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# **Original Research**

# Assessment of factors contributing to increasing primary caesarean section delivery

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#### ABSTRACT:

**Background:** The most frequently performed major surgery on women is a caesarean section. The purpose of this study was to determine the prevalence of primary Caesarean sections in multigravidas, their indications, and the outcomes for the mother. **Methods:** It was a cross-sectional study of primary caesarean section in multigravida admitted at Obstetrics and Gyneacology Department at Sri Aurobindo Medical College and Post Graduate Institute, Indore, who meet the inclusion criteria were studied. This study included 160 patients. Written informed consent was obtained. **Results:** Increased maternal age, pre-pregnancy BMI, gestational weight gain, and infant birth weight, as well as first-time mothers, mothers who live in cities, are all factors that contribute to a higher caesarean section rate. **Conclusions:** Vaginal births often cause complications. All antenatal patients need regular care. Multigravida deliveries should be institutionalised to reduce maternal and perinatal mortality.

Keywords: antenatal patients, Multigravida deliveries, primary caesarean section delivery.

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# INTRODUCTION

The most frequent major procedure performed on women today, a caesarean section, has the potential to save the mother, the child, or both lives in some circumstances. Caesarean births are now safer thanks to advancements in anaesthesia and surgery, accessibility to broad-spectrum antibiotics, blood and blood products, and improved understanding of the importance of making a timely decision to perform a caesarean section. This is not to imply that they are now safer than typical, straightforward vaginal deliveries, but rather that they are now safer than they were. [1] A different study linked the increase in caesarean sections to a shift in medical practise and came to the conclusion that while the overall threshold for performing a caesarean section has decreased even though the indications have not changed significantly over time. [1-4] The variations

in caesarean section rates are caused by a variety of variables, including practise culture, practise style, hospital environment, source of funding, patient preference, and socioeconomic status. Caesarean section rates can be decreased by a clinical practise recommendation without worsening the results (Suwanrath- Kengpol C 2004). [5] The demand for surgical deliveries does not always correspond to high or rising rates of caesarean deliveries. [6] Multipara refers to people who have delivered more than once after the viability age. Primi-para (uniparapara 1), multipara (para 2, 3, and 4), and grand multipara are all included (para more than 4). [7] A primary caesarean section refers to the first one performed on a patient who has had one or more vaginal deliveries. In multipara, the placenta and the baby are primarily to blame for caesarean sections. Despite having delivered a full-term child vaginally

before, Multipara may still have cephalopelvic disproportion. The size of the foetus and foetal head should be carefully estimated because the foetus grows larger with multiparity. A pendulous abdomen and lumbar spine lordosis are favourable malpresentations in multiparous patients, and in any case, it is typical for the head to not engage with the pelvis until labour begins. [8] The issue of multiracial populations is exacerbated by factors like poverty, illiteracy, ignorance, and a lack of familiarity with antenatal care and family planning options.

The safe delivery of a multipara who had previously given birth vaginally may still necessitate a caesarean section. [1] The general public holds the opinion that after a mother gives birth to her first child or children normally, all of her subsequent pregnancies will also be normal. As a result, these multiparous mothers frequently skip their regular antenatal appointments. The indication for a caesarean section in women who have previously given birth vaginally has drawn attention for these reasons [8]. [9] There are a number of indications for caesarean sections, including severe pelvic contraction, other types of dystocia, major placenta previa, and severe pre- and eclampsia and eclampsia. Other signs include foetal distress, a poor obstetric history (BOH), and a challenging vaginal operation delivery [10]. However, there has been an alarming rise in the caesarean section rate around the world due to a variety of socioeconomic, ethical, and medicolegal factors that go beyond just obstetrics and medical factors. [11] Another frequent reason for the high rate of caesarean sectionsis defensive obstetrics. 82% of doctors have been seen to perform caesarean sections in order to defend against malpractice claims. Vaginal birth takes about 12 hours compared to a caesarean section's 30 minutes, placing a significant time and patience burden on the obstetrician. [12]The current study was conducted to examine the justifications for and results of performing a caesarean section on a multigravida who had previously successfully delivered by vaginal delivery.

