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Original Research Article.

Caesarean-Section Frequency and Indications among Doctors and Non-Doctors

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ABSTRACT

Objective: To find and compare the frequency of caesarean-section and its indications among doctors and non-doctors presented to tertiary-care hospitals of Peshawar city, Pakistan.

Methodology: A descriptive cross sectional study was conducted in four tertiary-care hospital of Peshawar city of Pakistan. Data on Caesarean section frequency and its indications were collected from the clinical records of 400 participants from March to May, 2016.

Results: Among the total 400 participants, the frequency of caesarean-section was 52.5% (80% in doctors and 25% in non-doctors). A statistically significant difference were identified when chi-square test were used to compare the difference between the two groups (P <0.05). Emergency caesarean was performed in 120 (57.2%) patients while Elective caesarean was performed in 90 (42.8%). The most common indication for caesarean-section was failed induction/failed progress of labor (23%).

Conclusion: The increased caesarean-section rate observed in doctors community is highly alarming. Our results should be taken into consideration when formulating policies to manage the national trend of increasing caesarean-section rates.

Key Words: Caesarean Section, Complications Elective Caesarean, Emergency Caesarean, Fetal Distress Indications.

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INTRODUCTION

Caesarean section is the most frequently performed obstetric surgical procedure. It can be a lifesaving procedure for mother and/or infant but only if performed for medical reasons.[1] However, when performed inappropriately, the potential harm may exceed the potential benefit to mother and infant.[2] Caesarean section can cause serious complications, sometimes even permanent disability or death particularly if performed in a Centre which lack facilities for safe surgery and dealing with complications which may arise.[1] The risk of maternal death after caesarean section is five times higher than that after normal vaginal delivery.[3] Other possible complications include a longer maternal hospital stay, increased risk of post-operative fever and need for blood transfusion, increased risk of respiratory problems for the infant, increased risk of complications in subsequent pregnancies including uterine rupture, morbidly adherent placenta, bladder and bowel injuries and the need for hysterectomy.[4]

According to World Health Organization there is no justification for any region to have a caesarean section rate higher than 10-15%.[6] Despite this, the rates of caesarean section are increasing, although unequally, in all parts of the world.[3] The rates are approaching 50% in China and up to 80% in some private clinics in Brazil.[7] In the U.S. there has been a steady increase in these rates from 21% in 1996 to 32% in 2009.[8]

Different theories which have been proposed to explain this trend include a decrease in vaginal birth after previous caesarean section, an increase in caesarean section on maternal demand, increased litigation issues, increased number of high risk women conceiving and changes in the practice patterns of caregivers.[8] In one study from three south Asian countries, rates of C-section were higher in private facilities than in public facilities. Moreover, a strong association between maternal education and C-section was found.[9]

In Pakistan, there has been an increase in C-section rate over the past few years.[10] However, there are variations between different groups like educated and uneducated, high and low socioeconomic class, rural and urban population.[10]

There may be different reasons for this trend including general social norms of an area e.g., among Pathans, hospital delivery is considered something against modesty and condemned by people. For this reason, females prefer home delivery and will not go to hospital. This may lead to maternal complications and even death, but C-section rates remain low. Lack of access to health facilities for economic reasons is another reasons is another factor leading to decreased C-section rates. Those who reach hospital will insist on vaginal delivery and try to avoid C-section. Females belonging to high socioeconomic class have different attitude towards C-section. They do not have problems of accessibility or affordability or support at home for care in the post-operative period.[11]

Another reason for high rates in urban areas might be very busy labor room in which patients can't be kept for long.[11] The aims of this study is to determine and compare the frequency of Caesarean Section and its indications among doctors and non-doctors presented to tertiary-care hospitals of Peshawar city, Pakistan.

METHODOLOGY

This cross sectional study was conducted at four tertiary-care hospitals of Peshawar, namely Khyber Teaching hospital, Mercy Teaching hospital, Kuwait Teaching hospital and Cantonment General Hospital. Data on Caesarean section frequency and its indications were collected on a structured checklist from the hospital records of 400 participants in Gynae and Obstetrics ward of these hospitals from March to May, 2016. The data collection tool including variables like, maternal age, occupation, type of delivery, type of Caesarean section, indication and complication of caesarean section.

Data was entered and analyzed in SPSS version 19. Descriptive statistics were computed to find frequencies and percentages of the different variables. Chi square test was used to compare between categorical variables. P-value of less than 0.05 was considered significant.

