

A Study of Primary Caesarean section among Multiparous Women- report from Women's Tertiary care Hospital

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Abstract

Background: A cesarean section (CS) is performed to deliver a baby through the mother's abdomen. Our study aimed to classify the indications for primary cesarean section conducted among multiparous women. **Material and Methods:** An observational, cross-sectional, single centre study was conducted at the Sultania Zanana Hospital (SZH) affiliated to Gandhi Medical College, Bhopal. The total duration of the study was one year from April 2013 to March 2014. The study population comprised of the multi-parous women coming or referred to SHZ. The primary sources of the data were: patient's interview, treatment records, and operation theatre register.

Results: The prevalence of CS rates among multiparous women in our study was 19.1%. Fetal distress and malpresentation were the two most common indications for primary CS among multiparous women. Of the 602 women included in study 3 (0.5%) had a fatal outcome. Postoperative complications were present in a total of 137 (22.8%) patients, among them anaemia (28.5%), puerperal pyrexia (21.2%) and wound infection (14.6%) were most common.

Conclusion: One-fourth of total cases had some postoperative complications.

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I. Introduction

The term caesarean section (CS) refers to the operation of delivering the baby through an incision made on the abdominal wall and intact uterus after the period of viability.¹The decrease in maternal mortality following caesarean section made this operation a reasonable alternative for vaginal delivery especially for a foetus at increased risk for asphyxia or trauma.²The World Health Organization (WHO) issued recommendations that there is no justification to have a caesarean section rate higher than 10%.³This was subsequently revised to 15%, taking into consideration the higher prevalence of cephalopelvic disproportion (CPD) and human immunodeficiency virus (HIV) found in many developing countries.³The indications for performing caesarean section have changed a lot in recent years. Several non-clinical entities have played a substantial role in the increased rates of caesarean section.⁴⁻⁶For example, women of higher socioeconomic status have a higher incidence of caesarean section than do women of lower economic status and caesarean section is more common among young primigravida and elderly grand multipara women.⁴⁻⁶

Multiparity commonly encountered in developing countries is a problem associated with low age at marriage, illiteracy, poverty, high childhood mortality, preference for male child and ignorance about family planning measures.⁷The primigravida gives the impression of difficulty just because she is an unknown entity and more attention is focused on her than the women who have "done it before" but it is altogether a mistake to concerning childbearing that "practice makes perfect".⁸Since most multiparous women had easy and normal vaginal deliveries in the past, they do not pay much attention to the antenatal care in subsequent pregnancies.⁹Therefore, many multiparous women pass through the stage of pregnancy in subnormal health. Hence, in many busy maternity units, these patients get expert supervision only when unforeseen emergencies arise immediately before or during labour with potential life-threatening situation mandating an emergency caesarean section.¹⁰Therefore, this study aims to delineate the indications for the primary emergency caesarian section among multiparous women.

II. Material And Methods

2.1 Study Setting: The present study was conducted in the department of Obstetrics and Gynaecology, Gandhi Medical College Bhopal. The *Sultania Zanana* Hospital (SZH) is a tertiary care hospital dedicated to the reproductive needs of the women and caters to the need of the women living in Bhopal as well as surrounding districts.

2.2 Study Design: This is an observational, cross-sectional, single centre study of all emergency caesarean section operation conducted at the Sultania Zanana Hospital affiliated to Gandhi Medical College, Bhopal.

2.3 Study Duration: The total duration of the study was one year from April 2013 to March 2014.

2.4 Study population: The study population comprised of the multi-parous women coming or referred to SHZ. This includes the patients reporting directly to the labour room in various stages of labour as well as those who were admitted in the wards and taken up for emergency caesarean section. Following are the inclusion and exclusion criteria for the study participants:

Inclusion Criteria:

- i. Women of all age group.
- ii. Multiparous women who never had caesarean section during previous pregnancies.

Exclusion criteria:

- i. Primigravida
- ii. Women who had caesarean section during any previous pregnancy.
- iii. Women having secondary abdominal pregnancy.

