



A Clinical Study On Indications For Cesarean Section Among Primigravida In A Tertiary Care Center

¹Aditi Saini, ¹Aakriti Manhas, ²Anumodan Gupta, ²Gohar Wani

²Department of Pediatrics, GMC, Jammu

¹Department of Obstetrics and Gynecology, GMC, Jammu

***Corresponding Author:**

Dr. Anumodan Gupta

Department of Pediatrics, GMC, Jammu

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Abstract

Background: Cesarean section is one of the most commonly performed operations worldwide there is an epidemic of rising Cesarean section rates over the past few decades.

Objectives: To evaluate the trend, indications and prevalence of caesarean section.

Methods: This retrospective study was conducted over a period of one year from 1st May 2020 to 30th April 2021 at the Department of Gynecology and obstetrics Government Medical college and Hospital, Jammu India. Data of Primigravida patients who delivered by C-Section in our hospital during the defined study period was recorded and a statistical analysis of various parameters namely, the caesarean section rates, its indications were noted and analysed.

Results: The total numbers of women delivered over the study period were 19086, out of which C-Sections were 8301. The overall CS rate was 41.9%. Previous LSCS was the leading indication to the CS rate (29.96%) followed by arrest of labour (13.94%), CPD (11.84%), foetal distress (10.97%), breech presentation (5.74%), oligohydroaminous/IUGR (5.21%), failed induction of labour (5.21%), gestational hypertension (4.87%) and multifetal gestation (3.84%), prematurity (3.31%). 12.01% patients had various complications mainly infection (6.27%) and hemorrhage (3.48%). There was no mortality during this period.

Conclusions: 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 us limit CSR.

Keywords: NIL

Introduction

Cesarean delivery defines the birth of a fetus via laparotomy and then hysterotomy. Cesarean section (CS) is most common obstetric surgery performed worldwide to save life of pregnant patient as well as fetus with a continuously increasing incidence for the last two decades giving the women, an obstetrical status of "previous cesarean section" CS is well documented to be associated with suboptimal consequences related to both the mother and her infant's health ^[1,2]. Among those consequences reported, endometritis, hemorrhage, cystitis, infant

respiratory complications, and hypoglycemia may have negative effects on breastfeeding. Maternal distress, which often accompanies CS, may negatively affect the baby's feeding behaviors and breastfeeding outcomes

Moreover, high cost of C-section may result catastrophic health expenditure for families and exert additional pressure upon overburdened health systems particularly in low and middle income countries ^[2,3].

The World Health Organization (WHO) has recommended that the population-based cesarean section rate should lie between 5% and 15% [4].

The Caesarean Section (CS) rates have been increasing over the last ten to fifteen years; however, the major indications for CS have not changed. These remain foetal distress, prolonged labour, breech presentation, multiple gestations, previous CS and CS on demand. The increasing trend of CS rates may indicate a trend towards a more costly medical delivery systems and lowered threshold of abnormality detection among health care providers. [5]

The indications of caesarean sections vary among different parts of Indian subcontinent as there is no standard classification system exists for indications of C-Section. [5,6]. A major challenge is that definitions are not standardized, and indications can be multiple or related. [7] The most common indications for primary caesarean delivery include, in order of frequency, labor dystocia, abnormal or indeterminate foetal heart rate tracing, foetal malpresentation, multiple gestation, and suspected foetal macrosomia. [4] In order to understand the degree to which caesarean deliveries may be preventable, it is important to know why caesareans performed.

Furthermore, current available data from developed countries reveals that morbidity and mortality for both mother and baby arising from CS are higher when compared with vaginal delivery [6].

This present study was conducted to find out the determinants and indications for Caesarean section in our setup. This may help in adopting suitable measures to reduce the Caesarean section rate and the problems associated with it.

Aims And Objective Of The Study

To know about the indications and determinant of cesarean section among 1000 patients admitted, operated and managed in a medical college teaching hospital in Govt. Medical college Jammu, Union territory of India .

Methods: The data was collected by retrospectively auditing the hospital cesarean birth registry and admission case sheet.

The data was obtained by collecting the data from the hospital record registry which was collected by

analysing each file of patient undergoing cesarean section.

Inclusion Criteria

All pregnant women who underwent cesarean section either booked in antenatal clinic or unregistered admitted in labor were included in the study.

Exclusion Criteria

Women who did not give their consent to participate were excluded from the study

Statistical Analysis

Demographic and clinical data (gestational age in weeks, indications for CS and complications) were recorded in a semi structured pro forma. The data was collected from the Medical Records Department (MRD) of the hospital

Data were entered in Microsoft Excel and SPSS 21, IBM, Armonk, NY, United States of America. Categorical data were summarized as percentages.

Results

A total of 1000 women who underwent cesarean section at our tertiary care hospital were enrolled for the study. Table 1 shows pattern of cesarean section rates over past 5 years in our tertiary centre. WHO recommends cesarean section rate of 10 – 15% for optimal impact. At our tertiary centre , the cesarean section rate has increased to over 40% over past 5 years. Table 2 shows age distribution of patients undergoing cesarean section. About 72.9% patients were in the age group of 21 to 30 years followed by 20.6% in 31 to 40 years. 5% patients were less than 20 years and 1.5% were more than 40 years of age. 55.5% patients were Primigravida and 41.7% were multigravida among patients enrolled for the study.

