Furthermore, from a legal and ethical standpoint, the study demonstrated full compliance with regulations on informed consent. The role of written informational materials was also affirmed, as these were shown to play an essential part in effectively communicating potential risks and complications of the procedure.

Acknowledgments

The authors wish to thank all participating patients and the staff at the Department of Gynecology and Obstetrics, University Hospital Centre Zagreb.

Conflict of Interest

The authors declare no conflict of interest.

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