## METHODOLOGY

All antenatal patients admitted to the Obstetrics and Gyneacology Department at Sri Aurobindo Medical College and Post Graduate Institute, Indore, who meet the inclusion criteria were studied for the current cross-sectional study. This study included 160 patients. Written informed consent was obtained. Baseline data were gathered using a prestructured proforma from patients who were booked, un booked, referred, admitted through opd, or underwent an emergency caesarean section at SAIMS. To describe the qualities and characteristics of the gathered data, descriptive statistics will be used. The data will be represented by Mean and Percentage.

Anywhere a statistical test is used to determine an

association between two variables, a P value of 0.05 or lower is deemed statistically significant.

RESU	LTS
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	No. of patients	Percentage			
Anemia					
Normal Hb	33	33			
Mild	56	56			
Moderate	8	8			
Severe	2	2			
Very severe	1	1			
BMI					
Underweight	19	19			
Normal	74	74			
Overweight	6	6			
Obesity	1	1			

Only 38% of the 100 patients were referred from other sources; the majority were unbooked (77%) and received direct admission (62%).Patients who are 26 to 30 yearsold make up the majority (56%), followed by patients who are 21 to 25 years old (32%), and patients who are 31 to 35 years old (11%).

There was only one patient who was older than 35. 59 of the patients had gestational ages between 37 and 40 weeks, 29 had gestational ages between 32 and 36 weeks, 3 had gestational ages between 28 and 31 weeks, and 2 had gestational ages greater than 40 weeks.

The majority of patients, 47%, had only a primary education, according to the distribution of patients by educational level. Only 1 patient had a graduate degree, and 22% of the patients had only a secondary education. About 30% of the patients were illiterate. This also reflects the recent improvement in literacy rates years.

Distribution of socioeconomic class on the basis of modified Kuppuswamy Scaler most of the patients shows majority (54%) were from upper lower class followed by 36% patients in lower class, 9% patients from lower middle class and only one patient was found to be from upper middle class. Type of work distribution reveals that Most of the patients were Moderate worker 77%, followed by heavy worker 20% and only 3% were sedentary workers. Nutritional status of the patients (Table 1) shows that only 33% of woman had normal Hemoglobin level but majority (74%) had normal BMI. Out of 100 cases 96 % of patients underwent Emergency caesarean section whereas only 4% patients were operated Electively.

Indication		No. of patients	Percentage
	Breech	13	13
	Face	2	2
Malpresentations	Brow	2	2
	Compoundpresentation	1	1
	Cord presentation	1	1
	Cord prolapsed	1	1
	Transverse lie	2	2
Antepartum	Placenta previa	14	14
nemorrnage	Abruptioplacentae	10	10
Fetal distress		10	10
Obstructedlabour		5	5
Hypertension	preeclampsia	15	15
pregnancy	eclampsia	7	7
Twin pregnancy		5	5
Contractedpelvis		12	12
	Total	100	100.0

Malpresentation was the most frequent cause of caesarean sections (Table 2) in the urrent study, followed by foetal distress in 10 (10%), APH in 24 (24%),

preeclampsia and eclampsia in 22 (22%), obstructed labour in 5 (5%), cephalopelvic disproportion in each case, and twin pregnancies in 5 (5%).

Maternal outcome		No. of patients	Percentage	
Healthy(n=76)		76	76	
Postoperative morbidity(n=24)	Abdominal distention	2	2	
	Pyrexia	10	10	
	URTI	8	8	
	Wound infection	3	3	
	PPH	1	1	

Only 22 (22%) of the patients received blood transfusions, with 78 (78%) of the patients not needing them. Table 3's analysis of the maternal outcome reveals that out of 100 patients, 24 (or 24%) experienced various complications. The most frequent maternal complication was pyrexia, which occurred in 10 (10%) patients. Upper respiratory tract infection came in second with 8 (8%) cases, followed by wound infection with 3 (3%) cases, and abdominal distention with 2 (2%) cases.Correlation of post operative maternal morbidity with various risk factors (Table 4) reveals that The majority of patients with postoperative morbidity were not scheduled (21%), referred (14%), underwent emergency surgery (24%), had low socioeconomic status (13%), had moderate to severe anaemia (4%), were underweight (9%), overweight (3%), had low levels of education (11%) and were moderate to heavy workers.

