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Original Research Article

## Indications and foeto-maternal outcome of emergency cesarean sections in rural Mewar region

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### ABSTRACT

**Background:** In the 21st century caesarean section is the most common operation in modern obstetrics but its indications have been changed in elective and emergency cases. The aim of the present study was to find out the incidence, indication of caesarean, foeto-maternal outcome in patients who came in emergency from rural areas.

**Methods:** This retrospective study was conducted at Pannadhai Mahila Hospital, R. N. T. Medical College, Udaipur from September 2017 to February 2018. All the women who were unbooked, belonged to rural Mewar region and underwent emergency caesarean section.

**Results:** Total no. of deliveries conducted were 1560 in the emergency labour room out of which 462 were emergency caesarean sections. The mean age of the participants was 27 years. Foetal distress was the most common indication (17.75%) followed by prolonged labour/ failed induction 14.5%. Post-partum haemorrhage and adhesions were the commonly encountered complications.

**Conclusions:** LSCS due to maternal and foetal indications is inevitable. Timely performed LSCS decreases the morbidity and mortality. The government of India has also taken initiative in making caesarean deliveries more acceptable, affordable to patients belonging to rural areas. The government is also enhancing primary and community health centers.

**Keywords:** Emergency, Foetal distress, Lower segment caesarean section, Post-partum hemorrhage

### INTRODUCTION

In the 21<sup>st</sup> century caesarean section is the most common operation in modern obstetrics. Caesarean delivery defines the birth of a fetus via laparotomy and then hysterotomy. The overall rate of caesarean section delivery in 2015-16 is around 17.2% in India, increased from 8.5% in 2005-06.<sup>1,2</sup> The World Health Organization (WHO) earlier recommended around 5-15% rate of caesarean section in any population.<sup>3,4</sup> However, WHO recently suggested that they do not recommend a specific rate at either country-level or hospital-level.<sup>5</sup> The indications for caesarean sections have been undergoing a gradual change over the last few decades. Besides the obstetrical causes several other medical, social, economic, ethical

and medico-legal factors play a role in this rising trend of caesarean sections. Initially it was preferred for maternal interest but nowadays foetal health has also played a significant role.<sup>6</sup> CS may be associated with short term and long term risks. Short term maternal risks associated with a CS includes bleeding, injury to the urogenital or gastrointestinal organs, post-operative infection and risks for deep vein thrombosis.<sup>7,8</sup>

In long term there is an increased risk of severe bleeding following utero-placental complications such as placenta previa and placenta accrete in subsequent pregnancies. Proportion of CS to total number of births is considered one of the important indicators of emergency obstetric care (World Health Organization, 2009). A figure below

5% implies that a subsequential proportion of women do not have access to surgical obstetric care, on the other hand a rate higher than 15% indicates over utilization of the procedure for other than life saving reasons (WHO, 1985; WHO, 1993).<sup>9</sup>

Based on the WHO systemic review increase in caesarean section rates up to 10-15% at the population level are associated with decrease in maternal, neonatal and infant mortality.<sup>10</sup>

This study was done to find out incidences of caesarean section, indication, foetal, and maternal outcome in women belonging to rural areas who are unbooked and admitted in the hospital either in an emergency situation or at term.

## METHODS

This retrospective study was conducted at the Obstetrics and Gynecology department of Zanana Hospital, R.N.T Medical College, Udaipur, Rajasthan, India from September 2017 to February 2018. All women who were unbooked, belonged to the rural Mewar region and had undergone emergency cesarean section were taken in the study. Total 462 emergency cesareans were conducted during the study period. Information about all the CSs in the study period was obtained from the hospital's medical records, including the labor room register and operation theatre register. Each patient's data was obtained from their case records kept in the Medical Records Department. The data was collected in a preconceived format with special emphasis on demographic details like age, parity, booking status, antenatal high risk factors, indication of the caesarean section, timing of caesarean section, intra-operative and postpartum complications, Apgar score of the baby, neonatal intensive care unit (NICU) admission, birth weight and neonatal morbidity and mortality. Informed consent wasn't required as it is a retrospective study.

## RESULTS

During the six month study period, there were 1560 deliveries in the emergency labor room of Zanana hospital, of which 462 were performed by emergency caesarean sections, giving a CS rate of 29.6%.

Maximum patients (76.2%) belonged to the age group of 21-30 years. The mean age was 26.5 year as shown in Table 1.

Out of the 462 caesarean sections, 170 women (36.8%) were nulliparous and 292 (63.2) were multiparous. The highest parity was 6.

Table 2 depicts details of indications of LSCS. Foetal distress was the most common indication as 82 women (17.75) women had LSCS for the same. 67 women (14.5) underwent LSCS for indications of either prolonged

labour or foetal induction. 64 women (13.85%) had LSCS for abnormal foetal lie (Malpresentation).

**Table 1: Socio demographic profile.**

Age (year)	Number	Percentage
<20	38	8.22
21-30	352	76.2
31-40	72	15.58
<b>Total</b>	<b>462</b>	<b>100</b>

**Table 2: Indication of LSCS.**

Main indication	Number	%
Fetal distress	82	17.75
Abnormal fetal lie (Malpresentation)	64	13.85
Prolonged labor/Failed induction	67	14.5
Previous 1 CS	39	8.44
Previous 2 or 3 CSs	26 6	6.93
Placenta abruption	23	4.98
Placenta previa	37	8
CPD	28	6
Severe oligohydroamnios	34	7.36
Cord prolapse	6	1.3
Obstructed labor	7	1.5
PET/APE	43	9.3
<b>Total</b>	<b>462</b>	<b>100</b>

There were 71 women (15.37%) had a history of caesarean section in their last pregnancies out of which 39 had 1 LSCS while 28 had 2 and 6 women previously underwent 3 LSCS. Among the pre-existing obstetric indications hypertensive disorders of pregnancy contributed to 43 (9.3%). 37 (8%) had placenta previa and 23 (4.98%) women underwent CS for placental abruption.

