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EXPLORATION THE CAUSES OF CAESAREAN SECTION OVER NORMAL DELIVERY

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Abstract: The current study examines the reasons for choosing surgical birth over a traditional vaginal delivery and focuses on the growing trend of C-section deliveries in Pakistan. Using a standardized questionnaire, researchers collected information from 291 participants on a variety of topics, including family dynamics, prenatal care, socioeconomic status, demographics, and delivery-specific traits. The results showed that the recommendations of physicians had the biggest impact on decisions regarding C-sections, with patient and family preferences coming in second. It's interesting to note that younger, less educated women typically prefer C-sections. While prenatal variables like the frequency of prenatal visits, issues, and counseling were important, socioeconomic status had different effects. On the other hand, delivery-related factors include the birthplace, the birth attendant, and the length of gestation. These findings underscore the need for evidence-based guidelines to minimise unnecessary surgical operations and the complex interconnections between medical and non-medical factors that impact delivery decisions**.**

Key words: C-section, typical delivery, mother health, prenatal factors

INTRODUCTION

Vaginal delivery poses risks to the mother or the unborn child, a cesarian section, or C-section, is a potentially life-saving surgical procedure. However, concerns have been raised globally due to the increasing number of C-sections. The WHO states that the optimal rate of C-sections should be between 10% and 15%; after this point, there has been no discernible decrease in maternal death rates (WORLD HEALTH ORGANIZATION, 2020). In Pakistan, the rate of C-sections has increased from an average of 2.7% during the early 1990s to over 25% in the recent years, mainly in urban areas (Jadoon,et al.2024) While some of these procedures are medically justified, many are carried out for non-medical reasons, like patients' requests, healthcare providers' preferences, or cultural beliefs. The motives behind the increasing trend of preferring C-section over natural deliveries will be explored in the present study. The results of our study indicate that normal deliveries should be promoted, but the facilities for C-sections must also be utilized appropriately. Additionally, based on our findings, the healthcare authorities could propose a national guideline related to the use of C-sections (Nahar *et al*. 2022). We have identified the reasons behind the preference of women for cesarean section both before and during labour. The primary motivating factors for the preference of C-section before the onset of labour include the wish to decide on a delivery date, the belief that it will bring joy and prosperity to the family, the issue of preserving the genitals, and the perception that C-sections are much safer for both mother and baby. Additionally, the decision to request a C-section was influenced by two key factors: the prevalent use of the procedure and family support for it, along with feelings of anxiety, pain and fatigue as reasons for seeking surgical intervention.

In fact, a different study suggested that multifunctional interactions with mothers should be conducted regardless of the women's demographically characteristics or the baby's weight, sex, or gestational age. The study also recommended giving expectant mothers who wish to have a C-section anticipatory information regarding nursing. Furthermore, breastfeeding mothers who have an emergency C-section and want to continue nursing throughout the first twenty-four hours of labor and the early postpartum period should have greater accommodations from caregivers (Hobbs *et al.* 2016). Many affluent nations have high rates of C-section deliveries; nonetheless, it has been officially advised that the percentage of C-section deliveries should not exceed 15%. Nonetheless, a large volume of C-section deliveries about 25% was noted, particularly in Pakistan's cities (Javed *et al*., 2024). Globally,

there are hazards of blood loss throughout pregnancy, whether through vaginal delivery or C-section (Larsson *et al*. 2011).

According to the report of Pakistan Demographic and Health Survey (PDHS), the figure reported that C-Section deliveries are rapidly increasing from 14% to 22% by the year of 2012-13 to 2017-18 (Nazir & Cready, 2020). Global evidence shows rising C-section rates in both developed and developing countries. Key determinants include advanced maternal age, higher socioeconomic status, private hospital care, and cultural perceptions of convenience and safety. In South Asia, especially Pakistan and Bangladesh, non-medical reasons such as fear of labor pain, desire to protect genital health, and doctor-driven recommendations are common. Overuse of C-sections is associated with maternal risks (infection, hemorrhage and occlusion) and neonatal risks (respiratory distress, micro biome disruption). There are clear regional disparities in Pakistan, with urban areas having better access to healthcare than rural ones. Better accessibility and the impact of healthcare providers in urban areas are the primary causes of this discrepancy. According to a meta-analysis, the global C-section rate increased from 7.6% in 1990 to 23.1% in 2015 (Al-Hasani *et al*., 2019). More specifically, it demonstrates how developing nations are developing at a far faster rate than developed nations. The findings from the study conducted by (Baeten *et al*. 2001) reaffirmed that obesity significantly increased the risk of pregnancy complications and adverse outcomes.these risks include eclampsia, pre-eclampsia, gestational diabetes, cesarian delivery and the delivery of macrosomic infant (a baby that is much larger than average).

