

## Causes of Primary Caesarean Section Operation in Al-Batool Maternity Teaching Hospital

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### Abstract

**Background:** Caesarean section is surgery to deliver a baby through the mother's abdomen , may be is emergency or elective procedure according to state of mother and her fetus. The increase in the prevalence of cesarean section (C-section) in recent decades has become a public health problem worldwide. Studies of cesarean section in order to identify the causes and form policies and interventions to reduce the incidence of this health problem are necessary. It is called "Primary Caesarean section" when it is performed for the first time on a pregnant woman.

**Objective:** to evaluate the causes of primary C-section in in Al-Batool Teaching Hospital ,Diyala , Iraq.

**Patient & Method:** A descriptive cross-sectional study was done in Al-Batool Maternity Teaching Hospital in Diyala during the period from 24<sup>th</sup> of September 2018 till 3<sup>rd</sup> of March 2019. Six hundred primary caesarean section were included in our study.

**Result:** A total of 600 cases were selected for the study. Failure to progress in labour( 31 % ) and malpresentation ( 21% ) are main causes of primary CS, the most age groups are 20-29 years old in our study .

**Conclusion:** The most common cause is failure to progress in labour and the most operations were carried on primigravida. As age increased, prevalence of primary CS decreased.

**Keys words:** primary Caesarean section, labour, Al-Batool Maternity Teaching Hospital.

### Introduction

Cesarean section (CS) is an operative procedure whereby the fetuses after the end of 28th weeks are delivered through an incision on the abdominal (laparotomy) and uterine walls (hysterotomy) (1). Although it is life saving for both infant and mother when clinically indicated, it is associated with more neonatal and maternal morbidity and mortality such as transient neonatal apnea, hemorrhage, urological injuries, infection, thromboembolism, placenta accrete and uterine rupture in subsequent pregnancies in addition to more cost to health care than vaginal delivery(2). Birth by Caesarean section has become a common place intervention on the modern labour ward and reached epidemic proportions that requires a dramatic rethink of obstetric management (3). An overall 29.7 million of cesarean were done in 2015 globally, the cesarean section rate in United States and UK were 32% and 27.5% respectively (4),(5).

The cesarean section is called primary when performed to pregnant women for the first time (6), relative indications for primary cesarean section are increased more than absolute indications including almost cases in which risk of vaginal delivery for mother and infant is expected more than risk of cesarean delivery (7), this operation has been implicated in the increase overall

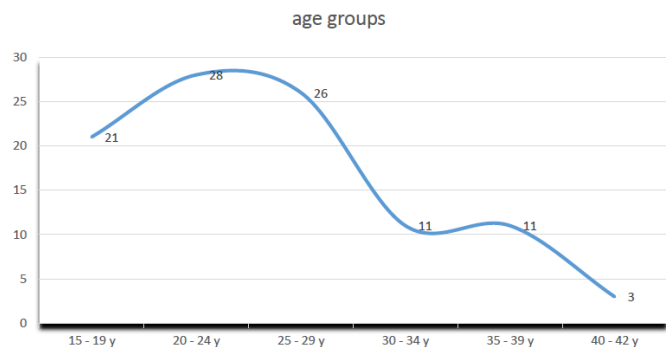
cesarean sections and it has an intimate factor of repeat cesareans in the subsequent pregnancies, as attempts for vaginal deliveries after cesarean section has been dropped because of its uterine scar that has a risk for uterine rupture (7). So understanding the reasons of primary cesarean section is essential to reduce the total cesarean rate. The objective of our study were to evaluate the causes of primary cesarean section in Al-Batool Maternity Teaching hospital and the frequency of each cause.

**Patient & method:**

A descriptive cross-sectional study was done in Al-Batool Maternity Teaching Hospital in Diyala, Iraq during the period from 24th of September 2018 till 3rd of March 2019. The study included six hundred primary caesarean sections. A questionnaire form was used to collect data from the patients including demographic information such as age, parity, , sector, , past obstetric history as weeks of gestation and cesarean section reasons and chronic medical diseases.

**Result:**

A total of 600 cases were included in this study during the period from 24<sup>th</sup> of September 2018 till 3<sup>rd</sup> of March 2019, with maternal age ranging from a 15 to 42 years and most of them were in age range of 20-29 years. As age increased, incidence of primary CS decreased, figure (1).