2.5 Data Source: The primary source of the data for this study where the patient's interview, treatment records and operation theatre delivery register. From these sources following information was collected:

- I. Demographic findings (name, age, residence, income etc).
- II. Details of the present pregnancy.
- III. Clinical findings.
- IV. Obstetric findings.
- V. Period of gestation.
- VI. Haemoglobin level.
- VII. Temperature
- VIII. Weight of women

2.6 Ethical Approval: The current study was approved by the Ethical Committee on Human Research, Gandhi Medical College, Bhopal.

III. Results

During the period of study, a total of 10,721 women gave birth at Sultania Zanana Hospital, Bhopal, including a total of 3,151 caesarean sections, resulting in an overall caesarean section rate of **29.4%**. Table 1 gives the details of the month-wise deliveries and CS conducted at the study centre. The maximum number of deliveries were conducted in the month of January and the minimum number of deliveries were conducted in the month of June.

Table 1: Distribution of Deliveries Across the Year (n=10,721)

Month	Vaginal deliveries	Caesarean section	Total deliveries	%
Apr	542	239	781	7.3
May	604	237	841	7.8
Jun	570	200	770	7.2
Jul	682	221	903	8.4
Aug	680	283	963	9.0
Sep	688	245	933	8.7
Oct	671	296	967	9.0
Nov	638	285	923	8.6
Dec	641	298	939	8.8
Jan	684	293	977	9.1
Feb	549	264	813	7.6
Mar	621	290	911	8.5
TOTAL	7570	3151	10721	100.0
%	70.6	29.4	100.0	-

Table 2 gives the frequency of primary caesarean section in multiparous women which was 19% of total caesarean section and 5.6% of the total deliveries. About 19.1% of CS were conducted in multiparous women. Most of the women included in this study were between 20-29 years of age whereas younger and more elderly multipara roughly constituted about 2% of the population.

	n	%
Total No of deliveries	10721	100
Total no of vaginal deliveries	7570	70.6
Total no of caesarean section	3151	29.4
Total no of CS in multipara	602	5.6

Table 3 shows the indications of primary caesarean section in multiparous women in the present study. Overall, the foetal distress and malpresentation were the major indications for caesarean section in our study whereas ‘failed induction’ was the least common indication for CS in our study.

Indications	Number of patients	Percentage
Foetal distress	240	40.0
Malpresentation	105	17.4
Cephalopelvic disproportion	57	9.4
Antepartum haemorrhage	47	7.8
Contracted pelvis	23	3.8
Secondary contracted pelvis	17	2.8
Deep transverse arrest	22	3.6
Failed induction	8	1.3
Bad obstetric history	11	1.8
Obstructed labour	38	6.3
Multiple pregnancies	10	1.6
Others	24	4.0
TOTAL	602	100.0

In total, only 3 (0.5%) women had a fatal outcome in our study. As shown in Table 4, the postoperative complications were present in a total of 137 (22.8%) patients, among them anaemia (28.5%), puerperal pyrexia (21.2%) and wound infection (14.6%) were most common.

Complication	n	%
Moderate or severe anaemia	39	28.5
Puerperal pyrexia	29	21.2
Wound infection & gaping	20	14.6
Respiratory tract infection	14	10.2
Psychosis	7	5.1
Urinary tract infection	13	9.4
Breast congestion	4	2.9
Gastrointestinal complication	9	6.6
High blood pressure	2	1.5

IV. Discussion

If used judiciously CS can be a lifesaving procedure both for the mother as well as the baby. During the period of study, a total of 10,721 deliveries were conducted at Sultania Zanana Hospital, Bhopal. Majority of patients (71%) in the study were in the age group 20-29 years which is comparable to the findings of Sethi P et al (67%).¹¹ This may be due to the trends of early marriage and lack of education resulting in high fertility in early ages. The rate of caesarean section was 29.3% for all deliveries. According to a study by Indian council medical research (ICMR), the incidence of caesarean section is 25.4% for the years 1998- 1999.¹² The high rates of CS observed in our study can be attributed to our study site being a tertiary referral hospital where complicated cases are referred not only from Bhopal but also from nearby districts as well.

