

# Current Cesarean Section Rate and Factors Affecting the Patient Decision Regarding Mode of Delivery

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## Article Info

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## Abstract

**Objective:** To determine the current cesarean section rate and factors leading to Cesarean Section on Maternal Request (CSMR).

**Methodology:** This is a descriptive cross-sectional study, conducted at the Obstetrics & Gynecology Unit of Kuwait Teaching Hospital in Peshawar. Data regarding cesarean section and factors affecting patient decisions regarding mode of delivery were collected through structured questionnaires from patients who provided informed consent. The study included patients admitted for a normal vaginal delivery but who requested to have opted have an elective cesarean section, at.. Patients with obstetric indications for a C-section were excluded from the study. Data analysis was conducted using SPSS version 25 to determine percentages and frequencies.

**Results:** The C-section rate was found to be 36.7%, with 10% of these cases being performed as Cesarean Section at Maternal Request (CSMR). Among the women, 154 (40.84%) had previously had a C-section and to undergo another elective C-section instead of attempting a trial of labor. Additionally, 76 (20.15%) of women declined admission. In 50 (13.26%) of cases, C-sections were performed based on the gender of the newborn, with a preference for male babies. Thirty-six (9.54%) of women had no living children from prior pregnancies. Other reasons for CSMR were conceiving after more than 5 years (7.95%), previous bad experience with vaginal delivery (5.30%), and going for tubal ligation (2.91%). Besides the above-mentioned factors, 26% of women were influenced by the opinions of close relatives and friends. Thirty-seven (10%) of women were encouraged by their doctors, while 3% chose to have a "C-Section on Maternal Request (CSMR)" along with a bilateral tubal ligation to complete their families.

**Conclusion:** CSMR (Caesarean Section on Maternal Request) contributes significantly to the overall C-section rate. By addressing the factors influencing these decisions, the C-section rate could potentially be reduced.

**Keywords:** Caesarean section, Cesarean section on maternal request, Delivery, Maternal request, Pregnant women

## Introduction

Normal vaginal delivery (NVD) is considered a natural and spontaneous process, especially for the low-risk woman throughout the world.<sup>1</sup> On the other hand if there is a risk to mother or fetus or due to certain medical or obstetrical conditions C-section is performed.<sup>2</sup> In recent years, the rate of C-sections has increased, with the primary contributing factor being "Cesarean Section on Maternal Request (CSMR)". These C-sections are being performed on women without any underlying risk factors or appropriate obstetrical indications.<sup>3</sup> CSMR can stem from various factors, including anxiety about vaginal delivery, concerns over potential physical harm to the baby during vaginal birth especially with instrumental assistance and previous positive experiences with C-sections. Furthermore, advice and encouragement from family members, spouses, and acquaintances often influence this decision.<sup>4</sup>

However, these unindicated C-sections have heightened the risks associated with delivery, as C-sections themselves carry increased risks related to anesthesia and surgical complications.<sup>5</sup> Other drawbacks of CSMR include longer hospital stays, increased financial costs, a higher risk of uterine rupture, placenta accreta, and the potential need for a hysterectomy in future pregnancies.<sup>5</sup> On the other hand, according to the patient C-section is fast, safe, and easy mode of delivery; patient do not need to undergo induction, have no need for per vaginal examination, and opportunity to have a tubal ligation after a C-section.<sup>6</sup> A woman's experience and satisfaction with previous childbirth significantly influence her decision regarding the mode of delivery in the current pregnancy.<sup>7</sup> Therefore, when examining the factors behind the rising C-section rate, CSMR contribute significantly to the increase.<sup>8</sup>

The aim of the study is to assess the current C-section rate, specifically calculating the proportion of C-sections performed at maternal request without any medical or obstetric indication. Additionally, the study seeks to explore pregnant women's attitudes towards the mode of delivery and systematically review the factors influencing the decision for elective Cesarean Sections on Maternal Request (CSMR).

## Methodology

It was a descriptive cross sectional study done in Obstetrics & Gynecology Unit of Kuwait Teaching Hospital, Peshawar from 15th March, 2022 to 15th March, 2023. A questionnaire was adopted for collecting data from antenatal patients. Consent was obtained from patients who were eligible for normal vaginal delivery but chose to undergo an elective Cesarean on Maternal Request (CSMR). The questionnaire was filled by one of the author, who was fluent in Pashto and Urdu. Patients with obstetrical indications for a C-section were excluded from the study.

The medical university's ethics review committee approved the study's design under IRB approval number (Prime/IRB/2022-429). Participation in the study was entirely voluntary, and no respondent was compelled to answer any questions. Data analysis was conducted using SPSS version 20 to calculate frequencies and percentages, and graphical representations were created using Excel.

## Results

The total number of deliveries during the study period was 3,722, including 2,345 vaginal deliveries and 1,377 C-sections, resulting in a C-section rate of 36.7%. Out of the 1,377 C-sections, 377 were performed as "Cesarean Section at Maternal Request (CSMR)". This means that C-sections requested by the mother accounted for 10% of all deliveries (3,722) and 27% of all C-sections (1,377).

