

## Original Article

# Caesarean Delivery on Maternal Request (CDMR): A Reason for Escalating Rates of Caesarean Section

Kazi Morjina Begum<sup>1</sup>, Md. Abu Sufian<sup>2</sup>, Nahid Yasmin<sup>3</sup>, Nasrin Sultana<sup>4</sup>, Mahmuda Hassan<sup>5</sup>, Mst. Nilufar Jahan<sup>6</sup>, Shahnaz Akhtar<sup>7</sup>

### Abstract

**Background:** Cesarean section (C-Section) is one of the major operations in obstetrics practice as a lifesaving procedure both for the mother and baby. However, it involves an overall increased risk for short-term and long-term complications for mother and child compared with vaginal delivery. Caesarean delivery on maternal request (CDMR) is defined as a primary caesarean delivery after 39 weeks in the absence of any maternal or fetal obstetric or medical indications on maternal request. The Incidence of CDMR and that contributes to overall increase in caesarean delivery rate are not well much but though CDMR estimated about 2.5% of all cesarean births even in the United States were maternal requests. CDMR is not a well-recognized entity. When a woman desires CDMR, health care provider should consider her specific risk factors, such as age, body mass index, accuracy of estimated gestational age, reproductive plans, personal values and cultural context. In the absence of maternal or fetal indications for cesarean delivery, a plan for vaginal delivery is safe and appropriate and should be recommended. After exploring the reasons behind patient's request and examining all her risks and benefits if the patient decides to pursue CDMR, after patient and her guardian should have informed the risks of repeated caesarean delivery, these risks of placenta previa, placenta accreta spectrum and peripartum hysterectomy that increase with subsequent caesarean delivery.

**Objective:** To find out the incidence of caesarean delivery on maternal request (CDMR) at Ad-Din women's medical college and hospital (AWMCH).

**Materials and Methods:** This cross sectional study was carried out at the Department of Obstetrics and Gynecology, AWMCH, Dhaka, Bangladesh during January to December 2018. Total 10405 pregnant women were included in this study. Data were processed and analyzed using SPSS version 22.

**Results:** Total number of 15575 deliveries were conducted during the study period was 15575. 5170 (33.2%) were vaginal deliveries and 10405 (66.8%) C-section. Among CS deliveries, 744 (7.1%) were done at maternal requests as their indication. Of various reasons for requesting cesarean delivery were painless delivery (38.8%), fear of neonatal outcome (30.8%), being elder age >30 (20.8%) and want to deliver baby at particular time (9.7%).

**Conclusion:** Most women opted for cesarean delivery where based on some reasons for (C-section) such as painless delivery, fear of neonatal outcome, more than 30 years of age and want to be delivered baby at particular time. Proper antenatal care, better observation, intrapartum monitoring, fine judgment regarding the route of delivery and proper counseling to the mother can reduce the rate of cesarean delivery for maternal request.

**Keywords:** C-section, CDMR, Vaginal birth, Placenta previa, Placenta accreta spectrum

### Introduction

The term "caesarean section" denotes the delivery of fetus, placenta and membranes through an incision in the abdominal and uterine walls.<sup>1</sup> Aim of caesarean section whenever it is safe for both the mother and baby and

reduces the maternal and neonatal mortality. There has been increase in the rate of Caesarean section due to CDMR.<sup>2</sup> WHO indicated that a caesarean section rate greater than 10-15% is not justified in any region of the world.<sup>3</sup> The rate has increased to a record level of 46% in china, 31% in USA and more than 25% in many Asian countries.<sup>4,5</sup> In Bangladesh during the period of 2017-2018, Bangladesh Demographic and Health Survey (BDHS) data reported the caesarean section (C-section) delivery was 33% whereas 2019 Multiple Cluster Indicator Survey (MCIS) reported the increased figure of 36%.<sup>6</sup> The rate is much higher among women of higher educational attainment and from the wealthiest households. According to BDHS, C-section delivery accounted for 2% of the child births in 1999-2000, 4% in 2004, 8% in 2007, 17% in 2011, and 23% in 2014, respectively. According to the report of Bangladesh Maternal Mortality and Health Care Survey 2016, the rate now stands at 31%, this implies that almost one in every three births in a

