

DOI: <https://dx.doi.org/10.18203/2320-1770.ijrcog20215100>

Original Research Article

## A study of feto maternal outcome in primary caesarean section

Maitry Mandaliya\*, Arti Patel, Devanshi Shah

Department of Obstetrics and Gynecology, SCL Hospital, NHL Municipal Medical College, Gujarat, India

**Received:** 20 November 2021

**Revised:** 13 December 2021

**Accepted:** 14 December 2021

**\*Correspondence:**

Dr. Maitry Mandaliya,

E-mail: [drmaitry9196@gmail.com](mailto:drmaitry9196@gmail.com)

**Copyright:** © the author(s), publisher and licensee Medip Academy. This is an open-access article distributed under the terms of the Creative Commons Attribution Non-Commercial License, which permits unrestricted non-commercial use, distribution, and reproduction in any medium, provided the original work is properly cited.

### ABSTRACT

**Background:** Primary caesarean section is defined as caesarean section to be performed in women who have not had previous caesarean delivery. The increase in the rates of primary caesarean section is not only due to increased caesarean section in nulligravida but also due to upward rise in caesarean section rates in parous women. Through this study we aimed to examine the frequency and the indications of primary caesarean section in nulliparous and multiparous women.

**Methods:** A prospective study was carried out in the OBGY department of smt. SCL Hospital, NHL municipal medical college from April 2020 to April 2021. All multiparous women with previous normal vaginal delivery who underwent caesarean section this time were included in this study. Patients with previous caesarean section <28 weeks of gestation, patients who did not give consent were excluded from the study.

**Results:** 92% were 20-30 years and are gravida 2 or 3 patients. 85% patients were booked patients. Most common indication of primary caesarean section in parous women was MSL+FD (31%). Difficulty in delivery of the baby was encountered in 45% of cases. Major cause of admission in NICU was MAS.

**Conclusions:** Primary caesarean section has become a major driver of overall caesarean section rate. Decision making on primary caesarean section should be carefully scrutinized, introducing a diagnostic second opinion for all primary caesarean section. Primary caesarean section in both multigravida and primigravida becomes mandatory in many cases to prevent maternal and feta morbidity.

**Keywords:** Meconium stained liquor, Multiparous women, Primary caesarean section

### INTRODUCTION

Caesarean section has become one of the commonest operations worldwide. Primary caesarean section is defined as caesarean section to be performed in women who have not had previous caesarean delivery.<sup>1</sup>

The increasing rates in primary caesarean section in multiparous women as well as caesarean section in nulliparous women is under a lot of scrutiny in present times. The World Health Organization (WHO) indicates that a caesarean section rate >10-15% is not justifiable in any region of world.<sup>2</sup>

The increase in the rates of primary caesarean section is not only due to increased caesarean section in nulligravida

but also due to upward rise in caesarean section rates in parous women. Though timely intervention by caesarean section to prevent maternal and fetal morbidity and mortality is needed, it doesn't come without its own risks and complications.

Through this study we aimed to examine the frequency and the indications of primary caesarean section in nulliparous and multiparous women.

### METHODS

A prospective study was conducted in Obstetrics and Gynecology Unit of SCL Hospital- Saraspur, Ahmedabad from April 2020 to April 2021 in the obstetrics and gynecological department.

**Inclusion criteria**

All multiparous women with previous normal vaginal delivery who underwent caesarean section this time were included in this study.

**Exclusion criteria**

Previous caesarean section <28 weeks of gestation, patients who did not give consent.

**Statistical analysis**

SPSS version 27 was used for statistical analysis.

All the details of the included cases were noted including obstetric score, details of antenatal period as per the predetermined proforma. All routine investigations were carried out like complete blood count, blood group, ultrasound. All the details were tabulated and analysed.

**RESULTS**

Total deliveries during our study period were 5843. Out of which 3068 were normal deliveries and 2775 caesarean sections.

**Table 1: Age and parity wise distribution.**

Gravidity	<20 years n (%)	20-30 years n (%)	>30 years n (%)
Primi	25 (83.8)	0463 (39)	05 (8.3)
2-3	05 (16.1)	0695 (58.6)	45 (58.3)
>3	01 (0)	0027 (2.2)	20 (33.3)
<b>Total</b>	31 (2.4)	1185 (92.8)	60 (4.7)

Chi square=164.79, p value<0.0005.

Table 1 shows the age distribution and obstetric score of patients where majority of the patients belong to the age group of 20-30 years and are gravida 2 or 3 patients.