Out of the women with a history of one previous C-section who opted for elective LSCS, 154 (40.84%) chose this option. Among these, 54 women (14.3%) had no prior vaginal deliveries.. Of these 54 women, 36 (9.5%) had their first C-section as CSMR.. Additionally, 100 women (26.5%) with a history of one previous C-section presented in labor and had experienced one or more Vaginal Births after Cesarean (VBACs) in the past.

Among 377 C-section patients 76 ladies (20%) refused induction when they were offered induction of labor for certain obstetrical indications as shown in figure (2). Out of 76 ladies 43 were primi gravida and 33 were multi gravida.

Fifty (13.26 %) ladies opted for elective C-section on the basis of fetal gender as they have male fetus this time. Forty ladies were multi gravida and 10 were primigravida. There were 36 (9.54%) multigravida patients having no live births and were apprehensive of the normal vaginal delivery. Eighteen ladies have history of previous abortions and 18 had previous normal vaginal deliveries with still births..

Thirty (7.95%) ladies opted for CSMR, as they conceived after more than 5 years of marriage or last child. Fourteen were primigravidas, 12 were multi gravidas and 4 had previous abortions 5 years back. There were 20 (5.30%) ladies who were multi-gravidas who had a bad experiences from their previous vaginal deliveries and refused a trial of labor.

In this study 11 (2.9%) ladies were multi-gravidas who have completed their families and underwent elective C-section for bilateral tubal ligation (Table 1).

Besides choosing one of the reason from table I, ninety eight (25.99%) ladies also chose CSMR because it was advised by close relatives and friends. In this study, 75 women (19.89%) believed that vaginal delivery can lead to serious complications.. Additionally, 37 women (9.81%) reported that their doctors recommended a

**Table 1. Reasons for C- Section on Maternal request**

S.No	Reason for C- Section	Frequency of C-Section	Percentage
1.	Previous one C section	154	40.84%
2.	Refused Induction of labor	76	20.15%
3.	Fetal gender (Male)	50	13.26 %
4.	No live births from previous pregnancies	36	9.54%
5.	Conceived after more than 5 years	30	7.95%
6.	Bad Experience of Vaginal Birth	20	5.30%
7.	Bilateral Tubal Ligation Total	11	2.91%
		377	100%

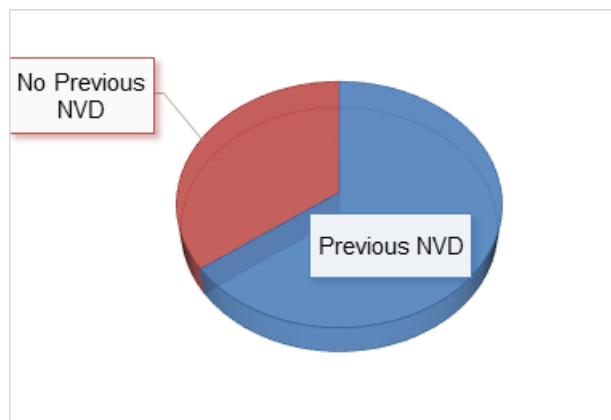


Figure 1: Patients with previous one C-Section

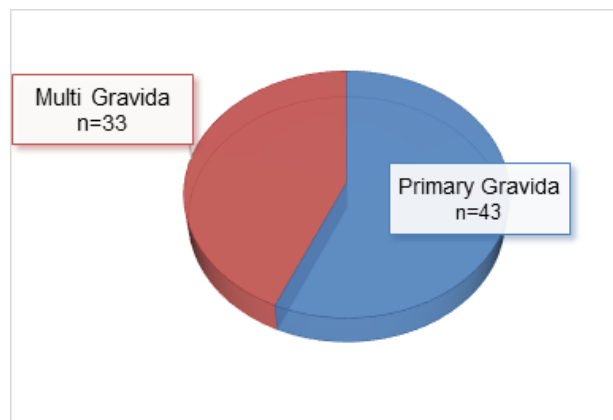


Figure 2: Patients refused induction of labor

C-section, stating it would be better for them and their child, despite the absence of a clear clinical indication for the procedure.

## Discussion

During the study period, a total of 3,722 deliveries were recorded, consisting of 2,345 vaginal deliveries and 1,377 C-sections, resulting in a C-section rate of 36.7%. Of the 1,377 C-sections, 377 were performed at the mother's request. This means that maternal-requested C-sections represented 10% of all deliveries (3,722) and 27% of all C-sections (1,377). The study indicates that factors influencing maternal requests for C-sections include fear of vaginal delivery, anxiety over repeated vaginal examinations, and concerns about potential complications during vaginal delivery. Additionally, women aged 35 or older are more likely to undergo a C-section.