1. Associate Professor, Dept. of Obstetrics and Gynecology, Ad-din Women's Medical College Hospital (AWMCH), Dhaka
2. Associate Professor, Dept. of Paediatrics and Principal of Sheikh Hasina Medical College and Hospital, Habiganj
3. Professor, Dept. of Community medicine and DG, AWMCH, Dhaka
4. Asst. Professor, Department of Obstetrics and Gynaecology, AWMCH, Dhaka
5. Professor, Dept. of Paediatrics, AWMCH, Dhaka
6. Asst. Professor, Department of Obstetrics and Gynaecology, AWMCH, Dhaka
7. Asst. Professor, Department of Obstetrics and Gynaecology, AWMCH, Dhaka

**Correspondence:** Dr. Kazi Morjina Begum, E-mail: dr.morjina.awmch@gmail.com

health facility are delivered by C-section; though 53% of women in Bangladesh delivered at home.<sup>7</sup>

Caesarean section is associated with longer hospital stay compared to vaginal delivery. In most instances, the C-section is not the preferred mode of delivery (e.g. CDMR). Evidence and expert consensus are consistent on information that C-section, on average, come with greater risks than vaginal births such as blood loss, higher chance of infection as well as more complications in future pregnancies such as placenta previa, morbid adherent of placenta, caesarean hysterectomy, ruptured uterus, and a high risk of death. In a developing country with limited resources, it is of utmost importance that the resources should be used judiciously.

Most of the developed countries such as The United States, Canada and Europe do not recommend CDMR.<sup>8</sup> Patient counselling is suggested to inform to patients about pain management options, and of potential benefits and harms related to cesarean deliveries. However, obstetrical care providers often accede to patient preferences, given the ethical imperative of patient autonomy. Contemporary, high-quality observational studies leveraging robust population-based data are required.<sup>9</sup>

The rising trend in caesarean section rates also means an increasing number of pregnancies following caesarean section with all risks to both mother and fetus. An increasing number of surveys have investigated reason for C-section, the ethics of doing such C-section and proper counseling prior to the surgery will reduce the C-section rate.<sup>10</sup> The aim of this study was to find the cause of caesarean delivery on maternal request (CDMR) to yield a reason for rising rates.

## Results

**Table 1: Incidence of caesarean section on maternal request during January to December 2021**

	Vaginal Delivery		Caesarian Section		Maternal request	
	n	%	n	%	n	%
January (n=1060)	340	32.1	720	67.9	37	5.1
February (n=1007)	299	29.7	708	70.3	38	5.4
March (n=1162)	336	28.9	826	71.9	45	5.4
April (n=1183)	355	30	828	70	78	9.4
May (n=1330)	418	31.4	912	68.6	82	8.9
June (n=1262)	438	37.6	824	62.4	60	7.3
July (n= 1380)	500	36.2	880	63.8	67	7.6
August (n=1416)	532	37.6	884	62.6	64	7.2
September (n=1481)	533	35.9	948	64.1	79	8.3
October (n=1531)	523	34.2	1008	65.8	72	7.1
November (n=1504)	474	31.5	1030	68.5	54	5.2
December (n=1259)	422	33.5	837	66.5	68	8.1
Total (n= 15575)	5170	33.2	10405	66.8	744	7.2

## Materials and Methods

**Study design and setting:** This cross-sectional study was carried out at the Department of Obstetrics and Gynaecology, Ad-din Women's Medical College and Hospital, Dhaka, Bangladesh January 2018 to December 2018.

**Sample size:** Pregnant women who were admitted in the Department of Obstetrics and Gynecology. Total 10405 samples were included in this study.

**Data collection process:** Data were collected using a structured questionnaire. The purpose of the study was explained to pregnant women. Relevant history was taken, gestational age was determined by last menstrual period and early USG, Previous antenatal records were collected and clinical examination was done in all the cases. Collected information was recorded in a pre-designed data collection sheet.

