



Original Article

A Cross-Sectional Study to Assess the Frequency and Determinants of Cesarean Section in Three Cities of Punjab

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ABSTRACT

Cesarean section (CS) is one of the commonly performed surgical procedures in obstetric care. A high CS rate may have implications due to cost, and complications for mother and child. **Objective:** The increasing frequency of cesarean section is a major public health issue, and it is on the rise in Pakistan. The study aimed to investigate the frequency of cesarean section and assess the determinants of increasing frequency in three cities of Punjab. **Methods:** A hospital-based cross-sectional study was conducted in tertiary hospitals of Faisalabad, Chichawatni, and Multan. Data collection was done by using a self-developed study questionnaire. **Results:** The study's findings showed that at the time of first delivery, 52% of participants were at age of 21 to 25 years. About 33% of participants had C-sections due to complications, while 14% preferred C-sections without any complications to normal delivery. Relatively lower rates were found among less educated, poor families and in rural areas. A higher rate was observed in well-educated women, women from rich families, and the urban regions. The majority of females are found to be totally dependent on their decision of C-section by their gynecologist. **Conclusions:** Overall increasing trend of C-sections in selected cities has been observed. Data of the study suggests the need for proper awareness to couples about preoperative and postoperative care. This will help to reduce both infant mortality rates and maternal mortality rates in Punjab.

INTRODUCTION

Cesarean section (CS) is one of the commonly performed surgical procedures in obstetric care. A high CS rate may have implications due to cost, and complications for mother and child [1,2]. Mostly SC is done in those cases where vaginal delivery is not possible or is risky for fetal and maternal health. This procedure is done under anesthesia by a specialized gynecologist [3]. Now there is an increase in the trend of CS in Pakistan. The trend of increasing CS rates may indicate a trend towards a more costly medical delivery system. According to one study, SC is increasing in maternal requests and it is the 5th most common cause nowadays [4,5]. According to WHO, SC rates should not be higher than 10% to 15% and should not be less than 5%. According to one study done in the United States, 32% of deliveries were done by SC with an MMR of less than 1:10,000 [6]. According to Shaheda Islam Teaching Hospital

Research, CMH Rawalpindi showed 56% rates of CS in 2011-2012. SC rates for educated women were 40.3% and for non-educated were 7.5% [7]. More than 45 countries globally have lower SC rates which are approximately 7.5% while on the other hand, more than 50 countries have higher rates of SC which are approximately greater than 15%, which are much higher rates than the rates recommended by the World Health Organization [8]. Pakistan is one of ten countries responsible for around 59 percent of global maternal fatalities each year, owing to a variety of demographic and health concerns, particularly in maternal health. Pakistan's maternal death rate has decreased from 521 in 1992 to 178 in 2015, although the projected target of 130 by 2015 has not been met. Despite this, Pakistan's obstetric and neonatal care is of poor quality [9]. In Pakistan, the rates of elective CS are

increasing day by day. Pakistan failed to meet its goal of reducing maternal deaths by 75 percent by 2015. CS without indication compared to normal vaginal delivery would bring about many complications for both mother and baby. According to the results of studies in the United Kingdom, the risks for maternal deaths caused by CS delivery are three times more than normal vaginal delivery. Similarly, chances of death in newborns by C-sections are four times greater than normal vaginal delivery [10-11]. As in developing countries like Pakistan, maternal and neonatal Mortality rates during births are increasing due to different reasons. In Pakistan, CS rates in urban areas are higher, 25.70% in rural areas are lower, 11.50% CS deliveries rates in educated females are higher, 43.30% lower in uneducated females 7.50% conducted to recent research. The percentage of CS deliveries in different provinces is as follows: In Punjab, 19%, in Sindh 17%, in KPK 5%, Baluchistan 2% [12-13]. This study adds to the current literature by evaluating disparities in access to and use of c-section technology in the three Punjab cities listed. Our study will help to find out the different determinants of SC in Punjab. And will also help to find out the outcomes of SC in both positive and negative aspects.

METHODS

The study was a hospital-based descriptive cross-sectional study. Sites for our research were tertiary Hospitals of Faisalabad, Chichawatni and Multan. The duration of conducting our research was eight months, starting from January 2020 to August 2020. The sample size for our research was 100. Thirty-three were from Nishtar Hospital Multan, 33 from Allied Hospital, and 34 from Ray Ali Nawaz Foundation Hospital Chichawatni. A convenient sampling technique was used. Females who underwent CS or had vaginal delivery were included in the study. The age group was 15 to 49 years. Nulliparous females, unmarried females, and those who were not interested in taking part in research are excluded. Females below 15 and above 50 years were also excluded. Sample selection was made through a structured and validated questionnaire. Data was presented by using Microsoft Excel 2007 for tables, pie charts, and bar charts.