At present, approximately 2.5% to 18% of C-sections are performed at the request of the mother globally. In Northern Europe and the United States, around 10-20% of all deliveries are C-sections. Sweden and Australia have notable rates of C-sections performed without medical indications.<sup>9</sup> In Iran 47% of deliveries are by C-section out of which 40% are by maternal request

C-section.<sup>10</sup>

In Southeastern China, 20% of C-sections are performed at the mother's request. The World Health Organization (WHO) emphasizes that C-sections should only be performed when medically necessary.<sup>11,12</sup>

Worldwide the birth experience of family members friends or relatives were also a common social reason for C-section on request.<sup>13</sup> In this study, 26% of women opted for a C-section upon advice from relatives, friends, neighbors, or healthcare professionals. In Bangladesh, the overall C-section rate is 23%, while in private healthcare facilities, it is approximately 70%.<sup>14</sup> Obstetrician decisions differ based on the location of clinical practice. Doctors working in public setup perform C-section on clinical indication where is in private setup they are more concern with litigation issues and perform more C-section on maternal request and to make more business.<sup>8,15</sup> In Brazil C-section rate was 31% in public hospitals and 72% in private setup.<sup>16</sup> Pakistan being a developing country also facing a similar kind of alarming increase in C-section rate.<sup>17,18</sup> According to Amjad et al. the percentage of mothers who had at least one delivery in the five years prior to each survey and underwent a caesarean delivery steadily increased from 3.2% in 1990-91 to 19.6% in 2017-

18.<sup>18</sup> The findings show that mothers over the age of 24, residing in Punjab, belonging to the wealthiest socio-economic class, and living in urban areas were more likely to have a caesarean section. Additionally, mothers who were giving birth to their first child, those with five or more children, those who had more antenatal care visits, and those who delivered in private hospitals had a higher likelihood of having caesarean section births. Furthermore, Jadoon et al. found that urban residence, younger maternal age (20-24 years), and preterm gestational age were also recognized as significant factors.<sup>19</sup> The results indicate that the high caesarean section (CS) rate (44%) in the study population is influenced not only by physiological and medical factors but also by demographic elements, including education, income, and the type of delivery.

WHO recommends that C-section rate should not exceed 19% as neonatal and maternal morbidity increases above this level. In an Iranian study, the recommendation of a doctor was the primary reason for opting for a C-section, even in the absence of a medical indication.<sup>20</sup> In the current study, it was found that the majority of women believed that a C-section is a safe method for delivering their child and that it is well-controlled. Factors such as previous pregnancy losses, a history of prolonged subfertility, and difficulty in conceiving played a significant role in their decision to opt for an elective caesarean section. Many of the participants were multiparous, but chose C-section due to negative experiences during previous childbirths. Additionally, most women rejected induction, believing it to be more painful than spontaneous labor. Among previous one C-section 26% of the ladies refuse trial of vaginal delivery as they were afraid of pain and were not satisfied with their previous VBACs. According to them duration of labor is shorter in case of C-section it is a comfortable and easy way of delivery. Among multi-gravidas ladies, 3% had no intention of becoming pregnant again and chose to undergo bilateral tubal ligation during their C-section.

As this is a hospital based study, the data is limited due to smaller sample size. Large population based studies should be conducted to understand the underlying psychosocial problems. Hospitals should offer pain management options, such as epidural analgesia, and ensure strong support from medical staff, obstetricians, and family members. Educational and psychological interventions are needed to improve the quality of normal vaginal delivery services. Public education through mass media, including books, websites, and TV programs, should address key issues related to childbirth, labor, and delivery.

Women with a history of pregnancy losses, infertility, or difficulty conceiving should be reassured that vaginal delivery is a safe and natural option. Patients should be educated to resist negative opinions from family, friends, and neighbors regarding vaginal delivery, as C-sections are not without their own risks.

A proper medical culture should discourage doctors from allowing personal opinions or benefits to influence their recommendations. Patients should also be informed that bilateral tubal ligation can be performed separately and does not require a C-section solely for family planning purposes.

## Conclusion

As most participants in this study had history of one previous caesarean section, it is essential to carefully consider the decision for the first caesarean. This decision should be based on clear obstetric indications. Patients must receive detailed counseling about the risks associated with caesarean sections, including potential complications.

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#### Authors' Contribution Statement

RQ contributed to the conception, design, acquisition, interpretation of data, drafting of the manuscript, and critical review of the manuscript. TAR contributed to the acquisition, analysis, drafting of the manuscript, and critical review of the manuscript. HK & HA contributed to the design, analysis, interpretation of data, and final approval of the version to be published. AA contributed to the conception, design, acquisition, drafting of the manuscript, and critical review of the manuscript. SA contributed to the drafting of the manuscript, critical review of the manuscript, and final approval of the version to be published. All authors are accountable for their work and ensure the accuracy and integrity of the study.

#### Conflict of Interest

Authors declared no conflict on interest

#### Grant Support and Financial Disclosure

None

#### Data Sharing Statement

The data that support the findings of this study are available from the corresponding author upon reasonable request.