**Data analysis:** Data were processed and analyzed by computer software SPSS version 22.

## Results

Among total 15,575 mothers who delivered a baby at the department of obs & gynae of AWMCH during Jan-Dec 2018, >2 times (n=10401; 66.8%) were C/S than normal delivery (n=5770; 33.2%). Of total 1045 C/S performed, 7.2% were performed at mother's request. While VD were observed more in monsoon (Jan-Oct), C/S were observed more in spring and winter months (Aug- Dec) 2021 (table 1).

Among the mothers who requested for c section delivery, 39% requested for fear of neonatal outcome followed by 30.8 % who asked for painless delivery and 21% due to elder age >30 years (table 2).

**Table 2: Reason for caesarean section on maternal request (n=10405)**

Reason for caesarean delivery	No. of patients (n)	Percentage (%)
Painless delivery	229	30.8
Fear of neonatal outcome	288	38.7
Baby delivery at particular time	72	9.7
Elder age (>30 years)	155	20.8

### Discussion

A cesarean section can be a life-saving operation, and some babies would not be born vaginally under any circumstances; however, it is still a major surgery.

Women have a legal right to know the risks associated with their treatment and the right to accept or refuse it. The physician should do proper counseling with the patient, to give her an opportunity to have informed consent. Patients have the right to decline care but not to demand treatment that the physician holds to be unnecessarily risky. The FIGO Committee for the Ethical Aspects of Human Reproduction has argued that it is unethical to perform C-section without a medical indication because of inadequate evidence to support a net benefit.<sup>11</sup>

In this study, among 10404 cesarean deliveries, 744 (7.1%) had maternal requests as their indication. Therefore, the findings of the study are in well agreement with the findings of the other research works.<sup>12,13</sup> But lower than observations from other countries, where estimates of elective cesarean deliveries and CDMR vary from < 10% in the USA, 10 to 20% in China and 50% in Brazil.<sup>14,17</sup> Another study by Narayanaswamy et al.<sup>10</sup> found among 1,877 cesarean deliveries, 44 (2.5%) had maternal request as their indication.

A powerful debate is taking place in the medical community and in the press in recent months regarding cesarean delivery on maternal request (CDMR) even in normal uncomplicated pregnancy. The reasons cited are the lack of evidence demonstrating that in a normal low risk pregnancy C- section carries less risk than vaginal delivery for mother and baby.

This study shows various reasons for women requesting C-section delivery were painless delivery (38.8%), fear of neonatal outcome (30.8%), elder age >30 (20.8%) and baby delivery at particular time (9.7%). These findings were consistent with other study.<sup>2</sup> Another study Patted et al.<sup>18</sup> reported there are several reasons for request for

a caesarean section. It could be fear of labor pains or previous traumatic experience or a psychological inaptitude to handle vaginal delivery. Many women think there is more risk of intrauterine death, brain injury and pelvic floor damage associated with vaginal delivery. It could also be for the convenience of the patient, her family or the obstetrician. The family may demand that the baby be born in a particular auspicious time and day. Defensive obstetrics is another reason for the high rate of C-section and also financial benefits associated with C-section may be another contributing factor.

Primi-Gravida and conception by in vitro fertilization were also determinants of CDMR, suggesting that women with first pregnancies or those who had fertility issues prefer CDMR. The role of health care providers in facilitating or influencing a woman's preferred mode of delivery also warrants examination. Although health care providers are supportive of a woman's right to choose CDMR,<sup>9,13</sup> surveys show variable willingness to comply with such requests. In this study, care from an obstetrician was a significant determinant of CDMR, suggesting that women who plan CDMR are more likely to seek out care from an obstetrician and that women preferring vaginal deliveries are more likely to seek antenatal care from a midwife.

### Conclusion

The rate of C-section is increasing globally but in most developing countries, the number is still low and those who need it are not getting the opportunity for this. To make this happen, we need respectful quality ante-natal care (ANC), follow the guidelines of Labor Room Protocol and evidence-based practice & also keep an eye on Robson's classification.

