

Frequency of Cesarean Section on Maternal Request in a Tertiary Care Hospital

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Abstract

Background: Cesarean sections are categorised into three groups: indications outlined by guidelines, indications determined by doctors, and circumstances including maternal demands. Cesarean birth on maternal request is a technique that is specifically requested by pregnant women who have no obstetric or medical reasons that prevent them from trying a vaginal delivery.

Objective: This study aims to ascertain the frequency of caesarean delivery on maternal request within deliveries conducted at Lady Reading Hospital Peshawar.

Study type, settings & duration: This retrospective cross-sectional study was conducted at Obstetrics and Gynaecology Unit B, Lady Reading Hospital MTI, Peshawar from February 2021 to December 2022.

Methodology: The study comprised 146 pregnant women who had live foetuses and sought caesarean birth due to maternal desire, while also meeting the inclusion criteria.

Results: The age of the participants varied between 18 and 40 years, with an average age of 29.6 ± 2.9 years. The average gestational age was 38.9 ± 0.9 weeks, and the average parity was 1.6 ± 1.2 . The 12.3% of patients exhibited maternal demands.

Conclusion: The most frequent explanations were date of birth selection and labor dread. Reduce the number of primary cesarean procedures by providing adequate prenatal and perinatal counseling to patients, properly monitoring maternal and fetal characteristics, and carefully selecting patients who have previously had cesarean sections for subsequent pregnancies.

Key words: Caesarean delivery, maternal request, frequency.

Introduction

Cesarean sections (CS) comprise a range of deliveries that fall into three categories: those that follow established protocols, those that are medically warranted, and those that are performed only at the expectant mother's request and do not involve any medical or obstetrical contraindications to vaginal delivery.^{1, 2} The second group, referred to as caesarean delivery on maternal request (CDMR),

has drawn notice because of its increasing global occurrence and impact on obstetric procedures.³

Recent years have seen an alarming rise in the number of caesarean deliveries worldwide, with rates rising as high as 50% in certain areas.⁴ Amidst this upsurge, CDMR has surfaced as a noteworthy factor in the increasing trends of caesarean sections seen in several healthcare systems.⁵ Interestingly, CDMR accounts for a significant percentage of all caesarean births in wealthy countries.²

Pakistan has seen a notable increase in caesarean rates over the last ten years, which is consistent with this worldwide trend.⁶ Research undertaken in the nation, such as that of Gulfareen et al. emphasises the rising number of elective caesarean sections performed, with 40.7% of caesarean births being elective.⁷ Global studies, such as the World Health Organization's (WHO) comprehensive evaluation across several continents, which shows a prevalence of 24.7% for CDMR in China, also reflect this growth.⁸

In addition to China's startling statistics, comparable research has shown that other countries have differing CDMR rates.⁹ Wide-ranging

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Authors Contribution

SK & SK* conceptualized the project, performed the statistical analysis and did the drafting, revision & writing of manuscript. SK did the data collection and literature search.

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data on the incidence of CDMR from Brazil to the US and from India to European nations like Sweden and Denmark indicate an increasing preference for caesarean birth when there are no medical reasons to do otherwise.¹⁰⁻¹²

Healthcare administrators, public health specialists, and politicians throughout the world are facing significant issues because of the growing trend of caesarean births, especially those that are performed without a medical need.¹³ International organisations like the International Federation of Obstetricians and Gynaecologists (FIGO), which has questioned the ethical validity of performing caesarean sections in the absence of conclusive evidence for overall benefit, have brought ethical concerns regarding the practise of CDMR to light.¹⁴

In the middle of this worldwide conversation, the purpose of this research is to determine the rate of mother-initiated caesarean births at the Lady Reading Hospital in Peshawar, Pakistan. For local practitioners and healthcare professionals, knowing the prevalence and consequences of CDMR is crucial in this resource-constrained environment. Through the presentation of the incidence of CDMR within a particular hospital facility, this research aims to provide significant information to the continuing discussion about the practices surrounding caesarean sections, particularly in settings with limited resources.

Methodology

The present research used a cross-sectional study design and was carried out from February 2021 to December 2022 at the Obstetrics and Gynaecology Unit B at Lady Reading Hospital MTI, Peshawar. The sample size calculator in the Open Epi programme was used to determine the sample size of 146, considering a 95% confidence interval, a 7% margin of error, and an estimated frequency of caesarean birth upon maternal request of 24.7%.¹⁵

Consecutive non-probability sampling was used. Women between the ages of 18 and 40 who had a singleton gestation verified by ultrasound, regardless of parity, a gestational age of 38 weeks or more, and the existence of a live foetus prior to delivery met the inclusion criteria. The medical officer and senior registrar excluded patients scheduled for caesarean birth for either medical or obstetric reasons.

Participation was requested from eligible women whose deliveries were planned via caesarean at the request of the mother. The women and their families received thorough information about the goals, advantages, and guarantee of

anonymity of the research. Willing participants provided written informed permission, and data recording followed a standard protocol to guarantee consistency. Strict adherence to the exclusion criteria was maintained to minimise possible biases and confounding variables in the research findings.