**Table 2: Booking status of patients.**

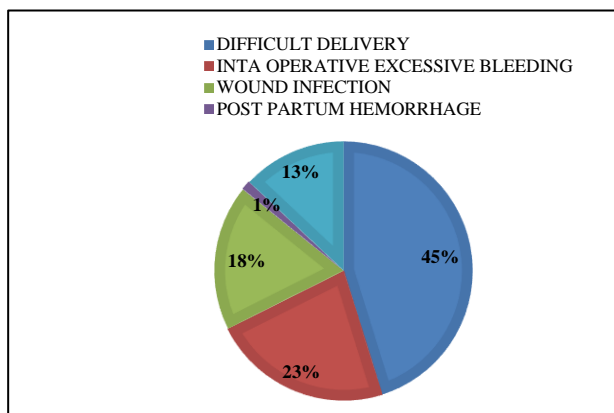
Booked cases	Unbooked cases	Total
<b>1085 (85%)</b>	191 (14.9%)	1276

Table 2 shows booking status where majority of the patients were booked patients (85%).

Table 3 shows various indications of caesarean section in multiparous women. Most common indication of primary caesarean section in parous women is MSL+FD (31%) followed by hypertensive disorders of pregnancy (22.1%).

**Table 3: Indications of caesarean section in multiparous women.**

Indication	Number (%)	Emergency CS (%)	Elective CS (%)
<b>1.MSL+FD</b>	404 (31.6)	404 (100)	00 (0)
<b>2. Hypertensive disorders of pregnancy</b>	282 (22.1)	080 (28.3)	202 (71.6)
<b>3. Abnormal presentation</b>	186 (14.5)	176 (94.6)	010 (5.37)
<b>4. Severe oligohydraminos</b>	163 (12.7)	032 (19.63)	131 (80.36)
<b>5. Cephalo pelvic disproportion</b>	134 (10.5)	020 (14.92)	114 (85)
<b>6. Obstructed labor</b>	051 (3.9)	051 (100)	00
<b>7. Prom</b>	042 (3.29)	042 (100)	00
<b>8. Others (APH, cord around neck)</b>	014 (1.09)	004 (28.57)	010 (71.42)
<b>Total</b>	1276	809	467



**Figure 1: Maternal outcome.**

Intraoperative as well as post-operative difficulties were taken into consideration.

Difficulty in delivery of the baby was encountered in 45% of cases. Post operatively fever/wound infection was observed in 18% of cases.

Total live births in this study were 278 (99%) in which 88 babies were admitted in NICU.

**Table 4: Fetal outcome.**

Perinatal outcome	Number (%)
MAS	25 (38.4)
Prematurity	16 (24.6)
Sepsis	14 (21.5)
Birth asphyxia	08 (12.3)
Apgar score <5 minutes	02 (3.07)

P value for MAS is <0.05.

P value for MAS was <0.05 which shows significance between meconium aspiration syndrome taken for emergency CS.

## DISCUSSION

Similar results were observed in Samal et al where 83% patients belonged to the age group 20-30 years showing that maximum parity was observed during the reproductive age group.<sup>1</sup> Himabindu et al also observed that 76% of the patients belonged to the age group of 21-30 years.<sup>3</sup> Aftab et al also reported 72.5% booked patients in her study.<sup>4</sup> However, 72% patients were unbooked cases in the study Desai et al.<sup>5</sup> This shows that various government programs have led to increase in awareness for routine antenatal care in our sector. Fetal distress (25%) was the most common indication in Himaindu et al.<sup>3</sup> Caesarean section for fetal distress were most commonly taken in emergency for prevention of fetal morbidity and mortality. Ramavath et al also observed that 19% patients underwent caesarean section for fetal distress.<sup>6</sup>

Parous women having hypertensive disorders of pregnancy underwent caesarean section so as to prevent various complications associated with it. Such patients did not have any similar history in previous pregnancies. Hypertensive disorders caused Doppler changes as well as IUGR in 5-10% of cases making it imperative to plan caesarean section for fetal well-being.

10% of patients having severe oligohydramnios turned out to have meconium-stained liquor when labour started; thus emergency caesarean section was performed to prevent fetal morbidity and mortality.

PPH was observed in patients having uncontrolled hypertension, obstructed labour, for which uterine artery ligation was done.

These patients were observed post operatively in GICU for control of blood pressure where some patients also received blood transfusion.

Wound infection was seen in 18% cases.

Lack of post-operative care from patient's side, obesity are main reasons for surgical site infection.<sup>7</sup>

Puerperal pyrexia was more common maternal morbidity in patients of prolonged labour, PROM, obstructed labour patients in active labour undergoing caesarean section. These patients were treated with higher antibiotics along with relevant investigations. Saha et al noted that 88% of babies were born with good APGAR score.<sup>8</sup> Similar results were also noted in our study.

