

# Study to Determine the Indications and Frequency of Elective and Emergency

## Caesarean Section in A Tertiary Care Hospital

Nargis Taj<sup>1</sup>, Fouzia Jan<sup>1</sup>, Ghazala Taj<sup>1</sup>, Fouzia Anwar<sup>1</sup>, Mohammad Hashim Mengal<sup>2</sup> and Safia Taj<sup>1</sup>

### ABSTRACT

**Objective:** The objective of the analysis was to determine the frequency of elective and urgent cesarean sections as well as clinical indications.

**Study Design:** A Descriptive Cross-Sectional Study

**Place and Duration of Study:** This study was conducted at the Obstetrics and Gynecology Department unit III of Bolan Medical Complex Hospital Quetta for one-year duration from May 2019 to May 2020.

**Materials and Methods:** The study included consecutive females who gave birth throughout the study duration in the hospital. There were 750 patients in total who gave birth in the hospital. The basic demographics and mode of delivery of patients undergoing elective and emergency cesarean section were documented. The clinical signs of surgery were also documented.

**Results:** There were 750 births in the analyzed period. Of the 750, 190 were cesarean births, the rest were natural births. The frequency of cesarean sections was 25.33 per 100 deliveries. Of these, 81.05% (154) was an emergency cesarean section, 18.94% (36) was an elective cesarean section. Considering that the age of mothers of patients who have undergone cesarean section ranges from 18 to 45 years; 25% were under the age of 20, 60% were between 20 and 30 years of age, 13% were between 30 and 40 years of age and 2% were over 40 years of age. The most common pointers for C-section were failure to progress/ obstructive labour 18.80% (n=29), foetal distress 20.1% (n=31), breech presentation 8.40% (n=13), previous cesarean section 15.0% (n=40), failed induction 6.50% (n=110), cephalo-pelvic disproportion 3.90% (n=6) and pregnancy induced hypertension (PIH) 3.90% (n=6)

**Conclusion:** The cesarean section frequency was only somewhat advanced than endorsed by the WHO. Maximum of the cesarean sections were emergency cesarean sections.

**Key Words:** Cesarean Section, Frequency, Emergency, Elective, Indications.

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### INTRODUCTION

The increase in the number of cesarean sections worldwide is the maximum discussed matters in maternity hospitals<sup>1</sup>. C. Section is a major operating method and, alike any surgery, it conveys a substantial jeopardy of mortality and morbidity<sup>2-3</sup>. Guideline for cesarean delivery should be developed and implemented and used only for clearly defined indications.

<sup>1</sup>. Department of Obstet & Gynae, Bolan Medical Complex Hospital Quetta.

<sup>2</sup>. Surveillance Officer WHO Country Office, Islamabad.

Correspondence: Dr Nargis Taj, Senior Registrar Obstetrics and Gynecology Unit III, Bolan Medical College Quetta.

Contact No: 03333-789889

Email: docnargisaslam@gmail.com

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Caesarean section is considered by many obstetricians to be a fairly simple, safe, effective, and psychologically well endured technique, far better than secondary interferences such as emergency or vacuum cesarean delivery, but there is the contradictory school of thought as well<sup>4-5</sup>. Therefore, a cesarean section is a matter of professional discussion<sup>6</sup>. There is also controversy about the rates of cesarean section. The comparative profits of lower or higher proportion of C-section are also controversial. Currently, C-section ratio is about 16–27% of all births in industrialized countries, and there is < 1: 10,000 maternal mortality<sup>7</sup>.

The World health organization says that if the rate is higher than 10-15%, there are no further benefits of health related with a C-section<sup>8-9</sup>. The mother's request has an important role in caesarean section in established countries but in under developed countries; C-section rarely performed at her mother's request due to a lack of knowledge and comfort. Although the frequency of cesarean sections has increased in the preceding era, the main clinical signs are not changed, namely induction failure, fetal distress / previous cesarean section, and breech presentation<sup>10-11</sup>.

It is difficult to estimate the number of cesarean sections as most births in Pakistan are done at home. Only complex cases or people with access to health centers benefit from this solution. For this reason, the frequency of emergency caesarean sections is much higher than in the case of elective C-section<sup>12</sup>.

This analysis was held to govern the incidence of cesarean sections in our society and to analyze the indications. The study will also benefit to recognize factors that need to be discussed to reduce maternal mortality.

## MATERIALS AND METHODS

This Descriptive Cross-Sectional Study held in the Obstetrics and Gynecology Department of Bolan Medical Hospital Quetta for one-year duration from May 2019 to May 2020.