Details of intra operative or post-operative complications encountered by patients are enlisted in Table 3, intra-operative adhesions were the most common complication which was present in a total of 35 patients (6.84%) while atonic PPH during surgery was present in 26 patients (5.62%) irrespective of previous surgical history.

Extension of uterine incision in 11 (2.38%) cases and urinary bladder injury in 2 cases were found for which immediate bladder repair was done by a general surgeon.

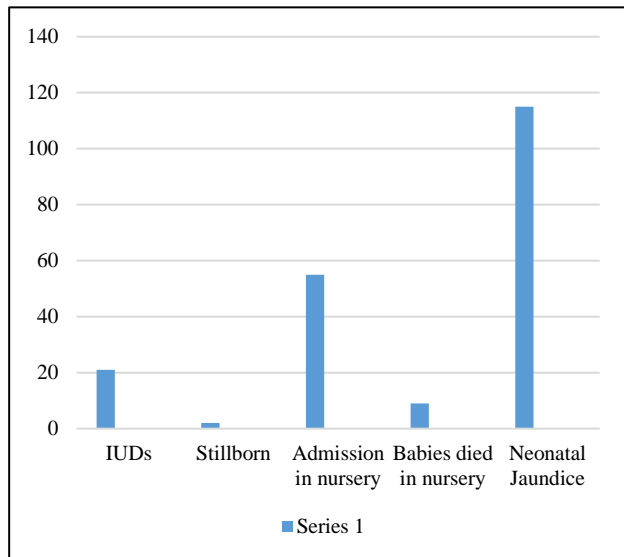
Transient haematuria was present in 25 cases which was resolved spontaneously in post-operative period. Post-operative fever and wound discharge were the most common complications 28 (6.1%) and 25 (5.4%) respectively. Most of them responded to antibiotic change. Only 7 (1.5%) required re-suturing of gapped

wounds. 17 women (3.68%) required prolonged catheterization, 3 women had postpartum hemorrhage but there were no single maternal mortality due to caesarean complications.

**Table 3: Maternal complications.**

Complication	Number	Percentage
<b>Intraoperative</b>		
Atonic PPH	26	5.62
Adhesions	33	7.14
Extension of uterine incision	11	2.38
Injury to bladder	2	0.43
<b>Postoperative</b>		
Abdominal distension	14	3
Fever	28	6.1
Prolonged catheterization	17	3.68
Wound discharge	25	5.4
Resuturing of wound	7	1.5
Postpartum hemorrhage	3	0.6
Maternal death	0	0

In present study, 21 were IUDs, 2 were stillborn. A total of 55 babies were admitted to the nursery and 9 of them died within 7 days. Perinatal mortality rate was 32 (6.93) which were comparable with previous studies. Neonatal jaundice being the most common complication reported in 115 cases (24.89%).



**Figure 1: Neonatal complications.**

**DISCUSSION**

The incidence of caesarean sections in emergency unbooked patients during six month period from September 2017 to February 2018 is 462 (29.6%) out of a total of 1560 deliveries of unbooked patients from rural areas. Our results are comparable to other earlier studies. In Asia survey the overall caesarean rate was 27.3%.

China had the highest overall caesarean rates (46.2%) followed by Vietnam, Thailand and Sri Lanka; Cambodia had the lowest (14.7%).

Mean age of our study participants was 26.5 years where maximum patients (76.2%) were in the 21-30 years age group. In our study 170 women (36.8%) were nulliparous. Caesarean rate in multiparous women were quite high (63.2%), comparable to other studies.<sup>6,12</sup> Foetal distress was the most common indication (17.75%) of emergency LSCS in our study, followed by previous caesarean section (15.37%) and (13.85%) caesarean sections were performed for malpresentations. Among pre-existing obstetric indications hypertensive disorders of pregnancy contributed to LSCS in 43 (9.3%) patients out of which 15 (34.88%) had antepartum eclampsia. Antepartum haemorrhage contributed for LSCS in 60% patients (12.98%), among them placenta previa was found in 37 patients (8%). Our results are comparable to previous studies. On the contrary Nazam R et al. reported that the previous caesarean section contributes to maximum operative deliveries in both elective and emergency LSCS.<sup>13</sup>

Similar to other studies atonic postpartum haemorrhage was the most commonly met complication in our study contributing in 26 (5.62%) patients irrespective of previous surgical history. Intraoperative adhesions were present in 33 patients (7.14%).

In post-operative period fever was the most common complication.<sup>6,12,13</sup> While Jain M et al, reports abdominal distension as the most common observed complication.<sup>6</sup>

A major limitation in our study was that our institution is a tertiary care center situated in an urban area; hence we are getting high risk referral cases which maybe the cause of the greater number of emergency LSCS. This study does not include cases operated in private medical colleges and hospitals.

**CONCLUSION**

Increased rates of caesarean section have led to an increased proportion of the obstetric population with a history of previous caesarean deliveries. Government schemes like Janani Suraksha Yojna, Bhamashah Yojna and employment of Asha sahyoginis have a great impact accepting institutional deliveries by rural and poor families/households. Rising institutional deliveries may be a reason of the increased rate of caesarean sections being performed in India.

Increasing incidence of emergency caesarean sections may be reduced by encouraging all antenatal women to attend all antenatal clinics so that those with high risk factors can be identified earlier for better monitoring during labour and elective LSCS may be performed if needed.

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