

ORIGINAL ARTICLE

Factors influencing the choice of caesarean delivery and their satisfaction among pregnant women attending maternity hospital in Eastern Uttar Pradesh

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Abstract

Introduction: The birth of a baby through the vaginal route is a traditional way of delivery. But, at times normal vaginal delivery is not desirable due to various reasons. Under such circumstances, Lower section caesarean section (LSCS) is carried out to deliver the baby safely. There are rising concerns about the increasing rate of caesarean sections with wide variations in rates across the globe. Factors that influence the decision to perform a LSCS are often complex and multifactorial. Understanding these complexities is one of many steps to help stop the rise of any unnecessary LSCSs or prevent their over-use. **Aim:** To find out factors influencing the choice of caesarean delivery among recently delivered mothers through caesarean section and within puerperium. **Method:** A cross-sectional survey using pretested, self-administered, semi-structured questionnaire was done between December 2022 to February 2023 among patients recently delivered through caesarean section and within puerperium. **Result:** A total of 250 participants were approached over a three-month period. Among them, 211 completed the survey. The majority of participants were in the age group 25 to 30 years, Hindu by religion, and residents of rural areas. Sixty-four participants perceived that LSCS was done for the safety of the baby. Educational status ($p < 0.001$), place of previous delivery ($p < 0.001$), and count of current LSCS ($p = 0.016$) were the factors associated with caesarean delivery satisfaction and it was found to be statistically significant. **Conclusion:** About one-third of the participants perceived that LSCS was done for the safety of the baby. The majority of participants were satisfied with the decision of LSCS.

Keywords

Caesarean Section; Emergency; Fear; maternity; Pregnancy.

Introduction

Becoming a mother is a boon for a woman. The birth of a baby through the vaginal route is a traditional way of delivery. But, at times normal vaginal delivery is not desirable due to various reasons. Under such circumstances, Lower section caesarean section (LSCS) is carried out to deliver a baby safely. There are rising concerns about the increasing rate of LSCS with wide variation in rates across the globe (1). The global healthcare community has considered the optimal range for a caesarean section to be between 10 and 15% of all births (2). Analysis of trends in LSCS rates from 121

countries indicates that rates increased from 6.7% in 1990 to 19.1% in 2014, representing an absolute increase of 12.4%. There is an increase in CS rates in developed countries (40% increase from 1993 to 2003, and an approximate 11% increase from 2003 to 2013), with the rates of CS remaining constantly higher than the World Health Organization's (WHO) recommendations (3). This growing number of CS can lead to several problems for women, children, and future pregnancies (e.g. increased risk of miscarriage and stillbirth). Moreover, CS creates significant challenges for healthcare systems as well. CS has an economic burden and incremental costs for households and society (4).

Factors that influence the decision to perform a CS are often complex and multifactorial (5). However, non-clinical indications for CS have become significant contributors to the increase (6). Changes in the demographic characteristics of populations, such as an increase in the prevalence of obesity, and an increase in the proportion of nulliparous women or older women have contributed to the rise (7). Other factors such as differences in clinical practice styles, increasing fear of medical litigation, as well as organizational, economic, social, and cultural factors have all been implicated in this trend (8-10). The maternal request also contributes caesarean delivery decision in some cases. Understanding these complexities is one of many steps to help stop the rise of any unnecessary CSs or prevent their over-use.

Aims & Objectives

To find out factors influencing the choice of caesarean delivery among recently delivered mothers through caesarean section and within puerperium.

Material & Methods

Study population: Patients recently delivered through caesarean section and within puerperium.

Study Design and duration: Cross-sectional survey using pretested, self-administered, semi-structured questionnaire between December 2022 to February 2023.

Study Unit: A post-caesarean patient in the recovery ward/attending OPD. In the present study operational definition for recently delivered woman was a woman who had delivered recently through LSCS and is within the puerperium period (post-delivery till 42 days).

Inclusion Criteria: A recently delivered post-caesarean patient willing to participate in the study and give consent.

Exclusion Criteria: Postsurgical unstable patients in HDU/ICU, Age <18 Years at the time of study.

Study tools: The questionnaire was designed at the Department of Community Medicine, BRD Medical College Gorakhpur Uttar Pradesh in consultation with the principal investigator and co-investigator to find out reasons for a woman to choose LSCS and associated factors with LSCS decision.

Data collection and statistical analysis: The survey was conducted among post-caesarean patients. Participants were contacted in person by investigators in the recovery ward and OPD to collect reliable data. A semi-structured questionnaire to obtain various possible factors affecting a decision to caesarean was designed and pretested. A pilot study was undertaken to validate the study protocol with a sample of 20 participants to know the average time required for completing the questionnaire and to ensure that it is appropriate and understandable to participants. The pilot population was not part of the final study. The aim and modality of the study were explained to all the participants and requested to mark questionnaires as per instructions. The survey questionnaire was prepared in English and Hindi after reviewing the literature for similar

studies. The questionnaire was re-framed as per requirement after pilot testing and necessary amendments were made to make it simple and easy to understand. We collected data from various participants in MS Excel and analysis was done by using Statistical Package for Social Sciences (SPSS) version 22.

