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Patient Perceptions and fetal outcome of Cesarean delivery on Maternal request at Birat Medical College Teaching Hospital

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ABSTRACT

Aims: To explore the patient profile and perceptions of patient for choosing cesarean delivery on request over vaginal delivery.

Methods: The study is a prospective cross-sectional observational study from Jan 2021 to Dec 2021 in the Department of Obstetrics and gynecology, BMCTH. The data were entered in an excel sheet. Statistical analysis was done for frequency and percentage for categorical variables.

Results: Out of 1413 cesarean sections 106 underwent on their request without obstetrical indications. requested for cesarean delivery by maternal request. Prevalence of CDMR of total number of delivery in our institute was found to be 3.3. Fear of labor pain (53.8%) was the most common reason for CDMR followed by 39.6% of the lady choose because of concern of fetal injury during labor. Despite CDMR, 10 fetus required NICU admission.

Conclusions: The perception of pregnant women for choosing CDMR showed to be influenced by multiple factors; the most important is to avoid pain during labour and fera of fetal injury during vaginal delivery.

Keywords: cesarean delivery; maternal request; neonatal outcome

INTRODUCTION

Cesarean section is usually performed when normal vaginal delivery puts maternal and fetal health in jeopardy. The fetus is delivered early by cesarean delivery when there is some medical or obstetrical indication or when mother request for cesarean section as a route of delivery. The latter is termed as cesarean delivery on maternal request (CDMR).

Cesarean Delivery, a major abdominal surgery, has major health complications as the maternal death is found to increase by three fold in cesarean delivery than vaginal delivery due to possible complications.^{1,2} A healthy child delivered through cesarean section shows chance of suffering from chronic illnesses like asthma, diabetes mellitus, obesity and autoimmune diseases due to lack of

lack of which baby gets during passage through maternal birth canal.²⁻⁴ Apart from health related issues, economic impact due to unrequired cesarean section also mandates to keep cesarean section in optimum range.⁵ The recommendation is to keep the rate of cesarean delivery below 20% of the given population.^{6,7}

Globally, cesarean delivery has doubled in last 15 years to 21% and is increasing annually by 4%.⁸ According to professional and press media, cesarean delivery on maternal request was found to be significant contributor in this unprecedented increase in unrequired cesarean delivery.^{9, 10} In Nepal, study done in eastern region tertiary care hospital in 2006-2007 had shown increasing trend of cesarean delivery from 28.6% to 33.7% with various indications, among which cesarean delivery on maternal request was very less showing only 1(0.1%) on 2006 and 7(0.3%) on 2007. Regardless of less number, but showed increasing trend within one year duration.¹¹ A retrospective study of 5 years duration (2005-2009) done in Tribhuvan University Teaching Hospital on 2013 also showed increasing trend of cesarean delivery for various indications. The rate of cesarean delivery increased from 16.6% to 25.4% in 5 year duration.¹² Thus, amidst increasing rate of cesarean delivery rate, indication for cesarean delivery on maternal request is alarmingly increasing with time for various reasons. This study will be focusing on patient profile and various perceptions of patient for choosing cesarean delivery on request over vaginal delivery.

METHODS

A quantitative descriptive cross-sectional study was done in Department of Obstetrics and Gynecology, Birat Medical College Teaching Hospital from January 2021 to Dec 2021 with approval from Institutional

Review Committee (IRC). Singleton pregnancy of more than 37 weeks and maternal request of cesarean delivery was taken. Obstetric indications like malpresentations, antepartum hemorrhage, cephalo-pelvic disproportion, contracted pelvis, abnormal non stress test (NST), meconium stained liquor, previous cesarean delivery, previous uterine surgery were excluded. Participant fulfilling the inclusion criteria were included in the study. The demographic variables were noted and patient's perception on CDMR was enquired. Demographic information and fetal outcome were also noted. Descriptive analysis was done using MS Excel and SPSS 21.

RESULT

The proportion of CDMR was 3.4% (106 from 3136) of total delivery and 7.5% (106 from 1413) of cesarean sections in a year. Majority (94.3%) of them were in 20-35 years of age. Two-third of the patients were primigravida. [Table-1]

Table-1: Socio-demographic profile (N=106)

Variables	N(%)	
Age (years)	<20	1 (0.9)
	20-35	100 (94.3)
	≥35	5 (4.7)
ANC	Booked	63 (59.4)
	Unbooked	43 (40.6)
Gravidity	Primi-	72 (67.9)
	Multi-	34 (32.1)
Religion	Hindu	99 (93.4)
	Muslim	3 (2.8)
	Buddhism	3 (2.8)
	Christian	1 (0.9)
Education	Uneducated	4 (3.8)
	Primary	11 (10.4)
	Secondary	28 (26.4)
	Higher Secondary	63 (59.4)
Occupation	Housewife	66 (62.3)
	Job Holder	40 (37.7)
Residence	Urban	78 (73.6)
	Rural	28 (26.4)