Major cause of admission in NICU was meconium aspiration followed by prematurity.

MAS can be defined as respiratory distress in a neonate born through meconium stained amniotic fluid.

In the study Sailaja et al 7 babies out of 20 were admitted in NICU for MAS.<sup>7</sup>

Premature delivery can be delayed with uterotonic agents when patient is in the latent phase of labour.

Such patients were given steroids for fetal lung maturity.

Babies delivered of patients with obstructed labour had poor APGAR score.

## CONCLUSION

Primary caesarean section has become a major driver of overall caesarean section rate, since it carries intrinsic risk of repeat caesarean section in future pregnancies. To further contain the number of unnecessary primary caesarean section and promote VBAC; appropriate standardized obstetrics protocols should be introduced and enforced at hospital level.

Decision making on primary caesarean section should be carefully scrutinized, introducing a diagnostic second opinion for all primary caesarean section, particularly for term singleton pregnancies with cephalic presentation and in case of obstructed labour as well as non-reassuring fetal status, grey areas potentially affected by subjective clinical assessment.

Primary caesarean section in both multigravida and primigravida becomes mandatory in many cases. Thus, timely decision regarding the mode of delivery leads to decrease in maternal as well as fetal morbidity and mortality.

*Funding: No funding sources*

*Conflict of interest: None declared*

*Ethical approval: The study was approved by the Institutional Ethics Committee*

## REFERENCES

1. Samal R, Palai P, Ghose S. Clinical study of primary caesarean section in multiparous women in a tertiary care hospital. Int J Reprod Contracept Obstet Gynecol. 2016;5(5):1506-9.
2. WHO. Sexual and reproductive health: Statement on Caesarean section rates. Geneva: WHO/RHR/15.02. Available from: [https://www.who.int/reproductivehealth/publications/maternal\\_perinatal\\_health/cs-statement/en/](https://www.who.int/reproductivehealth/publications/maternal_perinatal_health/cs-statement/en/). Accessed on 2 March 2021.
3. Himabindu P, Sundari MT, Sireesha KV, Sairam MV. Primary caesarian section in multipara. IOSR J Dent Med Sci. 2015;14(5):22-5.
4. Aftab S, Ali N, Saleh F, Ghafoor SG, Mahesh A, Memon S. Indications of primary cesarean section in

- multipara. *J Bahria Univ Med Dent Coll.* 2019;9(2):105-9.
5. Desai E, Leuva H, Leuva B, Kanani M. A study of primary caesarean section in multipara. *Int J Reprod Contracept Obstet Gynecol.* 2013;2:320-4.
  6. Ramavath RB, Devi DH. Study of primary caesarean section in multiparous women. *MedPulse Int J Gynaecol.* 2020;14(3):84-6.
  7. Sailaja SP, Kavitha G. Study of primary caesarean section in multigravida. *J Evid Based Med Healthcare.* 2019;6(45),2900-3.
  8. Saha L, Chowdhury SB. Study on primary cesarean section. *Mymensingh Med J.* 2011;20(2):292-7.
  9. Di Giovanni P, Garzarella T, Di Martino G, Schioppa FS, Romano F, Staniscia T. Trend in primary caesarean delivery: a five-year experience in Abruzzo, Italy. *BMC Health Serv Res.* 2018;18(1):1-6.
  10. Triunfo S, Ferrazzani S, Lanzone A, Scambia G. Identification of obstetric targets for reducing cesarean section rate using the Robson ten group classification in a tertiary level hospital. *Eur J Obstet Gynecol Reprod Biol.* 2015;189:91-5.
  11. National Institute of Health. Ministry of Health. National system for the Guidelines. Cesarean Section: an appropriate choice and consciously. 2010. Available from: [www.salute.gov.it/imgs/C\\_17\\_pubblicazioni\\_1330\\_allegato.pdf](http://www.salute.gov.it/imgs/C_17_pubblicazioni_1330_allegato.pdf). Accessed on 25 March 2021.
  12. Imai KMD. Primary cesarean section in term, low-risk multiparous women: a single clinic retrospective observational study. *Obstet Gynecol Int J.* 2021;12(1):10-3.
  13. Sams S, Cicily TJ, Balachandran A. Institutional Study of Primary Cesarean Section among Multigravida. *J Med Sci Clin Res.* 2017;5(4):20714.

**Cite this article as:** Mandaliya M, Patel A, Shah D. A study of feto maternal outcome in primary caesarean section. *Int J Reprod Contracept Obstet Gynecol* 2022;11:183-6.