The study included consecutive females who gave birth throughout the study duration in the hospital. There were 750 patients in total who gave birth in the hospital. The basic demographics and mode of delivery of patients undergoing elective and emergency cesarean section were documented. The clinical signs of surgery were also documented.

750 total patients received different treatment options. The analysis also comprised all of emergency C-sections that were specified during this time. The detailed proforma was supplemented with information about the mother's age, registered patient number, emergency or elective caesarean section in patients indicated for caesarean section. Elective caesarean section was classified as non-urgent and the decision was made before the onset of delivery. Emergency C-section is defined as a sudden maternal emergency or fetal distress, pre-eclampsia or arrested labor.

There are clinical indications for elective and urgent caesarean section. For more than one indicator, the three most important indicators are included for data analysis. The gestation period at the time of gravidity, presentation, obstetric and parity background was also recorded. Patients with more than one or less than five pregnancies were grouped as the multigravida and those with five or more pregnancies were grouped as the grand multigravida.

SPSS version 20.0 was applied for data analysis. The cesarean section proportion was determined as the number of cesarean deliveries per one-hundred deliveries. The fraction of emergency and elective cesarean sections was calculated. The cesarean section rates for each indication were calculated as the number of cesarean sections per 100 cesarean sections.

## RESULTS

There were 750 births in the analyzed period. Of the 750, 190 were cesarean births, the rest were natural births. The frequency of cesarean sections was 25.33 per 100 deliveries. Of these, 81.05% (154) was an

emergency cesarean section, 18.94% (36) was an elective cesarean section. Considering that the age of mothers of patients who have undergone cesarean section ranges from 18 to 45 years; 25% were under the age of 20, 60% were between 20 and 30 years of age, 13% were between 30 and 40 years of age and 2% were over 40 years of age.

The pregnancy and the duration of pregnancy during surgery were presented in Table-1.

**Table No.1: Patients by gravidity and period of gestation**

Gravidity	Emergency C-Section n=154 (%)	Elective C-Section n=36 (%)	Total n=190 (%)
Primigravida	56 (36.4%)	4 (11.1%)	60 (31.6%)
Multigravida	61 (39.6%)	17 (47.2%)	78 (41.1%)
Grand Multi Gravida	37 (24.0%)	15 (41.7%)	52 (27.4%)
Period of gestation			
34 or less Week	10 (6.5%)	4 (11.1%)	14 (7.4%)
35–38 Week	23 (14.9%)	7 (19.4%)	30 (15.8%)
39–42 Week	120 (77.9%)	24 (66.7%)	144 (75.8%)
More than 42 Week	1 (0.6%)	1 (2.8%)	2 (1.1%)

The clinical signs for elective C-section are presented in Table-2, and for emergency C-section in Table-3.

The most common pointers for C-sections were failure to progress/ obstructive labour 18.80 % (n=29), foetal distress 20.1% (n=31), breech presentation 8.40% (n=13), previous caesarean section 15.0% (n=40), failed induction 6.50% (n=110), cephalo-pelvic disproportion 3.90 % (n=6) and pregnancy induced hypertension (PIH) 3.90% (n=6).

**Table No.2: Indications for elective caesarean section (n=36)**

Indications for Elective Caesarean Section	n	%
Marked Oligohydromnios	5	13.90%
Previous Caesarean Section(s)	15	41.70%
Pregnancy Induced Hypertension	4	11.10%
Cephalo Pelvic Disproportion	5	13.90%
Twins with some complication	3	8.30%
Breech Presentation	3	8.30%
Maternal Wish (with bilateral tubal ligation)	1	2.80%
Bad Obstetrical History	3	8.30%
Miscellaneous	2	5.60%
Placenta Praevia	1	2.80%

**Table No.3: Indications for emergency caesarean section (n=154)**

Indications for Emergency Caesarean Section	n	%
Obstructed Labour/Failure to progress	29	18.80%
Foetal Distress	31	20.10%
Breech Presentation	13	8.40%
Previous Caesarean Section (s)	12	7.80%
Antepartum Haemorrhage	9	5.80%
Failed Induction	10	6.50%
Transverse lie	7	4.50%
Primary Dysfunctional Labour	8	5.20%
Miscellaneous	8	5.20%
Cephalo Pelvic Disproportion	6	3.90%
Twin and first Breech	3	1.90%
Cord Prolapse	3	1.90%
Pregnancy Induced Hypertension/eclampsia	6	3.90%