**Figure(1): Percentage of each age group from the total number of primary CS in this study.**

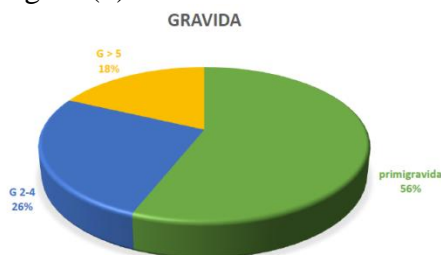
Regarding the causes for primary cesarean section are presented in table (1) among these , failure to progress in labour ( 31% ) and malpresentation ( 21%), fetal distress ( 12% ) , and maternal request ( 12% ) . Postdate, pre-eclampsia ,abruptio placenta, cephalopelvic disproportion, twin, hypertension, and placenta previa were least reasons, respectively.

**Table (1): Percentage of each cause of primary cesarean section**

causes	Number	percentage
Failure to progress	186	31%
Malpresentation	126	21%
Fetal distress	72	12%
Maternal request	72	12%
Postdate	30	5%
Abruptio placenta	24	4%
Pre-eclampsia	24	4%
Cephalo-pelvic disproportion	18	3%
Twin	18	3%
Hypertension	18	3%

Placenta previa	12	2%
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According to gravida, the frequency of primary cesarean section was higher in primigravida (56%) than multigravida (44%). Figure (2).



**Figure (2): Frequency of primary CS according to gravida**

In primigravida, the cause of primary cesarean section was due to failure to progress in 20% of patients as presented in table (2).

**Table (2): causes of primary CS in primigravida.**

Cause	Percentage
Failure to progress	20%
Malpresentation	13%
Fetal distress	7%
Maternal request	6%
Postdate	3%
Pre-eclampsia	2%
Cephalopelvic disproportion	2%
Twin	1%
Placenta abruption	1%
Hypertension	1%

## Discussion

Although primary cesarean section can be an ideal intervention for mothers and infants, all attempt should be done to reduce the rate of this type of cesareans in order to decrease the future unnecessary repeated cesarean sections which are costly and latency life threatening. As several studies declared that vaginal delivery after cesarean section may be more risky than expected (8), so it is logical to study the prevalence of causes of primary cesareans sections.

There are many causes for performing primary cesarean section, our study showed that the main cause is labour progression failure, this result is comparable with the findings of Mahima et al and Tita ATN (9, 10) but incomparable with other studies like Saha and Devi et al (6,11) and Mohammed EM et al(12) whom considered fetal distress as the most common cause. This disagreement can be explained by that the diagnosis of failure to progress is relatively subjective and the improper use of partogram may play a role. So sufficient criteria for diagnosis of failure to progress must be applied in latent and active phase of first stage and in second stage of labour (13) in addition to these criteria patients tolerance and staff experience in the labour room should be considered.

The second most common cause for primary cesareans in our study was malpresentation, this agrees with Mohammad EM et al (12) which was done in Karbala – Iraq, but disagree with study of Khashoggi T et al(14) who found that malpresentation (especially breech) was the first

common indication for primary cesareans. Malpresentation is an objective diagnosis but because of declined antenatal external cephalic version trial and decreased number of well trained and expertspersonnels in labour room, cesarean section increased for breech presentation chiefly in primigravida.

In our study the third cause was fetal distress which is incomparable with Saha L et al (6) and Devi GR et al(11) and Mohammad EM et al (12) findings who considered fetal distress the most common cause for primary cesareans in their studies. In almost labour room abnormal cardiotocography (CTG) made the decision of intrapartum fetal distress, although it has a lousy performance as a screening tool for monitoring but still the basis of medico-legal performance in obstetrics leading to unnecessary cesareans, so using other modality for fetal monitoring like fetal ECG when there is abnormal CTG may reduce rate of cesareans due to this indication.

Maternal request had the same percent as fetal distress (12%) as a cause of primary cesareans in our study, the main reasons for their demand are fear of labour pain and history of traumatic vaginal delivery which go with the findings of other studies (15,16).

Cephalo-pelvic disproportion percentage in our study was incomparable with other studies (10,12,14).

The remainder causes such as postdate, placenta previa, abruption placenta, hypertension and twin are the less common causes of primary cesarean that agree with other studies (12,14,16).

There was a variation of maternal age but the most common age groups of patients are 20-29 also consistent with other studies ( Mohammed EM and Khashoggi T et al), in our study, most of the operations were carried out on primigravida patients due to various causes, which is agree with Saha L, Mohammed EM et al and Pushpa et al (17).

### **Conclusion and recommendation**

The most common cause of primary cesarean section is failure to progress in labour and the most operations were carried on primigravida. As age increased, prevalence of primary CS decreased. Encourage pregnant women to visit antenatal care center, health awareness and education about the benefit of vaginal delivery and risk and suspected complication of CS and obstetricians should do CS for its real indications can lead to decrement in the prevalence of primary CS.

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