

## A cross sectional study to evaluate indications and outcomes of caesarean section in a tertiary care hospital

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### Abstract

**Introduction:** Cesarean delivery is defined as the birth of the fetus through incision in the abdominal wall and the intact uterine wall. This definition does not include removal of fetus from the abdominal cavity in the case of abdominal pregnancy or in case of rupture uterus. Cesarean section is the second commonest surgery done on the women in India after tubectomy and has great impact on maternal and neonatal health. **Materials and Methods:** Cesarean delivery is defined as the birth of the fetus through incision in the abdominal wall and the intact uterine wall. This definition does not include removal of fetus from the abdominal cavity in the case of abdominal pregnancy or in case of rupture uterus. Cesarean section is the second commonest surgery done on the women in India after tubectomy and has great impact on maternal and neonatal health. **Results:** During study period, total deliveries conducted were 3650. Out of which, deliveries conducted by Caesarean section were 2044 (56%). Out of 1113 primipara 1052 were live births, 20 (1.81%) baby died after birth and 41 (3.63%) were still births. Amongst multipara, 900 (96.8%) were live births, 20 (2.10%) baby died after birth and 10 (1.05%) was still birth. Proportion of Still birth is higher amongst primipara. **Conclusion:** With passing time, the rate of caesarean section is increasing. As primary caesarean section usually determines the future obstetric course of a lady, it is of prime importance to give effort for safe reduction of caesarean. Individualization of the indication and careful evaluation, following standardized guidelines and practice of evidenced-based obstetrics followed by audits in the institution, can help us limit the caesarean rates.

**Keywords:** Cesarean delivery, Primipara, multipara, tubectomy, abdominal cavity.

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### Introduction

Once a cesarean, always a cesarean” was the rule for classical cesarean section (CS) but now a days CS is considered a safe mode of delivery associated with less perinatal complications despite high health and financial cost. Cesarean delivery is defined as the birth of the fetus through incision in the abdominal wall and the intact uterine wall. This definition does not include removal of fetus from the abdominal cavity in the case of abdominal pregnancy or in case of rupture uterus. Cesarean section is the second commonest surgery done on the women in India after tubectomy and has great impact on maternal and neonatal health.

In India we have variable CS rate ranging from 5% to nearly 40% depending on various factors. The increasing global rates of caesarean section have been one of the most debated topic in maternity care. Cesarean section is a major surgical procedure and like every surgical procedure, carries a significant risk of morbidity and mortality.

The reason for increase in Caesarean birth are multifactorial and include the increasing number of woman with prior Caesarean delivery, the increase in multifetal gestation, increasing use of intrapartum fetal monitoring, medico legal concerns, maternal autonomy in decision making regarding mode of delivery. Today the previous Caesarean section is the main contributory factor for the high frequency of caesarean delivery worldwide.

### Materials and methods

This is a retrospective cross sectional study of all the caesarean deliveries that occurred in the period between 1st January 2020 to June 2021 in the Department of Obstetrics and Gynecology, Government General Hospital, Ananthapuramu.

Data were analysed from the hospital records. Maternal data collected included the age, parity, type of CS and indication of CS. The caesarean rate was calculated as:

$(\text{Total number of caesarean deliveries} / \text{Total number of deliveries}) \times 100.$

The indications for caesarean section included foetal distress, malpresentation, previous caesarean section, multiple gestation, failed induction, failed progression (including failed forceps or vacuum extraction), cephalopelvic disproportion, maternal indications, obstetric indication and foetal indications.

In the present study, foetal distress includes foetal distress during labour, and abnormal umbilical artery Doppler study. Maternal indications include the maternal conditions predating the pregnancy that could complicate delivery like complete perineal tear, medical causes, post myomectomy etc. Obstetric indications were placenta previa, abruptio placentae, placenta accreta, cord prolapse etc. Foetal indications included intrauterine growth restriction, prematurity, and congenital malformations in which vaginal delivery was not possible. Data was analysed using SPSS 20.0 for windows (SPSS inc., Chicago, IL, USA).

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**Results**

During study period, total deliveries conducted were 3650. Out of which, deliveries conducted by Caesarean section were 2044 (56%).

**Table 1: Age distribution**

S.No	Age	Frequency (N=2044)	Percentage
1	9-24	1089	53.3%
2	25-30	858	42.0%
3	30-36	96	4.7%

In our study, more than half of mothers (53.3%) were in age group of 19-24 yrs followed by 25-30 yrs age group which constitutes 42.0%. Majority of mothers (80%) were housewives. Sixteen percent of mothers were engaged in unskilled work. 62.7% of mothers were Hindu by religion. Unmarried pregnancies were 4%. Illiteracy was high amongst mothers (26%). Only 2% of mothers studied after higher secondary certificate examination. Seventy four percent of mothers were belonged to nuclear family.