Table 4 shows indications of cesarean section among patients enrolled for the study. Among various indications of cesarean section, it was noted that previous cesarean delivery (35.2%) was the most common indication of cesarean section followed by acute foetal distress (29.1%). Other common indications were breech, cephalopelvic disproportion, failed induction, non progress of labor , placenta previa and non descent of head. Also it was noted that maternal request (4.7%) is emerging as one of important indication of cesarean section.

Table 1 shows the trend of CS in the hospital over the past 5 years

April -----→ March	Cesarean sections	Total delivery
2016 -----→ 2017	8078 (39.5%)	20417
2017 -----→2018	8361 (38.4%)	21750
2018 -----→2019	8958 (38.8%)	23079
2019 -----→2020	9746 (41.6%)	23409
2020 -----→2021	4340 (43.4%)	1000(studied population)

Table 2

Age	No. of Patients(%)
< 20	50 (5%)
21 – 30	729 (72.9%)
31 – 40	206 (20.6%)
>40	15 (1.5%)

Table 3

Parity	No. of Patients(%)
Primigravida	555 (55.5%)
Multigravida	417 (41.7%)
Grand multi	28 (2.8%)

Table 4

INDICATIONS	No. of Patients(%)
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Acute foetal distress	291 (29.1%)
IUGR with oligo	18 (1.8%)
Breech	72 (7.2%)
Maternal request	47 (4.7%)
Previous cesarean delivery	352 (35.2%)
Non progress of labor	25 (2.5 %)
Antepartum eclampsia	12 (1.2%)
Placenta previa	21 (2.1%)
Twin pregnancy	7 (0.7%)
Color Doppler changes	18 (1.8%)
Cephalopelvic disproportion	54 (5.4%)
Failed induction	43 (4.3%)
Cord prolapse	7 (0.7%)
Triplet	2 (0.2%)
Non descent of head	18 (1.8%)
Obstructed labor	7 (0.7%)

Discussion

The aim of this study was to find indications and determinants of cesarean section at our tertiary center. According to the WHO, caesareans sections when done for proper indication helps reduce maternal and infant mortality. Cesarean section rate more than 10-15% offers no reduction in maternal and infant mortality rates ^[2]. The Robson

classification system has been suggested by the WHO for assessing cesarean rates among various groups ^[2]. The most common Robson group at our tertiary centre were Group 5 , multiparous women with single cephalic pregnancy 37 weeks or more and at least one previous uterine scar and Group 2 , primiparous women with single cephalic pregnancy 37 weeks or

more, who either had labor induced or were delivered by CS before labor.^[7]

At our tertiary center it was noted that there has been a sharp decline of VBAC over past years. This has been one of very important factors for increasing rates of cesarean section over past years. This change has been observed due to decrease in frequency of women willing to take trial of labor.^[8]

Also cesarean on maternal request is seen to as a new emerging indication for cesarean section. In our study, it has been seen in 4.7% of all patients which is almost equivalent to number of patients undergoing cesarean section for failed induction.

Conclusions

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 us limit CSR.

References

1. Vogel JP, Betrán AP, Vindevoghel N, Souza JP, Torloni MR, Zhang J, et al. Use of the Robson classification to assess caesarean section trends in 21 countries: A secondary analysis of two WHO multicountry surveys. *Lancet Glob Health* 2015;3:e260-70
2. World Health Organization. Indicators to monitor maternal health goals. Geneva: World Health Organization, 1994.
3. Festin MR, Laopaiboon M, Pattanittum P, Ewens MR, Henderson-Smart DJ, Crowther CA. Caesarean section in four South East Asian countries: reasons for, rates, associated care practices and health outcomes. *BMC pregnancy and childbirth*. 2009;9(1):17.
4. Betrán AP, Merialdi M, Lauer JA, Bing-Shun W, Thomas J, Van Look P, et al. Rates of caesarean section: Analysis of global, regional and national estimates. *Paediatr Perinat Epidemiol* 2007;21:98-113.
5. S N Mukherjee. Rising cesarean section rate. *J Obstet Gynecol India* 2006;56(4):298-300
6. Snyman, L. Is the high caesarean section rate a cause for concern? *Obstet Gynaecol Forum* 2002; 12(2):8–13. 8.
7. Leung GM, Lam TH, Thach TQ, Wan S, Ho LM. Rates of cesarean births in Hong Kong: 1987-1999. *Birth*. 2001;28(3):166–172. doi: 10.1046/j.1523-536x.2001.00166.x.
8. Wu WL. Cesarean delivery in Shantou, China: a retrospective analysis of 1922 women. *Birth*. 2000;27(2):86–90. doi: 10.1046/j.1523-536x.2000.00086.x
9. Lumbiganon P, Laopaiboon M, Gulmezoglu AM, Souza JP, Taneepanichskul S, Ruyan P, Attygalle DE, Shrestha N, Mori R, Nguyen DH, et al. Method of delivery and pregnancy outcomes in Asia: the WHO global survey on maternal and perinatal health 2007-08.
10. Li HT, Luo S, Trasande L, Hellerstein S, Kang C, Li JX, Zhang Y, Liu JM, Blustein J. Geographic variations and temporal trends in cesarean delivery rates in China, 2008-2014. *JAMA*