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An analysis of factors responsible for caesarean section in a multigravida with previous normal vaginal delivery

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Abstract
Background: The incidence of caesarean section has increased in the past few years in both developed and developing countries. The aim of the study is to analyse the factors responsible for caesarean section in a multigravida women with previous normal delivery.
Methodology: This is an observational study involving 70 multiparous women with history of previous normal vaginal delivery during the period from September 2015 to September 2018 in the department of Obstetrics and Gynaecology of GCS Medical College and Research Centre, Ahmedabad. The various parameters analysed were presentation of foetus, weeks of gestation, elective v/s emergency caesarean section, indication of caesarean section.
Results: In the study, majority of patients belong to age group of 28-32 years (47.14%) and were gravida 2 (75.71%). 48 out of 70 women were between 37 to 40 weeks. The most common indication of caesarean section is foetal distress followed by breech presentation in our study and most caesarean were performed in emergency.
Conclusion: Caesarean sections are effective in reducing maternal and neonatal mortality only when done for obstetric or medical indications. Knowledge of the factors responsible for caesarean in multigravida with previous normal delivery may assist obstetrician in overall patient management which ultimately will reflect in better maternal and neonatal outcome necessary for psychological and social wellbeing.

Keywords: Multigravida, vaginal delivery, caesarean, indication

Introduction
The incidence of caesarean section has increased in the past few years in both developed and developing countries [1]. In recent years, governments and clinicians have expressed concern about the rise in the numbers of caesarean section births and the potential negative consequences for maternal and infant health [2]. In 2014, WHO conducted a systematic review of the experience of users with the Robson classification (the 10 group classification) to assess the pros and cons of its adoption, implementation and interpretation and to identify barriers, facilitators and potential adaptations or modifications. WHO proposes the Robson classification system [3] as a global standard for assessing, monitoring and comparing caesarean section rates within healthcare facilities over time and between facilities.
A multipara is the one who had one or more previous viable births. Caesarean section in a multigravida means first caesarean section performed in a woman who has delivered vaginally atleast once previously [4]. It is a common believe among general population that in multiparous women who have had previous uncomplicated vaginal deliveries will have all subsequent deliveries vaginally but multipara are considered at increased risk for various antenatal complications and may land up in caesarean section owing to the associated risk factors. The aim of this study is to analyse various associated factors that are responsible for primary caesarean section in a multigravida patient.

Material and methods
This observational study was conducted for a period of three years from September 2015 to September 2018 in the Department of Obstetrics and Gynaecology of GCS Medical College and Research Centre, Ahmedabad. Total 70 women were enrolled in this study. All women were registered multigravida with history of previous normal vaginal delivery/deliveries. An approval was taken for conducting this study from institutional ethics committee and scientific research society.

Inclusion criteria included all multiparous women with gestational age more than 34 weeks who underwent caesarean section with history of previous one or two normal vaginal delivery. Exclusion criteria were primigravida women, patients with history of previous one or two caesarean section, history of previous any surgery on uterus or cervix, history of abortion.
Written informed consent was taken from all the participants before the study. Detailed history was taken including obstetric, menstrual and relevant surgical and past history. A routine per abdominal examination was done to assess gestational age, presentation, adequacy of amniotic fluid which was also confirmed by obstetric ultrasound. Detailed pelvic examination was done. An admission foetal non-stress test was carried out to assess foetal well being. General and systemic examination (cardiovascular and respiratory system) was also performed. Routine biochemical investigations were done and report noted. Patients were explained about the study.
All patients who underwent caesarean section with history of previous normal vaginal delivery were assessed for indication of caesarean section and various other demographic and clinical criteria associated and the information was collected in a pre-designed proforma. Different variables were evaluated with the use of frequency and percentage.

Results

Patients of age group above 18 years were included in the study. Majority of the patients were under the age of 28 to 32 years (47.14 %) as shown in table 1.

Table 1: Age distribution of patients

Age	No. of cases	Percentage
18 to 22	7	10
23 to 27	21	30
28 to 32	33	47.14
>=33	09	12.85

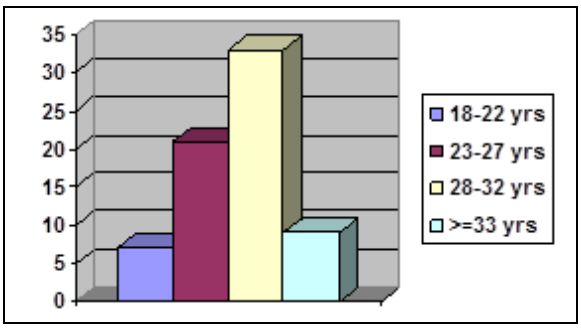
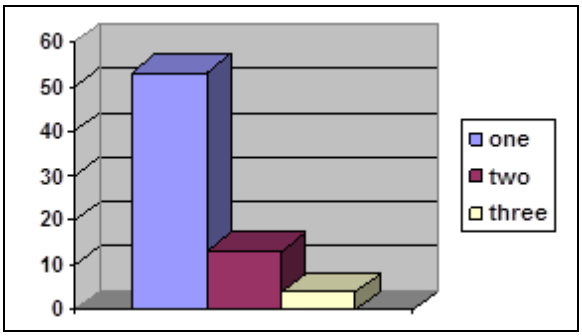


Table 2: Number of previous normal delivery.

	No. of cases	Percentage
Previous one normal delivery	53	75.71
Previous two normal delivery	13	18.57
Previous three normal deliveries	04	5.71



The maximum number of patients 53(75.71%) had history of previous one normal delivery.