The reason for the rate of C- section going up in our country is multifactorial. We can bring the rate down by counselling the patients about their complications and there is better understanding in the community and when we have sufficient numbers of midwives to deliver the babies safely.

There has been an increase in the number of maternal requesting caesarean sections for no medical reason. The reasons for this are not only for perceived medical benefits, but due to social, cultural and psychological factors.

CDMR should not be motivated due to non - availability of effective pain management. The specific reason for the request should be explored, discussed and documented. Emotional support should be given during labor. Every case must be individualized and should be consistent with ethical principles. Until better evidence is available, any decision to do caesarean section on maternal request should be carefully considered.

### References

1. Tamapakoudis P, Assimakopoulos E, Grimibizis G, Zafrakas M, Tampakoudis G, Mantalenakis S, et al. Cesarean section rates and indications in Greece: data from a 24-year period in a teaching hospital. *Clin Exp obst Gynecol* 2004; 31:289-92.
2. Kaur B. Cesarean Delivery on Maternal Request (CDMR): Do's and Don'ts. *Int Gyn & Women's Health* 2019; 4(1):344-346 IGWHC.MS.ID.000177.
3. Qamarunissa, Fkharunissa. Cesarean section; frequency and fetomaternal morbidity. *Professional Med J* 2013;20(4):537-541.
4. C-section rates around the globe at epidemic level. The Associated Press; msn Canada news 2010. at <http://www.msnbc.msn.com/id/34826186/>.
5. Gulfareen H, Nishat Z, Aftab AM, Ambreen H. Frequency and indication of cesarean section at tertiary care hospital. *Pak J Med Sci* 2009; 25:786-91.
6. The Financial Express- Why C-section deliveries on the rise? Mohammad Mainul Islam, Md Zakiul Alam, Sayema Bidisha & SM Abdullah: Dr M Mainul Islam, Professor and Chairman, Department of Population Science, University of Dhaka- Multiple cluster indicator survey(MCIS)-2019.
7. Bangladesh : 51 percent Increase in "Unnecessary C-section in two years- Save the Children:21 June 2019- Bangladesh.
8. ACOG Committee Opinion No. 761: cesarean delivery on maternal request. *Obstet Gynecol* 2019;133:e73-7.
9. Rivo JC, Amyx M, Pingray V. Feasibility of 'Mode of Delivery Trial' Study Group. Obstetrical providers' preferred mode of delivery and attitude towards non-medically indicated caesarean sections: a cross-sectional study. *BJOG* 2018;125:1294-302.
10. Narayanaswamy M, Ambikaa B, Sruthia T. Cesarean Delivery at Maternal Request in a Rural Medical College Hospital. *J Clin Gynecol Obstet.* 2016;5(2):64-67.
11. Borah T. Cesarean section on maternal request: An obstetrician's dilemma. *The New Indian Journal of OBGYN.* 2015; 2(1):20-23.
12. Kottmel A, Hoesli I, Traub R, Urech C, Huang D, Leeners B. Maternal request: a reason for rising rates of cesarean section? *Arch Gynecol Obstet* (2012) 286:93-98
13. Bettes BA, Coleman VH, Zinberg S. Cesarean delivery on maternal request: obstetrician-gynecologists' knowledge, perception, and practice patterns. *Obstet Gynecol* 2007;109:57-66.
14. Liu X, Landon MB, Cheng W. Cesarean delivery on maternal request in China: What are the risks and benefits? *Am J Obstet Gynecol* 2015;212:817.e1-9.
15. Zhang J, Liu Y, Meikle S. Cesarean delivery on maternal request in southeast China. *Obstet Gynecol* 2008;111:1077-82.
16. Boerma T, Ronsmans C, Melesse DY. Global epidemiology of use of and disparities in caesarean sections. *Lancet* 2018;392:1341-8.
17. Cesar JA, Sauer JP, Carlotto K. Cesarean section on demand: a population -based study in Southern Brazil. *Rev Bras Saúde Mater Infant* 2017;17.
18. Patted S. Cesarean section on maternal request (CDMR). *Recent Research in Science and Technology* 2011;3(2): 100-101.