Fear of labor pain and concern of injury to the baby during childbirth were the main perceived reasons to seek for Cesarean Delivery. Some other reasons were suggested by doctors, tubal ligation during delivery, anxiety of pelvic examination, advanced maternal age, late marriage and no living children. There was no perception like concern regarding pelvic organ prolapse, previous unsuccessful vaginal delivery and anxiety of lack of support from staff. [Table-2]

Table-2: Maternal perceptions for choosing CDMR (N=106)

Maternal perceptions	N (%)
Fear of labor pain	57 (53.8)
Concern of injury to fetus	42 (39.6)
Suggestion from outside the institution	13 (12.3)
Bilateral tubal ligation in same setting	4 (3.8)
Advance maternal age	3 (2.8)
Anxiety of pelvic examination	3 (2.8)

Majority had normal birth weight and good Apgar score at birth. One in ten had NICU admission with recovery after observation and treatment. [Table-3]

Table-3: Intraoperative and neonatal outcome (N=106)

Variables	N (%)	
Weight	<2.5 Kg	10 (9.6)
	2.5-4.0 Kg	94 (88.6)
	>4 Kg	2 (1.8)
Liquor	Clear	90 (84.9)
	Meconium stained	13 (12.3)
	Scanty	3 (2.8)
Apgar score	Less than 5	2 (1.8)
	5 to 7	70 (66.03)
	More than 7	32 (30.18)
NICU admission	10 (9.4)	
IUFD	3 (2.8)	

DISCUSSION

There is no accurate data of CDMR since there is no definite official entry or code but it is thought to be 4-18% worldwide.¹³ Our

hospital being a tertiary care centre, we provide service for both booked and unbooked patients referred from other hospitals. In our study, the prevalence of CDMR was found to be 3.3%.

Sociodemographic analysis in our study showed majority of primigravida participants requested for CDMR, with higher secondary education living in urban area and majority of the participants were involved in household activities. The study result of Narayanaswamy M et al Showed different, in which majority of the patients were multigravida with primary and middle school education but similar to our study only 31.8% were working with job outside house.¹⁴

With the changing attitude towards choice of mode of delivery, the reasons and factors responsible for the choosing cesarean section as mode of delivery is important topic for discussion. The thematic analysis of systematic scoping review study using 17 qualitative and 40 quantitative evidence found the main reasons for choosing cesarean section were: perception of safety and recovery; fear of pain associated with childbirth; previous birth experience; encouragement and dissuasion from health personnel; social and cultural influences/personal beliefs and values; and access to information and educational level.¹⁵ Similar to the systematic review, our study also showed common reasons for choosing CDMR: fear of labour pain; concern to injury to the fetus; change in decision after initiation of labour pain and some pregnant women visited to our hospital requesting for CDMR because her healthcare provider suggested for cesarean delivery; and family belief and pressure. Our study also found the preference for CDMR was also for;

fear of repetitive pelvic examination and concerned about the advanced maternal age.

Decision for mode of birth preference and attitude of inclination towards cesarean delivery is interesting to study. Studies done in high income countries and middle-income countries is varied among countries and studies. Study done in the USA, only 6.1% of pregnant women rated CDMR as “good idea”, 85.9% believed that the women should have right to choose for mode of delivery and 79.6% believed that every pregnant women should be offered CDMR.¹⁶ But the study done in middle income countries like Nigeria showed 29% of the women believed that the pregnant women should have right to choose mode of delivery including CDMR.¹⁷ In our study, though with limited sample size only 3.3% of the women were found to choose for CDMR but this leaves a room for discussion for low income countries like Nepal. What is the attitude of the pregnant women in our country regarding right to choose for her mode of delivery? And what are perception of pregnant women for choosing CDMR in larger population is still left to study.

Choosing CDMR with the perception of avoiding fetal injury and good fetal wellbeing as it was found in our study as common reason is well discussed by D’Souza and Arulkumaran in which, fetal injuries during cesarean is more during uterine incision (depends on type of uterine incision) but fetal intracranial injuries due to instrumental delivery.¹⁸ Brachial plexus injury due to shoulder dystocia is significantly more in vaginal delivery but that doesn’t put CDMR as a alternative for prevention because approximately 10000 CDMR is needed to perform to prevent one brachial plexus injury.¹⁹ Neonatal respiratory morbidity and need for neonatal intensive care unit (NICU) admission with prolonged

hospital stay is more with elective cesarean section.^{20,21} This is similar to our study in which 10 (9.4%) neonates needed NICU admission.

CONCLUSIONS

The perception of pregnant women for choosing CDMR showed to be influenced by multiple factors most important being fear or desire to avoid pain during labour and child birth followed by concern of injury and wellbeing of the fetus and also social factors. The reasons for CDMR seems to be common globally according to various evidences but the superiority of cesarean delivery over vaginal birth has not been concluded.

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