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Original Research Article

## Analysis of incidence of caesarean sections in primigravida

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### ABSTRACT

**Background:** Current study was conducted to determine the incidence of caesarean sections in primigravida.

**Methods:** A total number of 1698 primigravidas were admitted in the department of DNB district hospital Ballari, out of which 501 primigravidas who underwent caesarean section were included in the study.

**Results:** Caesarean section rate in primigravida was observed to be 29.5%, 55% of women were from rural areas and 45% from urban areas, 69.9% women belonged to lower class 31.1% belonged to upper middle class, 25% were illiterate while 75% were literate.

**Conclusions:** Meta-analysis suggests that the occurrence of pregnancy complications differ according to fetal sex with a higher cardiovascular and metabolic load for the mother in the presence of a male fetus.

**Keywords:** Primigravida, Pregnancy, LSCS

### INTRODUCTION

Caesarean section (CS) is an operative procedure whereby the fetuses after the end of twenty-eight weeks most widely performed surgical procedure worldwide. It was mainly evolved as a lifesaving procedure for mother and fetus during the difficult delivery. There is progressive increase in caesarean deliveries across the world both in developed as well developing countries.<sup>1</sup> This increase in C-section rate has become a major public health issue, because It is a burden on health system and imposes strain on families.<sup>2</sup> With increased use of intrapartum fetal monitoring like cardiotocograph, doppler, biophysical profile in labor room the cesarean rate have been increased. Rise in identification of high-risk pregnancies, good antenatal follow up, elective induction of labor etc also adds to increase in rates of cesarean deliveries.

Aim of current study is to determine the incidence of caesarean sections in primigravida. Objectives of the

current study were to analyse caesarean section in primigravida in context with; indications, socioeconomic status, gestational age and morbidity and mortality associated with surgical procedure.

### METHODS

The present study was a retrospective observational study conducted in the department of obstetrics and gynaecology, District hospital Ballari from 1 January 2019 to 31 December 2019. In current study, all primigravida women who were admitted in labour room and who fulfilled the inclusion criteria and were willing to participate were selected and analyzed for the incidence of caesarean section.

#### *Inclusion criteria*

Inclusion criterion for current study was all primigravida's who were admitted in department of OBG and who underwent caesarean section.

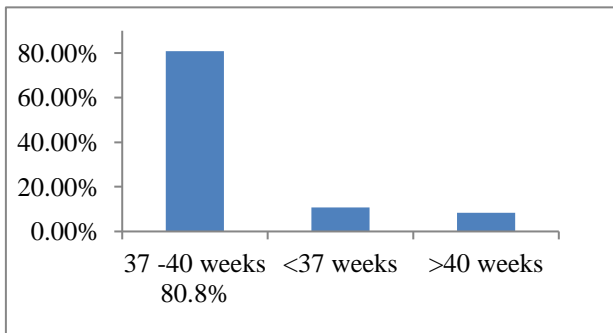
**Exclusion criteria**

Exclusion criteria of current study were; primigravida’s who delivered vaginally, multigravida’s who delivered vaginally or who underwent caesarean section.

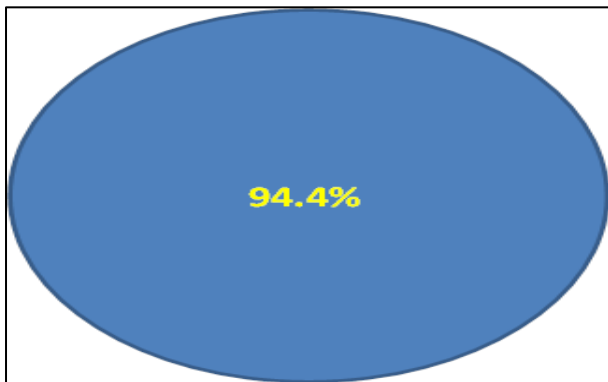
Results were analyzed with special emphasis on incidence of caesarean section in primigravida using simple percentage-based calculations.