## DISCUSSION

The frequency of cesarean sections in the analyzed period was 25.33%. This study found a higher rate than the WHO recommended Caesarean section should be 10-15%. However, Bolan Medical Complex Hospital, a tertiary care hospital, deals with more complex cases, as evidenced by more urgent caesarean sections. Therefore, in a region with hospitals, the actual caesarean section rate is much lesser<sup>13</sup>. This is partially because of deficiency of services and a deficiency of knowledge or care in the prenatal area. This contrasts with research in established regions and regions with improved health conditions. In June 2016, the WHO concluded that there is no experimental evidence for the recommended ratio of C-section as it is a controversial issue. Currently, world health organization recommends a caesarean section only when it is necessary<sup>14</sup>. Primigravida's are more at risk, so C-sections are more common amongst them. However, in our study, the rate of cesarean section was high in multigravida women (41.1%). This is probably because females in Pakistan get pregnant many times. This discovery agrees with the research around us<sup>15</sup>. The foremost indicator for cesarean section was fetal distress. Fetal distress is diagnosed by monitoring the load of the fetal heart and meconium. This is because of very innovative equipment's and technology available recently in some rural areas (e.g., Ultrasound). Fetal distress has constantly been the chief significant medical signs for cesarean section<sup>16-17</sup>. The 2<sup>nd</sup> maximum common indication in this study was obstructed labor (18.80%); In Pakistan, inadequate management of midwives is a common problem due to careless use of oxytocin drugs or unnecessary prostaglandin induction without prior evaluation<sup>18</sup>.

A previous cesarean section is an important reason for a cesarean section; Therefore, after previous cesarean section, one should try vaginal delivery to control the increase in your cesarean section. Successful vaginal delivery afterward single C-section in a large population of multiparous women was not related with an augmented jeopardy of maternal complications compared to repeat caesarean section<sup>19</sup>.

In this study, approximately 8.4% of cesarean operations were performed due to breech presentation. Breech presentation is related with increased mortality rate among mothers and disease, regardless of the course of delivery, due to fetal abnormalities and preterm delivery. However, if vaginal delivery is well chosen, vaginal delivery ensuring term delivery does not upsurge mortality and morbidity. The number of breech cesarean sections has now increased as most obstetricians find trying to deliver a child safer and easier. This led to an increase in the number of planned breech cesarean sections as revealed in our analysis. Cephalopelvic disparity was the 6<sup>th</sup> most communal reason; though, it was the 2<sup>nd</sup> most communal source of a planned cesarean section. The high percentage of cesarean sections diagnosed with prenatal cephalopelvic imbalance suggests a more aggressive approach leading to increased frequency of cesarean sections<sup>20-21</sup>.

In this study, pregnancy-related hypertension was reported in 3.90% of cesarean sections. Good prenatal care can spot these problems sooner, and prompt treatment can help prevent complications. Pregnancy-induced hypertension increases the jeopardy of cesarean section and premature delivery<sup>22</sup>.

Around 18.80% of cesarean deliveries were caused by failed progression of labor. It was lower than other surveys in Pakistan. The decision to perform a cesarean section seems to be a department strategy. The caesarean section safety invigorated obstetricians to prefer C-section. Antepartum hemorrhage (APH) was a significant signal for an emergency C-section (5.80%). A C-section is an imperative life-saving method in APH because it is mainly associated with the placenta praevia and carries a particular risk for both the baby and the mother if it is delayed<sup>23-24</sup>.

In our analysis, all cesarean sections were accomplished with special medical indications. Females in Pakistan do not accept C-section as their primary method of delivery. Of the 190 cases where the mother requested a Caesarean section, only three were reported; However, other procedures such as bilateral tubal ligation were observed in these cases, and that was the cause of this case<sup>25</sup>. This condition is very diverse in advanced states, where females require elective C-section as the primary method of delivery.

There is presently no suggestion that elective caesarean section is beneficial than vaginal delivery. In fact, most of the evidence suggests that a cesarean section carries

a much greater risk than childbirth. Therefore, maternity care providers should continue to recommend vaginal delivery as the optimal method of delivery<sup>26</sup>.

## CONCLUSION

The cesarean section rate was only somewhat greater than the recommendation of WHO. Most of them are emergency caesarean section operations. The main reason for this is that tertiary hospitals often receive complex cases. Most cesarean sections in Pakistan are performed for a specific clinical indication.

### Author's Contribution:

Concept & Design of Study: Nargis Taj, Fouzia Jan  
 Drafting: Nargis Taj, Ghazala Taj  
 Data Analysis: Nargis Taj, Mohammad Hashim Mengal  
 Revisiting Critically: Nargis Taj, Fouzia Anwar  
 Final Approval of version: Nargis Taj, Mohammad Hashim Mengal

**Conflict of Interest:** The study has no conflict of interest to declare by any author.

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