During COVID-19, too many critical conditions were observed. When compared to C-sections, the study found that vaginal births produced better results (Cai, *et al*. 2021).The study indicated that, with appropriate infection control measures, vaginal delivery did not increase the risk of vertical transmission to the newborn and was associated with a lower incidence of severe complications for the mothers compared to C-sections performed during critical conditions. The research recommended that the mode of delivery should be primarily determined by obstetric indications, while ensuring strict adherence to safety protocols for both mother and baby.

While there are risks and benefits to both, studies show that VBAC (vaginal birth after cesarian) is a viable, safe, and advised option for many women (Dodd et al. 2013). A woman who gives birth by C-section is required to have another C-section during her subsequent pregnancies.

According to Khan and Hussain (2015), women in Bangladesh and Pakistan have a tendency to prefer C-Section sections because their families tell them that this delivery method is fortunate and keeps genital damage at bay. In order to ascertain the prevalence, indications, and results of cesarian sections (CS), we performed an analysis of CS in a tertiary care hospital in Pakistan. Developing strategies to reduce the incidence of CS and its related complications in our hospital will be made easier with the help of this information. One of the main causes of the rise in cesarian deliveries and the morbidity and mortality that go along with them is high-risk pregnancies that do not receive prenatal care. (Khawaja, *et al* 2004). The descriptive research design is the foundation of this investigation. The study of prominence (status or reputation), which is frequently employed in the fields of education, behavioral sciences, and nutrition, is taken into account by the descriptive research design. Evidence that supports problem-solving and practise improvement through observation, analysis, and description is valuable (Koh, & Owen, 2000). Because women with a history of cesarian sections are more likely to experience complications like hysterectomy, placenta accreta, placenta previa, and premature birth, a cesarian section during the first pregnancy may increase the risk of unfavourable outcomes in subsequent pregnancies (Perveen, 2011).

The 2012 article "Levels and Determinants of C-Section Deliveries in Egypt: Pathways to Rationalization" by (Yassin and Saida, 2012) found that the cesarian section rate in Egypt was approximately 11.4%. A significant increase from 4.6% in 1992. The study identified that rates varied significantly by region, with the lowest rates in rural and urban Upper Egypt (4.2% and 6.9%) and the highest rates in urban and frontier governorates (over 20%).

The large number of referrals from nearby and peripheral hospitals, which are held accountable for accelerating the rates, frequently serves as justification for the high rates of C sections in public tertiary hospitals. While investigating the reasons behind the rising rates of cesarian sections at Holy Family Hospital in Rawalpindi, researchers discovered that in 2008, CRS was 34%. (Iftikhar *et al*., 2010)

During pregnancy, obesity is a sign of numerous unfavourable feta-maternal outcomes that present difficulties for both the mother and the foetus. This study concludes that mothers need to be well-informed about the dangerous effects of obesity during pregnancy. Over half of Pakistanis suffer from obesity, according to a national survey report. Additionally, women are more likely than men to be obese. Obesity risk increases with age. The prevalence of obesity is sharply increasing worldwide, making healthy living more difficult. (Nadeem, *et al* 2019)

MATERIALS AND METHODS

Research Design

This study employs a **cross-sectional analytical design** to explore the causes of C-section deliveries. While descriptive elements were used to summarize the data (e.g., frequencies, percentages), inferential statistics were applied to examine relationships and associations between variables (e.g., demographic factors and C-section decisions).

Study Setting

The research was conducted at Suleiman Roshan Medical Hospital, Hyderabad (Sindh, Pakistan), a tertiary healthcare facility that caters to both rural and urban populations. This setting was selected because of its high delivery load and availability of both normal and cesarean birth services, making it suitable for studying maternal delivery choices.

Population and Sampling

The target group comprised all women who gave birth at the hospital during the study period. According to hospital records, 1,045 deliveries occurred during this time, with 318 vaginal births and 727 C-sections. A simple random sampling method was used to select 291 women for the sample. In order to accurately represent the study population and offer valuable insights into the delivery decision-making process, this sample size was deemed statistically sufficient.