**RESULTS**

A total number of 1698 primigravidas were admitted at hospital out of which 501 primigravidas who underwent caesarean section were included in the study; caesarean section rate in primigravida was observed to be 29.5%. 55% of women were from rural areas and 45% from urban areas 69.9% women belonged to lower class 31.1% belonged to upper middle class 25% were illiterate while 75 % were literate. 80.8% of patients delivered between 37 to 40 weeks, 10.8% below 37 weeks and 8.4% delivered after 40 weeks. 94.4% were booked cases remaining 5.6% were unbooked cases. 18.9% babies were <2.5 Kg, 22.4% babies were above 3.5 Kg and 58.7% babies were between 2.5 to 3.5 Kg. 57.3% babies were male babies and 42.7% were female babies, 15% of babies admitted in NICU. 12% of patients were associated with pregnancy induced hypertension, 8% with hypothyroidism and 3.1% with premature rupture of membranes. No cases of gestational diabetes admitted.



**Figure 1: Distribution according to gestation age at delivery.**



**Figure 2: Booking status.**

**Table 1: Distribution according to age.**

Gestation (years)	N	%
21-30	251	50.5
≤20	231	46.1
>30	17	3.4

**Table 2: Distribution according to indications.**

Indications	N	%
Fetal distress	201	40.11
Cephalopelvic disproportion	116	23.1
Oligohydramnios	74	14.7
Malpresentations	45	9
Second stage arrest	20	4
anhydramnios	19	3.7
Non progression of labour	10	1.99
Twins	7	1.3
Cord prolapse	5	1
Placenta previa	3	0.59
Abruptio placenta	1	0.2

**Table 3: Distribution according to birth weight.**

Birth weight (Kg)	N	%
<2.5	95	18.9
2.5-3.5	295	58.8
>3.5	111	22.3

**DISCUSSION**

In present study majority of primigravidas (55%) who underwent caesarean section were from rural areas and from lower socioeconomic class (69.9%), 53.4% were illiterate, 94.4% were booked cases, 50.5% patients were between age group 21-30 years and 46.1% <20 years. In present study most common indication was fetal distress (40.11%) followed by cephalopelvic pelvic disproportion (23.1%) and oligohydramnios (14.7%). 58.7% babies were between 2.5 to 3.5 Kg and 57.3% babies born were male babies. In present study caesarean section rate in primigravida was 29.5% as compared to standard WHO recommendation of 15%. Lot of referred cases were received after initial trial at CHC/PHC by staff nurses, medical officers and general practitioners in private hospitals. Cephalopelvic disproportion was observed to be the most common indication; early marriage and early pregnancy were also important contributing factors. Belizán et al analysis showed that every year in the world there is an additional need for 0.8-3.2 million CS in low income countries were 60% of the world’s births occur.<sup>2</sup> Simultaneously, 4.0-6.2 million CS in excess are performed in middle and high income countries where 37.5% of the births occur. From a population based approach, those CS in excess are likely to be medically unjustified and should be then considered unnecessary CS.<sup>3-10</sup> Malabary et al retrieved nationally representative CS rates from 137 countries representing more than 95% of the world annual number of births. The purpose of

their study was to evaluate in a biological model the effect of pelvic size on cesarean delivery rates. they used young maternal age as an unbiased marker for pelvic size and compared cesarean delivery rates for each age in years from the age of 12 to 20. They carried out study in a cohort with a sufficient number of subjects to have significant results. Their findings show that cesarean delivery rates increased with decreasing age, and that this effect was modified by birth weight, specifically macrosomia.<sup>11</sup> Li et al study showed that the overall rate of CS in mainland China was 54.90% and the most common indication for CS was maternal request (28.43%).<sup>12</sup> CDMR accounted for 15.53% of all deliveries and 28.43% of the CS deliveries in mainland China. The overall rate of CS in tertiary care hospitals was slightly higher than that in secondary care hospitals, probably because women with high-risk pregnancies were more likely to be admitted to tertiary care than to secondary care hospitals. This presumption is supported by the higher rate of high-risk pregnancy in the tertiary care hospitals compared with the secondary hospitals. Jagannath et al observed the most common age group in their study was 20-25 years (47%). The incidences of primary caesarean section were 68.36%. Among their study cases, 40% were booked, 17% were booked but admitted as emergency and 43% were unbooked.<sup>13</sup>

### Limitations

Limitation of the current study was as it was a retrospective study all the data couldn't be collected

### CONCLUSION

It can be concluded that being a tertiary care hospital, a high rate of caesarean deliveries was observed. Individualization of the indication and careful evaluation, following standardized guidelines, practice of evidenced-based obstetrics and audits in the institution, can help in limiting caesarean section rate

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