Parameters	Healthy	%	Post-op	%	P value
			morbidity		
	Boo	king s	tatus		
Unbooked	56	56	21	21	
Booked	20	20	21	21	0.001
BOOKEd	Dire	20	erred	5	0.001
Direct	52	52	10	10	<0.001
Difect	32	24	24	10	<0.001
Keleffed	Emor	24		14	
<b>E</b>	Emerg			24	
Emergency	12	12	24	24	0.022
Elective	4	4	0	0	0.023
	Socioe	conom	ic status		
Lower	23	23	13	13	
Upper lower	44	44	10	10	
Lower middle	8	8	1	1	0.0001
Upper middle	1	1	0	0	
	Nutr	itional	status		
		Anemi	a		
Normal Hb	27	27	6	6	
Mild	42	42	14	14	
Moderate	5	5	3	3	< 0.024
Severe	2	2	1	1	
		BMI			
Underweight	10	10	37	9	
Normal	62	62	42	11	
Overweight	4	4	10	3	< 0.001
Obese	0	0	2	1	
Educational status					
Uneducated	19	19	11	11	
Primary	36	36	11	11	
Secondary	20	20	2	2	< 0.001
Graduate	1	1	0	0	
Type of work					
Sedentary	2	2	1	1	
Moderate	59	59	18	18	0.45
Heavy	15	15	5	5	

A weight analysis of the babies reveals that 32.5% were in the 2.5-1.5 kg range, while the other half were between 2.5 and 3.0 kg. 40 babies were over 3 kg, while only 9 (2.33%) were under 1.5 kg. 19 IUDs were present.

In neonates, birth asphyxia was the most frequent morbidity (Table 5), followed by RDS in 22 neonates (5.69%), sepsis and pyrexia in 13 neonates (3.36%), and MAS in11 neonates (2.84%). Birth Asphyxia was the leading cause of death in 9 (42.85%) cases, followed by RDS in 6 (28.57%), sepsis and pyrexia in 2 (9.52%), MAS in 2 (9.52%), and CHD in 1 (4.76%).

Placenta previa (most newborns were premature), obstructed labour, and transverse lie with cord prolapse were frequent causes of caesarean sections that resulted in neonatal mortality.

### DISCUSSION

The safe delivery of a multipara who had previously given birth vaginally may still necessitate a caesarean section. Out of 100 study participants, 77 patients (or 77%) were unscheduled. This fact reveals a low rate of patient antenatal booking in India, especially in M.P. This might be a result of the low literacy rate among women and the general lack of knowledge about the value of antenatal care. Our findings align with those of the studies conducted by Desai E et al (72.09%) and Himabindu P et al (71%). [13,14] Only 38 patients (38%) were referred from other locations, while a total of 62 patients (62%) were admitted directly to the hospital (Table 4). The resultsshow that there are fewer deliveries occurring in hospitals in M.P. The majority of cases were direct admissions, and patients only visited the hospital when complications developed. Desai E. et al. reported almost identical findings, finding that the cases that were received directly as opposed to being referred were more prevalent (48.84%). [13] Out of 100 patients, the majority (55%) are between theages of 26 and 30. Following closely behind are 31.86% of patients between the ages of 21 and 25. This is due to the fact that the legal age of marriage in India for girls is 18 years old. In their study, Sethi P et al. also found that 41% of women having primary caesarean sections were between the ages of 25 and 29.[15] Similar findings were also reported by Unnikrishnan B et al. [16] The distribution of patients by parityreveals that the majority (49%) of patients were Gravida-2, followed by Gravida-3 (32%). It illustrates how, in recent years, families have shrunk from 5-6 children per couple to just 2-3 children per couple. In recent years, grand multiparity has significantly decreased. Similar findings were also reported by Sethi P et al: 35% of women had Gravida-2 parity and 30% had Gravida-3 parity. [15] The majority of patients (59%) have gestational periods of 37 to 40 weeks, followed by periods of 32 to 36 weeks (28.76%). Rowaily MA et al. found that the majority of patients (78.8%) belonged to gestational ages of 37-42 weeks, followed by 18.2% patients in gestational ages of 37 weeks; the results are comparable to those of the current study. [17] The majority of patients (46%) had only a primary education, and 30% were illiterate, according to the distribution of patients based on their