**Table 2: Occupation Status**

S.No	Occupation Status	Frequency (N=2044)	Percentage
1	Professional	14	0.7%
2	Semi-professional	14	0.7%
3	Clerical	41	2.0%
4	Skilled	14	0.7%
5	Semiskilled	0	0.0%
6	Unskilled	341	16.7%
7	House wife	1620	79.3%

**Table 3: Religion**

S.No	Religion	Frequency (N=2044)	Percentage
1	Hindu	1281	62.7%
2	Muslim	558	27.3%
3	Buddhist	190	9.3%

**Table 4: Marrital status**

S.No	Religion	Frequency (N=2044)	Percentage
1	Married	1935	94.7%
2	Unmarried	81	4.0%
3	Divorced/Separated	29	1.4%

**Table 5: Education**

S.No	Religion	Frequency (N=2044)	Percentage
1	Illiterate	531	26%
2	Primary	643	31.3%
3	Secondary	721	35.3%
4	Higher Secondary	108	5.3%
5	Graduate	26	1.3%
6	Post Graduate	15	0.7%

**Table 6: Type of family**

S.No	Religion	Frequency (N=2044)	Percentage
1	Illiterate	1512	74%
2	Primary	531	26%

**Table 7: Caesarian section rates**

S.No	Mode of Delivery	No of cases	Percentage
1	Vaginal Delivery	1346	65.9%
2	Caesarean delivery	698	34.1%
3	Total	2044	
4	Type of Caesarean		
5	Emergency	1545	75.6%
6	Elective	498	24.4%

**Table 8: Parity**

S.No	Parity	Frequency (N=2044)	Percentage
1	Primi	1113	54.47%
2	Multi	930	45.52%

**Table 9: Indication of caesarean deliveries**

S.No	Indication	No of cases	Percentage
1	Foetal distress	670	32.8%
2	Malpresentation	150	7.33%
3	Post caesarean pregnancy	547	26.76%
4	Failed induction	75	3.67%
5	Failed progression	214	10.5%
6	cephalopelvic disproportion	38	1.84%
7	Multiple pregnancy	55	2.7%
8	Maternal indication	39	1.9%
9	Obstetric indication	168	8.2%
10	Foetal indication	85	4.2%

Among the indications, it was observed that foetal distress (32.8%) was the commonest cause followed by post caesarean pregnancy (26.76%) as shown in table 9. 10.5% cases were due to failed progression and obstetric indication constituted 8.2%.

**Table 10: Outcome of LSCS pregnancy**

S.No	Outcome	Primipara (%)	Multipara (%)
1	Live	1052 (94.54)	900 (96.8)
2	Died after birth	20 (1.81)	20 (2.10)
3	Still birth	41 (3.63)	10 (1.05)
4	Total	1113 (100)	930 (100)

Out of 1113 primipara 1052 were live births, 20 (1.81%) baby died after birth and 41 (3.63%) were still births. Amongst multipara, 900 (96.8%) were live births, 20 (2.10%) baby died after birth and 10 (1.05%) was still birth. Proportion of Still birth is higher amongst primipara.

#### Discussion

Caesarean section is a major abdominal surgery which is life saving for mothers and fetus by providing alternate route of delivery. This procedure offer great benefit in situation in which vaginal delivery carries high risk of complications and death. We have conducted this study in the month of June in post natal ward of tertiary care hospital. Total deliveries conducted were 3650 out of these 1606 were vaginal deliveries and 2044 were caesarean section deliveries. It is because GMC, Ananthapur acts as a tertiary care referral centre. Most of the complicated and high risk ANCs of District hospital, Sub district hospitals, Rural hospitals, Maternity hospitals and PHCs are referred to GMC Ananthapur for further management.

Sakael TM et al conducted a hospital based study from 2001-2005 which showed that proportion of Caesarean section cases were 32.6%. Similar study conducted by Haider G et al in Isra university hospital, Hyderabad Pakistan showed that 64% deliveries were conducted by caesarean section. According to WHO no region in the world is justified in having caesarean section rate 10 to 15%. Thus we are exceeding WHO criteria.

In present study fetal distress was seen as a indication in 32.8% cases A Study by Nikhil Anand et al mentioned fetal distress as LSCS indication in 10.94% cases.

Multiple pregnancy is seen in 2% of cases in present study. Maimoona Hafeez et al conducted a cross sectional study mentioned that multiple pregnancies were seen in 2% cases.

#### Conclusion

With passing time, the rate of caesarean section is increasing. As primary caesarean section usually determines the future obstetric course of a lady, it is of prime importance to give effort for safe reduction of caesarean. Individualization of the indication and careful evaluation, following standardized guidelines and practice of evidenced-based obstetrics followed by audits in the institution, can help us limit the caesarean rates.

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