Software for statistical analysis, SPSS version 20, was used. Frequency and percentage analyses were performed on categorical data, including maternal demands and important variables. The mean and standard deviation of numerical data, including age, gestational age, and parity, were evaluated. Based on parity, age, gestational age, and other relevant variables, maternal demands were categorised. Chi-square tests for post-stratification were used, with $p < 0.05$ being the cut off point for statistical significance.

The ethical approval was obtained from the Ethical Review Board of Lady Reading Hospital, Medical Teaching Institution, Peshawar vide letter no. 58/LRH/MTI.

Results

Table-1 displays the results of an analysis of the research participants' demographic characteristics. A total of 146 CS were performed in the study duration. With a standard deviation of ± 2.92 , the participants' average age was 29.568 years, indicating a very uniform range of ages around the mean. At the time of the research, the average gestational age was 38.945 weeks, with a standard variation of ± 0.91 , suggesting that the individuals' gestational ages were generally consistent. The average parity of the studied people was found to be 1.561, with a standard deviation of ± 1.20 . This indicates a considerable degree of heterogeneity in the number of prior pregnancies and births. These demographic characteristics, which show the mean age, gestational age, and parity levels among the individuals selected for the experiment, provide important insights into the profile of the study group.

Table 1: Participants demographic characteristics.

Demographics	Mean $\pm$ SD
Age (years)	29.568 $\pm$ 2.92
Gestational age (weeks)	38.945 $\pm$ 0.91
Parity	1.561 $\pm$ 1.20

Table-2 displays the frequency of maternal demands made by the study participants, as well as the distribution of variables related to significant persons involved in decision-making. Regarding influential persons, the spouse constituted 63.7%

(93 individuals) of the occurrences, indicating that they had the largest influence over the decisions. Remarkably, a substantial proportion of women, namely 29.5% or 43 individuals, independently made decisions without seeking input from others. Infrequently, a mere 6.8% (10 individuals) said that they depended on the counsel of elderly relatives when forming assessments. Regarding requests for caesarean delivery made by mothers, 18 (12.3%) of the participants explicitly requested the procedure, constituting a minority. Conversely, the majority, 128 (87.7%), did not request CS.

Table 2: Maternal request and influential person for suggestion toward C-section.

Variable	Detail	F	%
Influential person	Husband	93	63.7
	Herself	43	29.5
	Elders member	10	6.8
Maternal request	Yes	18	12.3
	No	128	87.7

Table 3: Association of different variables with maternal request for C-section.

Variable	Detail	Maternal Request		p-value
		Yes	No	
Age (years)	18-30	11 (11.5%)	85 (88.5%)	0.658
	>30	7 (14%)	43 (86%)	
Gestational age (weeks)	38-39	14 (12.6%)	97 (87.4%)	0.853
	>39	4 (11.4%)	31 (88.6%)	
Parity	0-2	12 (12.1%)	87 (87.9%)	0.912
	>2	6 (12.8%)	41 (87.2%)	
Influential person	Husband	6 (6.5%)	87 (93.5%)	0.001
	Herself	12 (27.9%)	31 (72.1%)	
	Elders family member	0 (0%)	10 (100%)	

The Table-3 displays the breakdown of maternal requests according to age groups, gestational age, parity, and important decision-makers, along with the relevant *p*-values. Regarding requests from moms based on age, among participants aged 18 to 30, 11.5% (11 individuals) made requests, while 88.5% (85 individuals) did not. Among participants above the age of 30, 14% (7 individuals) made requests, while 86% (43 individuals) did not ($p = 0.658$). When comparing the gestational age of individuals, it was found that among those between 38 and 39 weeks, 12.6% (14

people) made requests, while 87.4% (97 people) did not. Among those beyond 39 weeks, 11.4% (4 people) made requests, while 88.6% (31 people) did not. The statistical analysis showed that the difference in request rates between these two groups was not significant ($p = 0.853$). Regarding parity, 12.1% (12 participants) of those with 0–2 parities made requests, while 87.9% (87 participants) did not. Among participants with more than 2 parities, 12.8% (6 participants) made requests, while 87.2% (41 participants) did not ($p = 0.912$). The research found that maternal demands were highly impacted by a person of great influence. Out of the ladies who were affected by their husbands, just 6.5% (6 people) made requests. On the other hand, women who made choices on their own or were influenced by elder family members had far higher frequencies of making requests, namely 27.9% (12 people) and 0% (0 individuals), respectively ($p = 0.001$).

Discussion

The study included a total of 146 cesareans and found that 12.3% of births were performed as caesarean deliveries (CDMR) with the desire of the mother. This discovery aligns with the rates seen in previous research,^{16,17} indicating that the rates of caesarean delivery and CDMR are approximately typical. While the World Health Organisation (WHO) no longer provides explicit recommendations for the rate of caesarean deliveries, it nevertheless advises against doing unnecessary operations.¹⁸ Current endeavours in certain nations, including projects focused on health education, painless delivery alternatives, and policy implementation, are intended to reduce the prevalence of caesarean deliveries.¹⁹ Nevertheless, the consistently elevated incidence of caesarean births may arise from various factors.