educational status. Better educational status is shown in the study by Ajeet S. et al. [18] The upper lower class accounts for the majority of patients (54.1%), followed by the lower class (36%). This is due to the fact that 31.65% of people in Madhya Pradesh still live in poverty. According to Ajeet S et al., the majority of the 247 patients in their study came from the class III socioeconomic group (41.3%).[18] Out of a total of 100 patients, (56%) had mild anaemia, 8% had moderate anaemia, 2% had severe anaemia, and 1% had very severe anaemia. In India, >80% of antenatal patients have anaemia, according to reports. Only 5% of the patients underwent elective caesarean sections, while 95% underwent emergency caesarean sections. In a study with 100 patients, Sethi P. et al. found that 91% of operations were emergencyrelated and only 9% were elective. [15] Malpresentations were the most frequent cause of caesarean sections in the current study (21%) followed by foetal distress (71, 18.39%), APH (71, 18.39%), severe preeclampsia and eclampsia (39, 10.1%), obstructed labour (33, 8.55%), and twin pregnancy (21, 5.44%). In their study, Rao JH et al. also noted abnormal presentations (32.5%), APH (19.5%), foetal distress (17%), and labour obstruction (18.5%). [19] Fetal distress (25.58%), APH (22.09%), CPD (19.77%), and abnormalities were also reported by Desai E et al.In his research, presentations were found to be the most frequent causes of caesarean sections (17.44%).[13] In their study, Himabindu P et al. also revealed that foetal distress (24.7%) was the most frequent abnormal presentation for which a Caesarean section was performed. They also demonstrated that breech presentation was the most common abnormal presentation. [14] 22 (22%) of the 100 patients who were treated had blood transfusions. According to a study by Rouse DJ et al, only 3.2% of women who had a primary caesarean needed blood transfusions. 31 The fact that India has a very high incidence of anaemia among pregnant women (>80%) may account for the higher number of transfusion needs. 24 (24% of 100 patients) experienced various complications. Pyrexia, which affected 10 (10%) patients, URTIs in 8 (8%) patients, wound infections in 3 (3%) patients, and

abdominal distention in 1 (1%) patients were the most frequent maternal complications. Similar findings were presented in Rao JH's study. 30 There was no maternal mortality noted in the current study. This might be due to the accessibility of better antibiotics, blood and blood product transfusion facilities, safe anaesthesia techniques, prompt better surgical intervention, techniques, and obstetricians with operative skill. [15] In unbooked patients, referred patients, emergency LSCS, low socioeconomic status, anaemia, obesity, and lower level of education, postoperative morbidity was statistically significantly higher. According to level of activity, there was no statistically significant difference between the various groups. It has been

emphasised again from the discussion above that multigravida women are more frequently ignored and pay little attention to their families. When a woman gives birth vaginally during her first or second pregnancy, her family and she herself become less willing and attentive to routine antenatal checkups, which increases the risk of anaemia, poor nutrition, and placenta previa. Additionally, despite the fact that she gave birth normally, her family is reluctant to have her in a hospital. In addition, the majority of patients have their babies at home with an untrained person, and they only seek medical attention when multiple complications become obvious. It has been emphasised again from the discussion above that women in India need to be given more power through better education in order for them to be aware of the potential complications that could arise during pregnancy and delivery. In order to prevent these complications, regular antenatal

checkups, early diagnosis of pregnancy and its high risk factors, and their management are all possible. Our country's goals are to lower the maternal mortality rate to under 100 per 1,000 live births and the newborn mortality rate to under 29 per 1,000 live births. A female literacy rate of at least 80%, 100% high-quality antenatal care, and 100% institutional deliveries can help achieve this.

#### CONCLUSIONS

Women who previously underwent a typical vaginal delivery often experience numerous unanticipated complications. It is advised that all antenatal patients schedule appointments and receive appropriate antenatal care on a regular basis. In order to lower maternal and perinatal morbidity and mortality, all deliveries in multigravida should take place in a hospital.

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