Sample Size

A sample of 291 participants was selected using simple random sampling from a total of 1,045 deliveries recorded during the study period. This sample size provided a 95% confidence level with a 5% margin of error for estimating C-section rates.

Inclusion and Exclusion Criteria

Inclusion criteria

Participants in the study were women between the ages of 18 and 40 who had recently given birth, either naturally or via C-section.

Exclusion criteria

Women with incomplete medical records or those who were not willing to provide informed consent

Data Collection Tools

Data was gathered using a structured questionnaire and a review of hospital records. The survey employed both closed-ended and open-ended questions to collect data on a variety of factors that influence delivery decisions, such as family, prenatal, socioeconomic, demographic, and delivery-related factors. We also reviewed hospital records to verify clinical details such as the type of delivery, medical reasons, and the health of the mother and child.

Data Collection Procedure

Mothers in postnatal wards were included as per issued authorization by hospital administration. Consent was obtained verbally and in writing. To ensure that everybody felt comfortable and understood the questions, female research assistants had been trained and conducted the interviews in local language. Each interview took 15 to 20 minutes on average. We placed a high priority on patient privacy and rigorously upheld the confidentiality of medical records..

Data Analysis

Data were analyzed using both descriptive and inferential statistical methods. Descriptive statistics (frequencies, percentages, means) summarized the sample characteristics and distribution of responses. Inferential statistics, including chi-square tests and/or logistic regression (as applicable), were used to examine associations between independent variables (e.g., age, education, prenatal visits) and the dependent variable (C-section delivery).

Ethical Considerations

We received ethical approval for the study from the Institutional Review Board (IRB) of Suleiman Roshan Medical Hospital. After being assured of confidentiality and given the option to withdraw at any time without having their medical care affected, all participants gave their informed consent. All collected data were anonymized to protect participant confidentiality, and only aggregated findings are reported in this study.

RESULTS

This study looked at the many variables affecting the trend of C-section deliveries in Hyderabad, Pakistan. A total of 291 women participated in this study, and descriptive statistics were used to analyze the data.

Decision-Making Factors

Doctors' recommendations were the most important factor in 51.2% of C-section cases, followed by patient preference (32.6%) and family influence (16.1%).

Demographic Profile

Age Distribution: The largest age group undergoing the procedure was those between the ages of 23 and 27 (30.6%), closely followed by the female segment between the ages of 18 and 22 (25.8%).

Educational Distribution: Women with secondary education made up 32.6% of the population, whereas those with higher secondary education made up 26.1%. Remarkably, only 6.5% of those surveyed had never attended school.

Socioeconomic Influences

Socioeconomic Status: 28.2% agreed that their financial standing influenced delivery choice, while 39% remained neutral.

Employment Status: 29.2% agreed employment affected their decision, with an equal percentage remaining neutral.

Family-Related Factors

Birth Order: 30.6% agreed it influenced their decision, while 30.6% were neutral.

Birth Interval: 29.2% agreed it was a factor, with 27.8% neutral

Antenatal Considerations

Prenatal Visits: 28.5% agreed that regular checkups influenced their decision.

Complications: 28.5% acknowledged complications as a factor.

Counseling: 28.5% agreed that counseling impacted their choice.

Clinical Conditions: 28.5% cited conditions like pre-eclampsia and anemia as influential.

Delivery-Related Factors

Gestational Length: 29.2% agreed it influenced their decision.

Place of Birth: 29.2% agreed, with equal neutrality**.**

Birth Attendant: 29.2% agreed that the attendant's qualifications matters.

Decision-making, demographics, socioeconomic status, family factors, prenatal factors, and delivery-related factors were the six thematic domains displayed the major factors influencing cesarian section decisions (Table 1).The most common response percentage for each variable is displayed, along with a succinct explanation of its significance.

Figure 1 showed how the decision to have a Caesarean section is influenced by six important factors. Given their high impact ratings, prenatal conditions and the decision-making process were the most significant of these. Demographic factors had a moderate to high influence, insinuating that maternal age,

education, and parity may be quite important. Family-related factors and particular delivery conditions had little impact, while socioeconomic status had a low to moderate effect. These express how crucial clinical judgement and patient-provider interaction are in deciding the type of delivery, frequently more so than any external or familial pressures.