RESULTS

Age of participants at the time of first delivery in years					Decision of C-Section of Participants		
Age	15-20	20-25	25-30	Above 30	Family members	Yourself	By Doctors
Percentage of participants	15	52	23	10	8	18	74

Table 1: Age of participants at the time of first delivery and Decision of C-Section of Participants

BMI of participants during pregnancy	Experience of pain by participants of normal delivery					
	Normal weight	Under weight	Over weight	Bearable pain	Painful	Extremely painful
Age						
Percentage of participants	76	10	14	26	30	44

Table 2: BMI of participants during pregnancy and Experience of pain by participants of normal delivery

Total number of patients	No. of females with Place of delivery			Total number of patients	Pain in stitched area of patients after several months of C-section		
	Home	Private hospital	Govt. Hospital		Severe	Moderate	No pain
100	3	75	22	100	20	54	26

Table 3: No. of females with Place of delivery and Pain in stitched area of patients after several months of C-section

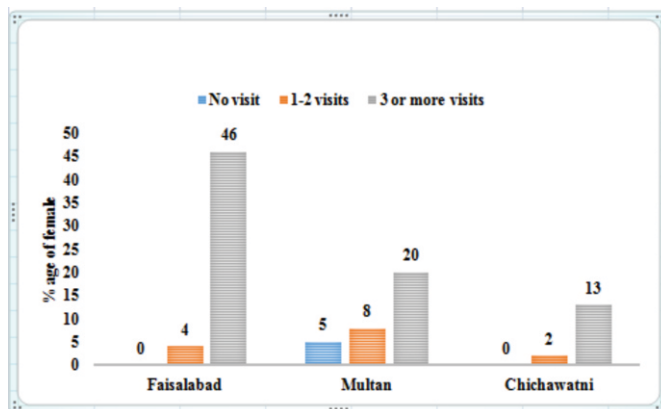


Figure 1: Antenatal visits during pregnancy
In Faisalabad, about 46% of females visited the hospital 3 or more times during pregnancy. In Multan 20% while in chichawatni 13% females preferred to have a c-section without any complications

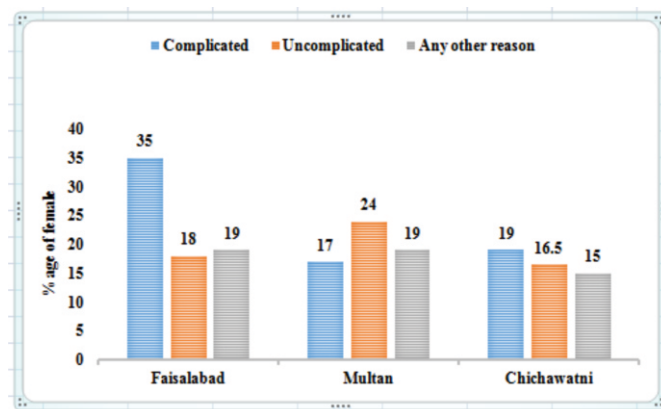


Figure 2: Reason of C-section
In Faisalabad, about 35% females were subjected to C-sections due to complications. Whereas 18% of females visited hospital

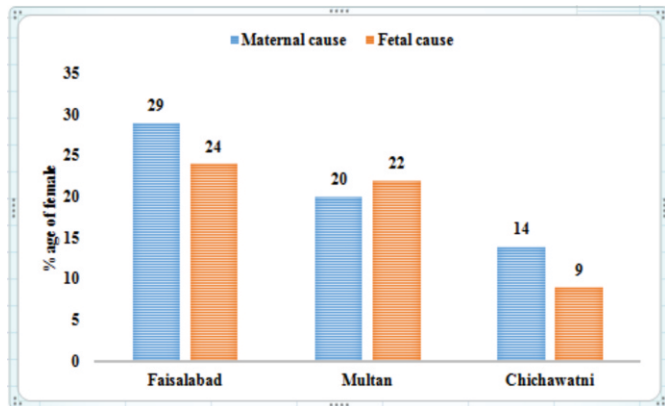


Figure 3: Causes of C-section of participants
In Faisalabad, Multan, and Chichawatni majority of females had C sections due to different maternal causes.