Table 1: Demographic Characteristics

Demographic Characteristics				
Variable	**Doctors (Number)**	**Non-Doctors (Number)**	**Total Number (%)**	**P value**
Type of Delivery				
Caesarean section	160	50	210 (52.5%)	<0.05
NVD	40	150	190 (47.5%)	
Age group				
Mean Age	29.5	24		
Less than 20	0	66	66 (16.5%)	
21-25	62	70	132 (33%)	
26-30	102	30	132 (33%)	
31-35	22	24	46 (11.5%)	
36-40	6	6	12 (3%)	
Above 40	8	4	12 (3%)	
Total	**200**	**200**	**400 (100%)**	

Table 2: Indication of Caesarean-section

Indication	**n (%)**
Failed induction/failed progress of labor	48 (23%)
CPD + Fibroid	36 (17%)
Fetal distress	34 (16%)
Breech	28 (13.5%)
Previous two C-Section	22 (10.5%)
Previous one C-section	16 (7.5%)
Cord around fetal neck	16 (7.5%)
Hypertension	4 (2%)
Precious pregnancy	2 (1%)
Maternal advise/wish	2 (1%)
Ante partum haemorrhage	2 (1%)
Total	210 (100%)

Table 3: Type and Complications of Caesarean-section

Type of C-section	**n (%)**
Elective	90 (42.8%)
Emergency	120 (57.2%)
Indication	
Postop anaemia	42 (20%)
Wound infection	14 (6.5%)
Fever	8 (4%)
Urinary tract infection	4 (2%)
Post-partum haemorrhage	2 (1%)
Post-natal depression	2 (1%)
Mastitis	2 (1%)
No complication	136 (64.5%)
Total	210 (100%)

RESULTS

Among the total 400 participants (200 doctors and 200 non-doctors), the mean age was recorded 26.75 years (Doctors: 29.5 years, Non-doctors: 24 years). The frequency of Caesarean section was 52.5% (80% in doctors and 25% in non-doctors). A statistically significant difference were identified when chi-square test were used to compare the difference between the two groups ($P < 0.05$) [Table:1].

Emergency Caesarean was performed in 120 (57.2%) patients while Elective caesarean was performed in 90 (42.8%). Among patient who underwent caesarean section, 22 (10.5%) patients had previous two caesarean-section and 16 (7.5%) patients had previous one caesarean section [Table:1]. Among the doctors, the caesarean section rate was higher in the age group 26-30 years compared to Non-doctors 21-25 years.[1]

The most common indication for caesarean-section was failed induction/failed progress of labor (23%), followed by CPD+fibroid (17%), fetal distress (16%), breech (13.5%), previous two Caesarean section (10.5%), previous one caesarean section (7.5%), cord around fetal neck (7.5%), hypertension (2%), precious pregnancy (1%), maternal advise/wish (1%) and antepartum hemorrhage (1%) [Table: 2].

The most common complication of caesarean-section was post-op anaemia (20%) followed by wound infection (6.5%), fever (4%), urinary trac infection (2%), post-partum hemorrhage (1%), post-natal depression (1%), and mastitis (1%) and while people presented with no complication were 64.5% [Table: 3].

DISCUSSION

In this study, the frequency of caesarean-section was 52.5%. In established countries the frequency of caesarean-section has been increasing gradually over time.[10,11] In Brazil more than 70% of deliveries occurring in private setups are by caesarean section.[12] Thus to alter the caesarean section rate and to reverse the trend it is essential to investigate the reasons behind caesarean section rate.

Our main finding was that doctors had significantly higher caesarean-section rates than the comparison group. (80% in doctors and 25% in non-doctors). These results are consistent with a Norwegian study which shows higher caesarean section rates for doctors compared with non-doctors with a crude ORs of 1.18 (95% CI: 1.12-1.28).[12] Among educated groups, doctors are unique in that they have acquaintance with their treating doctors and they know what is actually going on. Apprehension on part of patient and low threshold on part of physician leads to high caesarean-section rates among doctors. Moreover, their professional commitments do not allow them to have large families, so they are not ready to take any risk to the current pregnancy. Another factor responsible for high caesarean-section rate might be that to avoid delivery by a junior doctor at odd times like evening and night, the caring consultant will prefer to perform caesarean-section at a time convenient to him, be it for invalid indication. Another findings in our study that emergency caesarean was performed in 60 (57.2%) patients while elective caesarean section was performed in 45 (42.8%). A study done by Haider G et al reported the same results where emergency caesarean rate was 59.2% and elective caesarean was 40.7%.[12]

In this study, the most common indication for caesarean-section was failed induction / failed progress of labor (23%) followed by CPD+fibroid (17%). A study done by Ayano M et al.[3] in Ethiopia reported fetal distress and obstructed labor the most common indication of caesarean-section.

The availability of new technology and reliance on electronic fetal heart monitoring (EFHM) at some hospitals has led to higher caesarean-section rate being carried out for fetal distress. Great maternal care, knowledge and clinical skills should be practice to avoid overdoing caesarean-sections for fetal distress but not to delay intervention for truly compromised fetus.

In our findings, the most common complication of caesarean-section was post-op anaemia (20%) followed by wound infection (6.5%). Park et al, 2012 demonstrated the rates of anaemia 13.9% and 19.7% in single caesarean delivery (SCD) group and repeated caesarean delivery (RCD) group respectively.[13]

CONCLUSION

The increased caesarean-section rate observed in doctors community is highly alarming.

World Health Organisation recognises inappropriate treatment measures in pregnancy as a general risk for mother and child. In our opinion, our results should be taken into consideration when formulating policies to manage the national trend of increasing caesarean-section rates.

Further research needs to done in order to evaluate whether attitudes in the professional system or personal attitudes in favour of intervention are determinants for the witnessed differences.

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