In total 602 primary caesarean sections were done among multipara women during the period of study. Incidence of primary caesarean section in multipara in the present study is 5.6 % which is higher than Jacob and Bhargava study (2.06%).¹³ Saluja et al (2014) found the proportion of LSCS in their institution is 24.64%.¹⁴

Among these, 3.82% were LSCS done in multipara with no caesarean in previous pregnancies.¹⁴ The frequency of primary caesarean section in multiparous women in our hospital is 19% of the total caesarean section while Erika et al (2013)¹⁵ found the total number of cases of primary C.S. in multipara was 29.05%.¹⁵ Another study demonstrated that primary caesarean rate among parous women in 2002 was 13.3% as compared to 18% in nulliparous women.¹⁶ The high postoperative morbidity is because most of the cases were un-booked and referral from peripheral centres handled outside by untrained dais.

The four major indications for caesarean section in multipara in our study were foetal distress, malpresentation, cephalo-pelvic disproportions and antepartum haemorrhage. Foetal distress as an indication for lower segment caesarean section in multipara is low owing to the complacent attitude of the patient and the obstetrician. Due to the availability of foetal heart monitoring equipment like cardiotocograph, the diagnosis of foetal distress was made early and emergency caesareans were done. The incidence of foetal distress in the present study is more as compared to other studies; this can be attributed to the frequent use of cardiotocograph in these recent years as compared to the previous decades.

Study	Foetal Distress	Malpresentations	CPD	Anaemia
Present study	40	17.5	6	22.7
Saluja et al. (2014)	18	30	6	NA
Desai et al (2013)	26	17.4	19.7	NA
Goonewardene M (2012)	41	NA	NA	NA
Jyoti H Rao et al (2013)	17	NA	NA	13
Sethi P(2014)	16	NA	13	NA

The factors responsible for malpresentation were a lax and pendulous abdominal wall in multigravida, imperfect uterine tone and extreme uterine obliquity. Malpresentations are more common in a grand multipara and are favoured by a pendulous abdomen and lordosis of the lumbar spine.¹⁷ The transverse lie is the most common malpresentation encountered. The incidence of transverse lie increases with parity occurring 10 times more frequently in patients of parity four or more than in a primigravida.¹⁷ Relaxation of the abdominal wall with a pendulous abdomen allows the uterus to fall forwards deflecting the long axis of the birth canal into an oblique or transverse position.¹⁷ The other malpresentation encountered in multipara is breech, compound presentation, brow and face. Some of the neglected cases of transverse lie present as hand prolapse. It is to be stressed that there is a tendency to allow even closely observed patients to go too long in a non-productive type of labour just because they are multipara.

Multipara may have cephalopelvic disproportion even having previously delivered a full-term child vaginally. Since the foetus increases in size with multiparity, the size of the foetus and foetal head should be carefully estimated. The fact that the multipara has had one or more vaginal deliveries should be regarded as an optimistic fact but not diagnostic criteria for spontaneous delivery of the foetus. Klein states that multipara in early labour with the foetal head not engaged should receive the same careful investigation for cephalo-pelvic disproportion that a primigravida would receive.¹⁸ Reluctance to diagnose this cephalopelvic disproportion leads to longer labour, with the development of excessive moulding and caput formation which makes the observer believe that progress has been made. Duckman et al states that cephalopelvic disproportion in a multipara can be more significant and more dangerous than in primi because of the delay in recognition.¹⁹

Antepartum haemorrhage is common in multiparous women with a rise in incidence above 35 years of age and with high birth order pregnancies. The incidence of APH in the present study was 7.8%, which was lower to Sikdar et al (19.6%), and Jacob et al (17.30%). Caesarean section is a major operative procedure. There is potential for injuries to the ureter, bladder, bowel, blood vessels and lacerations of the cervix, vagina and broad ligaments. It also increases the risk of postpartum haemorrhage, pulmonary embolism, paralytic ileus, urinary tract infections and other infections. In our study with good intraoperative and post-operative care, there was very less percentage of maternal mortality.

References:

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