Ethical considerations: Ethical approval was obtained from the institute's ethical committee (IHEC, BRD Medical College, Gorakhpur vide approval no. 17/IHEC/2023). Informed written consent was obtained from the participants.

Results

A total of 250 target populations were approached over a three-month period. Among them, 214 agreed to participate in the study. Three patients left during the interview, so 211 completed questionnaires were obtained and analysed.

The majority of participants were in the age group 25 to 30 years, Hindu by religion, and residents of rural areas. Other sociodemographic attributes are compiled in [Table 1](#).

[Table 2](#) provides a glimpse of the perceived reasons for caesarean delivery among participants. Sixty-four participants perceived that LSCS was done for baby safety. Fifty-six (26.5%) participants requested LSCS possibly due to labor pain (24.2%) or other factors (Convenience of scheduling birth; 1.4%).

Doctors were the most trusted source (67.8%) of information regarding the choice of caesarean delivery in the study. Other important sources were relatives and friends, attending nurses, and social media and the internet.

The majority (76%) of participants were satisfied with the decision of LSCS, while 24% were not satisfied ([Figure 1](#)). Among non-satisfied participants, 2 were intrauterine deaths, and 3 needed hospitalization of new-borns and extra economic and psychological burdens.

Educational status ($p < 0.001$), place of previous delivery ($p < 0.001$), and count of current LSCS ($p = 0.016$) were the factors associated with caesarean delivery satisfaction and it was found to be statistically significant.

Discussion

In recent years, several factors have been under consideration as possible influences on the rising caesarean rate. An increase in maternal request, the public perception that caesarean delivery is an almost a risk-free procedure, and financial, social, and cultural factors are among some contributory factors (11-13).

The findings of this study reveal women's perceptions of factors associated with caesarean delivery. Several prenatal conditions were perceived as reasons for the caesarean deliveries by the participants. The main reasons cited for the caesarean surgeries were the safety of the baby, the doctor's recommendation, and the fear of labor

pain. A perceived reason for the safety of the baby was similar to previous reports (14-17).

Although providing education is important, creating and enforcing hospital policies that ban elective deliveries before 39 weeks gestation is the most effective in producing positive outcomes (18). Healthcare providers should discuss delivery plans and provide appropriate education during every prenatal encounter because birth plans may change depending on the stage of pregnancy (19). Mylonas I, Friese K A in their review concluded that caesarean section can lead to numerous complications in both mother and child (20). A WHO study including 24 countries also showed that caesarean sections are associated with increased risks for mother and child and that therefore a caesarean section should only be performed for clear indications. Regardless of the reasons for the caesarean or the information women used, the results of this study indicate the participants were satisfied with their decision and the information provided, which is contrary to other findings (21,22). A review of secondary data involving nearly 6,000 women revealed that having a caesarean delivery is a strong indicator of a bad birthing experience. (23). On the contrary, some studies reported significantly higher satisfaction and fulfilment (24). The results of this study indicate women, especially primiparas, rely on family and friends a lot for information, which may or may not be accurate.

Conclusion

Reasons influencing choices for caesarean delivery were doctors' recommendations, fear of labor pain, and medical conditions complicating pregnancy. About one-third of the participants perceived that LSCS was done for baby safety. The majority of participants were satisfied with the decision of LSCS. The education level of participants, place of previous delivery, and count of current LSCS were found to be associated with caesarean delivery satisfaction and it was statistically significant.

Recommendation

Healthcare providers should be engaged in thorough discussions with pregnant individuals about their delivery options, addressing their concerns and preferences. Antenatal counselling sessions should be conducted regularly to provide expectant mothers with information about the delivery process, available pain management techniques, and the benefits of vaginal delivery when it is feasible. A shared decision-making should be promoted between healthcare providers and pregnant women ensuring that the patient's concerns are respected in the decision-making process.

Limitation of the study

There are several limitations of this study. The sample was a convenience sample, limited to the patients at this institution who were primarily rural, had less knowledge, and may not be representative of populations, thus

impacting the generalizability of the results. The retrospective nature of the study may result in potential recall bias.

Authors Contribution

All authors have contributed equally.