The research identified "maternal self-request" as not an influencing factor in caesarean deliveries, in contrast with results from previous studies.^{20,21} Due to socio-economic progress and developments in medical technology, the reasons for performing caesarean births have changed from being based on physiological grounds to being influenced by social and psychological variables.^{22,23} The prevailing fallacy among some women that caesarean birth is the most secure approach may lead to its favouritism.²⁴ Significantly, a significant percentage of obstetricians in both the United States and China support a pregnant woman's prerogative to choose a caesarean birth.²⁵ Furthermore, it has been observed that the younger population in Chongqing, China, has a predilection

for caesarean births.³ These patterns indicate an increasing tendency among the general population to see caesarean birth as feasible.

Maternal age above 30 was shown to be associated with a higher incidence of congenital disorders of the musculoskeletal system (CDMR) compared to women under 30. This finding is consistent with prior research conducted internationally.²⁶ Elderly women, often without intentions of becoming pregnant and with less emphasis on vaginal birth after caesarean section (VBAC), demonstrate a tendency towards caesarean delivery. Moreover, advancing age amplifies the likelihood of pregnancy difficulties and unfavourable results.²⁷ Although older moms are often defined as those over the age of 35, several research studies indicate that hazards associated with childbirth might still exist among younger women. These findings highlight the significance of high-risk physiological states in determining delivery choices.²⁸

First-time mothers, known as primiparous women, showed a greater tendency to choose caesarean delivery, even when there were no medical reasons, in contrast to women who had given birth several times, known as multiparous women. Research conducted in Norway discovered that some women who were giving birth for the first time opted for caesarean births because they were afraid of the process of delivery and had little knowledge about fertility since their teenage years.²⁹ In the latter stages of pregnancy, while many women adjusted to the process of being pregnant, over 50% of them were still uncertain about the method of birth, with a small number indicating a preference for a caesarean delivery. Curiously, women who had a clear desire for caesarean delivery were more likely to get the surgery during childbirth. This underscores the need for thorough advice throughout the latter stages of pregnancy to provide precise information about childbirth and minimise the occurrence of unnecessary caesarean births by specific interventions. The primary factors influencing the decision to choose a caesarean birth were the fear of experiencing labour pains and the belief that it would be less unpleasant compared to a vaginal delivery. Counselling should address and alleviate fears of vaginal delivery by providing accurate information and support. Furthermore, the desire for caesarean birth was strengthened by other factors such as worries about the safety of infants, the well-being of mothers, the efficient use of time, and the perceived cognitive advantages. These misunderstandings have a substantial role in women's decision-making process about caesarean births. Furthermore, birth preferences are influenced

by other factors such as worries about the restoration of body shape, preservation of perineal tissue, postpartum sexual life, and the dread of pregnancy difficulties such as uterine rupture.^{30,31}

Pregnant women's decisions about the method of birth are highly influenced by external factors, such as the outcomes of nearby mothers' vaginal deliveries, whether they were successful or failed. The obstetric outcome of birth along with the process of labor itself (in terms of prolong labor, instrumentals delivery, or any other intervention) do cause apprehensions in multigravida patients leading to deferring vaginal birth. Successful vaginal deliveries enhance self-assurance, but unsuccessful attempts during trial labours may induce apprehension and impact decision-making. While previous research mostly examined the effects of family and friends, this study emphasises the role of moms in the immediate vicinity. It suggests that pregnant women should engage in active conversation with each other to improve their grasp of delivery expertise. The delivery method was determined to be significant based on the suggestions of physicians. Pregnant women whose physicians advised them to have a caesarean birth were more inclined to choose CS option. The disparities in caesarean delivery rates across physicians within the same institution underscore the substantial influence of individual decision-making on the technique. The poll also reveals that obstetricians' views have a substantial impact on the choices made by pregnant women, maybe motivated by apprehensions over risks, legal matters, and financial benefits.³² Ultimately, it is crucial to implement interventions that specifically target misunderstandings, improve the comprehension of pregnant women, encourage well-informed decision-making, and facilitate effective communication between doctors and patients to reduce the occurrence of needless caesarean births.

The predominant grounds for caesarean deliveries in our region are now not maternal requests and may be influenced by factors like the husband's decision. The prevalence of CDMR is associated with certain characteristics in pregnant women, such as age, parity, and delivery choices, as well as external influences from peers and healthcare professionals. Society and the media should provide explicit instructions for the responsible adoption of caesarean delivery. Medical institutions should enhance their efforts to educate women about their options for childbirth, alleviating anxieties about vaginal delivery, particularly among older and first-time moms. Obstetricians must comprehend the need to do caesarean deliveries

while also prioritising efforts at vaginal birth. Enhanced supervision by healthcare managers may effectively minimise the occurrence of needless caesarean operations.

It is recommended that to develop prenatal education programmes to inform pregnant women about the benefits and risks of vaginal and caesarean deliveries. Encourage shared decision-making between women and healthcare providers to support informed choices. Introduce and promote painless delivery techniques, such as epidural analgesia, to alleviate labour pain. Conduct community awareness campaigns to educate families and partners.

Conflict of interest: None declared.

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