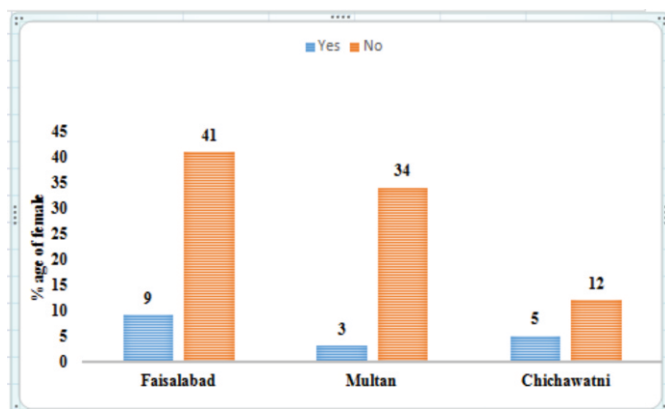


Figure 4: Problems to the babies of participants delivered by C-section
In Faisalabad, Multan, and Chichawatni majority of females did not experienced any problem to babies delivered by c-section.

DISCUSSION

In Pakistan, the trends of the CS are increasing day by day due to various reasons. Maternal causes include uterine rupture, maternal hypertension, and gestational diabetes and HIV infections. Fetal causes include umbilical cord around fetus neck, abnormal position of the baby. Another reason for CS is the gynecologist's recommendation for saving their time. Few types of research have been conducted in Pakistan to find out different determinants of CS and positive and negative aspects of rising rates of C-sections [14,15]. Our study was designed to determine the main reason and frequency of CS in Faisalabad, Multan and Chichawatni. This study also aimed for helping the health departments of Punjab, decrease preventable maternal mortality rates and increase child health care in Pakistan. In our study, about 74 out of 100 Females decisions about CS were taken by the Doctors. The females who decided themselves for CS were 18 out of 100. At the same time, 8 out of 100 females were relying on their families to decide. In another study conducted in Sweden, Obstetrician makes

the final decision. Babies delivered by CS had no postoperative complications for which their parents had to admit them in hospitals. Only less than 10% of females noted some problems to their children for which they have to admit their children in hospital. But another study conducted by Western Sydney University analyzed 500,000 healthy low-risk women who gave birth between 2000 to 2013. Their study showed babies born by emergency CS had high rates of metabolic disorders. They concluded that the children born by CS had greatest risks for the development of health problems compared with those born by normal delivery [16-17]. In our research conducted in different areas, in some areas, mostly females recovered within one month. Most females can perform their routine work within one month after CS. While in other research conducted in Australia, a study was performed on Thirty-two women, and 32 of women described difficulties after CS. The time required to recover is approximately 2-3 months. The women in that study reported a range of unanticipated adverse physical health outcomes following CS birth [18]. In our research, a question was asked about pain in the stitched area after CS. Maximum number of females felt moderate pain in the stitched area almost 6 months after the C section. Pain is associated with impaired activities of daily life and decreased health related quality of life. The incidence of research on pain in the stitched area several months after the CS was 18.3% at 3 months, 11.3% at 6 months and 6.8% at 12 months. This shows that moderate pain in the stitched area after CS is a postoperative complication [19]. In our research, most of the participants' CS was due to complications with their normal delivery and the causes of CS were of maternal origin. A study by the University of Iran shows that the most common causes were of maternal origin 52.9%, elective CS 7.5%, and the fetal causes were 11.1%. Repeated C-section has had a significant role in increasing CS [20].

CONCLUSION

The main finding of this study was an overall increasing trend and unequal coverage of C-sections in Faisalabad, Chichawatni, and Multan with lower rates among less educated, poor families and in rural areas. A relatively higher rate was observed in women with high education from rich families and urban areas. The majority of females depended for their decision of CS on their gynecologist. Maximum participants recovered after CS between 20 to 25 days. Some participants were unaware of their cause for CS, which shows a communication gap between doctors and patients. Pain in the stitched area after several months of CS is major problem faced by almost every participant. Some of the participants took decision for their CS because of fear of normal vaginal delivery. So, this factor of

the increasing burden of CS can be reduced by proper counselling the pregnant ladies and giving them education about positive and negative aspects of C-section.

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