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Tables

TABLE 1: SOCIODEMOGRAPHIC AND OBSTETRIC CHARACTERISTICS OF PARTICIPANTS (N=211)

Sociodemographic and obstetric characteristics	Number (%)	
Age (complete year)	25.62 (Mean) 3.17 (Standard deviation)	
Age category (completed years)	20-25	92 (43.6)
	26-30	107 (50.7)
	>30	12 (5.7)
Religion	Hindu	160 (75.8)
	Muslim	48 (22.7)
	Other	3 (1.4)
Residence	Rural	125 (59.2)
	Urban	86 (40.8)
Education	No formal Education	54 (25.6)
	Up to 12th	121 (57.3)
	Graduate	36 (17.1)
Occupation	Unemployed/ Housewife	187 (88.6)
	Employed in medical field	4 (1.9)
	Employed in Nonmedical field	20 (9.5)
Gravida (current pregnancy)	Primigravida	141 (66.8)
	Multigravida	70 (33.2)
Mode of previous delivery	Not applicable	141 (66.8)
	Normal vaginal	34 (16.1)
	Caesarean	36 (17.1)
Place of previous delivery	Not applicable	141 (66.8)
	Home delivery	5 (2.4)
	At peripheral health centre	37 (17.5)
	At govt Referral centre	8 (3.8)
	Private Nursing Home	20 (9.5)
Previous normal delivery count	Not applicable	153 (72.5)
	One	46 (21.8)
	Two	12 (5.7)
	>Two	0
Count of caesarean	First	175 (82.9)
	Repeat	36 (17.1)
Type of caesarean	Elective	33 (15.6)
	Emergency	178 (84.4)

TABLE 2: PERCEIVED REASONS FOR CAESAREAN BIRTH DURING THE CURRENT PREGNANCY

Perceived reason	Number (%)
Safer for the baby	64 (30.7)
Doctor recommendation	58 (27.5)
Maternal request	56 (26.5)
Fear of labor pain	51 (24.2)
High blood pressure	46 (21.8)
Previous LSCS	24 (11.8)
Labour did not progress	21 (10.0)
Large baby (macrosomia)	16 (7.6)
Small baby (small for gestational age)	16 (7.6)
Twin/ Triplet pregnancy	13 (6.2)
Breech presentation	12 (5.7)
Concerns of potential damage to pelvic floor (urinary incontinence)	9 (4.3)
Prior traumatic birth experience	8 (3.8)
Bleeding per vaginum	8 (3.8)
Diabetes	8 (3.8)
Induction of labor did not work	8 (3.8)
The convenience of scheduling birth	3 (1.4)

* Multiple answers possible

TABLE 3: SOURCES OF INFORMATION REGARDING THE CHOICE OF CAESAREAN DELIVERY

Sources of information	Number (%)
Doctor	143 (67.8)
Relatives	102 (48.3)
Friends	75 (35.5)
Nurse	86 (40.8)
Internet	24 (11.37)
Television	12 (5.7)
Personal experience	9 (4.3)
Books	8 (3.8)

* Multiple answers possible

TABLE 4: ASSOCIATION OF SOCIODEMOGRAPHIC AND OBSTETRIC FACTORS WITH CAESAREAN DELIVERY SATISFACTION

Sociodemographic factors		Caesarean satisfaction			
		Satisfied	Not satisfied	Total	P value
Age (years)	20-25	61 (66.3)	31 (33.7)	92	0.141
	26-30	84 (78.5)	23 (21.5)	107	
	>30	8 (66.7)	4 (33.3)	12	
Religion	Hindu	116 (72.5)	44 (27.5)	160	0.547
	Muslim	34 (70.8)	14 (29.2)	48	
	Other	3 (100)	0	3	
Residence	Rural	89 (71.2)	36 (28.8)	125	0.607
	Urban	64 (74.4)	22 (25.6)	86	
Education	No formal education	20 (37)	34 (63)	54	0.000
	Up to 12th	97 (80.2)	24 (19.8)	121	
	Graduate	36 (100)	36	36	
Occupation	Unemployed/ Housewife	133 (71.1)	54 (28.9)	187	0.323
	Employed in medical field	4 (100)	0	4	
	Employed in Nonmedical field	16 (80)	4 (20)	20	
Gravida	Primigravida	97 (68.8)	44 (31.2)	141	0.086
	Multigravida	56 (80)	14 (20)	70	
Mode of previous delivery	Normal vaginal	24 (70.6)	10 (29.4)	34	0.053
	Caesarean	32 (88.9)	4 (11.1)	36	
Place of previous delivery	Home delivery	0	5 (100)	5	0.000
	At peripheral centre	28 (75.7)	9 (24.3)	37	
	At Govt referral centre	8 (100)	0	8	
	Private NH	20 (100)	0	20	
Count of LSCS	First	121 (69.1)	54 (30.9)	175	0.016
	Repeat	32 (88.9)	4 (11.1)	36	
Type of previous delivery	Elective	28 (84.8)	5 (15.2)	33	0.084
	Emergency	125 (70.2)	53 (29.8)	178	

Figures

FIGURE 1 SATISFACTION WITH CAESAREAN DELIVERY