DISCUSSION

The results confirm that physician recommendations have a significant impact on C-section decisions, which is consistent with international research showing that surgical deliveries are frequently motivated by provider preference and institutional convenience. Cultural beliefs, ignorance, and fear of pain all influence a patient's decision. Younger and less educated women appear to be more vulnerable to provider influence due to their lack of awareness of the risks. The significant association between younger age and C-section preference, as indicated by chi-square analysis, suggests that younger women may be more influenced by physician recommendations or lack of awareness regarding vaginal delivery benefits Socioeconomic status was not a strong predictor, but prenatal complications were a significant factor. The fact that delivery-related factors were less significant suggests that most decisions are made before labour begins. This highlights the importance of enhancing prenatal counselling and ensuring unbiased medical advice.

CONCLUSIONS

Medical and non-medical factors is responsible for Pakistan's higher C-section rate. Many seem to be influenced by physician-driven recommendations and patient perspectives, even though some cases are crucial. Evidence-based recommendations, better patient education, and better prenatal care are needed to address this problem and reduce the number of needless C-sections. The study comes to the conclusion that a complex interaction The study's conclusions offer insightful information on the variables influencing the choice to have a Cesarian delivery. It is clear that a complicated interaction of multiple elements contributes to the decision-making process, even if the doctor's recommendation seems to be the most significant aspect. All things considered, choosing to have a cesarian delivery is a challenging decision that is impacted by a number of variables. Pregnant women and medical professionals can choose the best delivery technique by being aware of these factors. To ascertain the precise relationships and interactions between these variables and how they impact C-section rates, more investigation is required.

RECOMMENDATIONS

1. Develop national clinical guidelines for C-section indications
2. Train healthcare providers to promote normal deliveries and reduce unnecessary surgeries.
3. Improve access to prenatal counseling and awareness programs, particularly for younger and less-educated women.
4. Strengthen monitoring in private hospitals to discourage profit-driven C-sections.
5. Conduct longitudinal and qualitative studies for deeper insights.

Table 1: Variables and interpretation of Domains

Category	Variable	Most Frequent Response (%)	Interpretation
Decision-Making	Doctor's Recommendation	51.2%	Primary influence on delivery choice
	Patient Preference	32.6%	Secondary influence
Demographics	Age (23–27 years)	30.6%	Younger women more likely to opt for C-section
	Education (Secondary level)	32.6%	Education linked to delivery preference
Socioeconomic	Socioeconomic Status	28.2% (Agree)	Moderate influence
	Employment Status	29.2% (Agree)	Mixed impact
Family Factors	Birth Order	30.6% (Neutral)	Limited influence
	Birth Interval	27.8% (Neutral)	Limited influence
Antenatal Factors	Prenatal Visits	28.5% (Agree)	Important for decision-making
	Complications	28.5% (Agree)	Significant determinant
	Counseling	28.5% (Agree)	Moderate influence
	Clinical Conditions	28.5% (Agree)	Relevant to delivery choice
Delivery Factors	Gestational Length	29.2% (Neutral)	Limited influence
	Place of Birth	29.2% (Neutral)	Limited influence
	Birth Attendant	29.2% (Neutral)	Limited influence

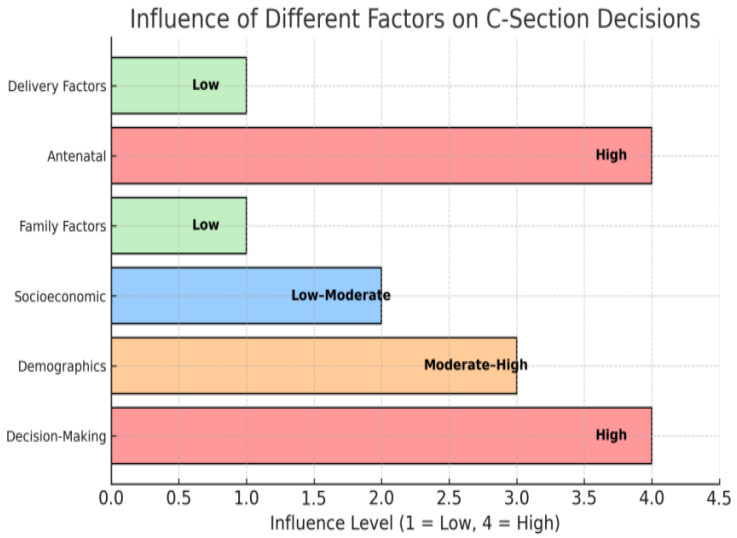

Figure 1. Influencing Factors on Caesarean Section Decision

Conflict of interest

Authors declare no conflict of interest.

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