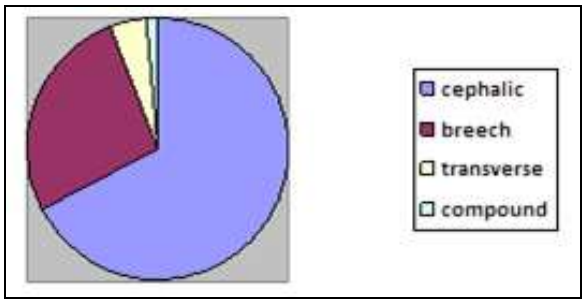
Table 3: Number of foetuses.

	No. of cases	Percentage
Singleton	68	97.14
Twins	02	2.85

The maximum number of patients who underwent caesarean section with history of previous normal vaginal delivery was having singleton pregnancy.

Table 4: Different presentation of foetus

Presentations	No. of cases	Percentage
Cephalic	47	67.14
Breech	19	27.14
Transverse	03	4.28
Compound	01	1.42



The most common presentation was cephalic (67.14%) and the second most common presentation was breech (27.14%).

Table 5: Distribution of weeks of gestation.

	Number of cases	Percentage
34-37 weeks	6	8.57
37-40 weeks	48	68.57
>40 weeks	16	22.85

Majority of patients were between 37-40 weeks (68.57%).

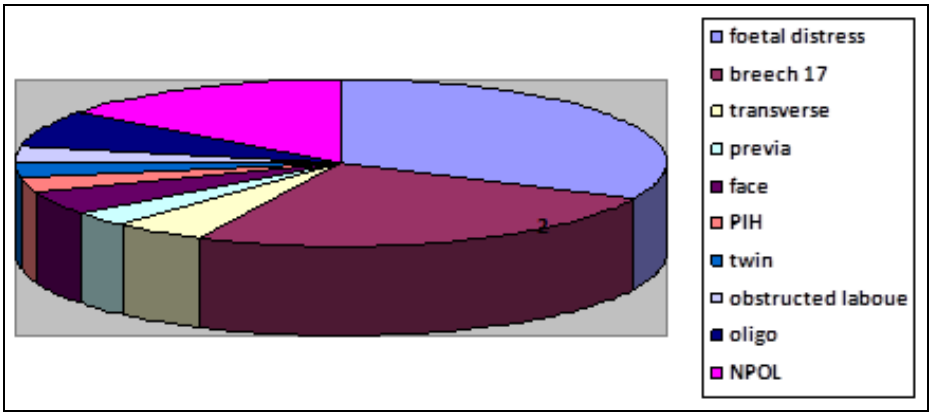
Table 6: Elective v/s Emergency LSCS.

	Number of cases	Percentage
Elective	14	20
Emergency	56	80

80% of patients underwent emergency caesarean section.

Table 7: Indications of caesarean section.

Indications	Number of cases	Percentage
Foetal distress	22	31.42
Breech	17	24.28
Transverse lie	3	4.2
Placenta previa	2	2.8
Face presentation	3	4.2
Severe preeclampsia	2	2.8
Compound presentation	1	1.4
Twin pregnancy	2	2.8
Obstructed labour	2	2.8
Severe oligohydraminos	5	7.1
Non progress of labour	10	14.2
Rupture of uterus	1	1.4



Most common indication of caesarean section in present study was foetal distress (31.42%) followed by breech presentation (24.28%).

Discussion

The present study was carried out at a tertiary hospital in Ahmedabad on 70 multigravida patients with inclusion and exclusion criteria.

Majority of the patients were under the age of 28 to 32 years (47.14%) followed by 23 to 27years (30%) as shown in table 1. Sethi P *et al* also reported in his study that maximum study participants (41%) were from age group of 25-29 years [5]. In our study most of the patients were having previous 1 normal delivery (75.71%).

Out of 70 patients, 47 patients (67.14%) had cephalic presentation and the most common indication for caesarean in this group of patients was foetal distress. Among the remaining 23 patients, breech presentation (27.14%) was common which is similar to the study presented by Himabindu *et al*. [6] in 2015 who showed that most common abnormal presentation was breech for which caesarean section was done.

Most of the patient (68.57%) belong to gestational age of 37-40 weeks which was similar to studies reported by Rowaily MA *et al*. [7] and Rajput N *et al*. [8]

Most of the patients underwent emergency caesarean section (80%) and 20% of the patients were posted for elective caesarean. Similar results were shown by a study done by Sethi P *et al*. where 91% of patients had emergency and only 9 % had elective caesarean delivery [5].

As shown in Table 7, the most common indication of caesarean section in present study was foetal distress (31.42%) followed by breech presentation (24.28%) comparable to results of studies conducted by Himabindu P *et al*. [6] and Jyothi H. Rao *et al*. [9] in which foetal distress was the most common indication of caesarean section (24.7%).

Conclusion

Caesarean sections are effective in reducing maternal and neonatal mortality only when done for obstetric or medical indications. High rate of complications are noted in women with increasing parity. All multipara women should be encouraged for routine and regular antenatal checkups to identify factors associated with high risk for caesarean section for safe delivery. A multipara who has history of vaginal delivery may still need caesarean delivery for better maternal and neonatal outcome. The effect of caesarean section rates on maternal and neonatal outcome and psychological and social well being still needs to be studied and more research is needed to understand the outcome. Knowledge of the factors responsible for caesarean in multigravida with previous normal delivery may assist obstetrician in overall patient management which ultimately will reflect in better maternal and neonatal outcome necessary for psychological and social wellbeing.

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