

Prevalence and Causes of Cesarean Sections in Primiparous Women in Zahedan in a One-Year Period

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Abstract

Background: Cesarean section plays an important role in reducing mortality and complications for the mother and fetus, in high-risk childbirths. But the problem with modern midwifery is the high prevalence of cesarean sections. The aim of this study was to investigate the prevalence and causes of cesarean sections in primiparous women.

Methods: In the present descriptive cross-sectional study, all pregnant women referring to Ali-Ibn-Abitaleb Hospital in Zahedan, Iran, for cesarean section during a year from April 2018 to March 2019 were enrolled. The data including the participants' demographic information and reasons for the cesarean sections were extracted from the patients' files and recorded in a pre-designed form. Data were analyzed using SPSS statistical software, V. 21.

Results: Out of 174 cases, 44.2% of them ended to cesarean section because of maternal causes, among which 27.5% had delivery arrest, 2.5% preeclampsia, 4.6% chorioamnionitis, 3.5% Placental abruption and HELLP syndrome, and CPD was 4.3%. The fetal causes with a prevalence of 55.8% included fetal distress with 19%, placental abruption with 12%, multiple births with 11%, placental and umbilical prolapse with 9.2%, and macrosomia with 4.6%, respectively.

Conclusion: Lack of progression in labor and then fetal distress were, respectively, the most important causes of cesarean delivery in primiparity women. The other maternal reasons comprised the third leading cause of cesarean sections in these women.

Key Words: Cesarean section, Fetus, maternal, Primigravida.

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1- INTRODUCTION

Cesarean section refers to the removal of the fetus, placenta and membranes by cutting the wall of the abdomen and uterus (1). Cesarean section plays an important role in reducing mortality and complications for the mother and fetus, in high-risk childbirths. But the problem with modern midwifery is the high prevalence of cesarean sections. According to the recommendations of the World Health Organization (WHO), the expected rate of cesarean section in different countries should be 10-15% of deliveries and has stated that there is no justification for increasing the rate of the cesarean sections (2, 3).

According to statistics provided by the WHO, out of 137 countries in 2008, the rate of cesarean sections in 56 countries was below 10%, while 69 countries had more than 15% cesarean sections. Sixteen countries had between 10 and 15% cesarean sections. Iran is one of the countries in which the rate of cesarean section was more than 15%, i.e. about 41.9%, among which about 6% are unnecessary cesarean sections (4).

Ahmadnia in his study in Iran between 1998 to 2000 concluded that the mean rate of the cesarean sections have been 35% in all provinces of Iran, while the prevalence of cesarean section was 41.7% in Isfahan and 44% in Tehran (5).

The system of monitoring and evaluation of reproductive services of the Ministry of Health, Treatment and Medical Education in 2010 announced the rate of cesarean section as 68% in the whole country of Iran and notified that this rate is related to university hospitals and in the case of private hospitals, the rate of cesarean section reaches over 90% and sometimes even 100% (6).

According to the British National Institute for Clinical Excellence and Health, the reasons for a planned cesarean section

include breech presentation, multiple pregnancies, preterm birth, and small fetuses for gestational age, placenta previa and placental abruption, maternal infection such as AIDS, hepatitis C, B and herpes simplex, a history of previous cesarean section, and at the request of the mother. However, according to this institute, natural childbirth can be performed for most of the mentioned reasons (7). Other studies also confirm the causes of cesarean section mentioned above (8-10).

The available statistics in Iran do not correspond to any of the global statistics and even considering the factors affecting the increase in the rate of cesarean sections does not justify this high rate (11). According to another study conducted in Iran, more than 70% of pregnant women want to have a cesarean section for unnecessary reasons, among which 92% are related to fear of the labor pain and complications of normal delivery (12).

There are several reasons for having a cesarean section, one of the most important of which is the lack of progress in delivery. Another study reported that in 68% of cesarean sections in which fetuses were exposed, no progression was observed, and at least 16% were due to prolonged cesarean sections. And the second reason for fetal suffering has been raised (13).

In recent years, the rate of cesarean section in our country has increased and in some reports it has been mentioned up to 70%. Another possible cause of this increase might be early hospitalization of the patients, which might by itself increase the rate of ectopic interventions in the delivery route, leading to the cesarean section. In order to reduce it, various attempts have been made by the Ministry of Health and Medical Education. Because cesarean delivery has several complications, including increased infection of the uterus - bladder - postoperative bleeding, as well as increased respiratory distress syndrome

in the baby. The economic effects of cesarean delivery are also significant. Maternal mortality is an uncommon complication, but the other complications increase sharply compared to vaginal delivery. Cesarean section leads to a 2-4-fold increase in mortality and a 5-10-fold increase in maternal injuries compared to normal delivery (14). Among the problems that cesarean delivery can cause to the baby are increased neonatal mortality, low birth weight infants, and increased incidence of temporary respiratory problems (15). The present study, thus, aims at evaluating the frequency of cesarean section in Zahedan city and the reasons for performing this operation.

2- MATERIALS AND METHODS

2-1 Study Design and population

This research is a descriptive cross-sectional study. The study population included all patients who had referred to Ali-Ibn-Abitaleb (AS) Hospital in Zahedan for cesarean section during a one-year period from April 2018 to March 2019. The patients' required information were extracted from the patients' files and health records; and were recorded in a researcher-made form. The patients' data were recorded in two categories of demographic information and reasons for selecting the

cesarean section. Sampling was done in an easy or accessible way.

2-5 Ethical consideration

The present study was carried out after the approval of the ethics committee and the research committee of Zahedan University of Medical Sciences.

2-6 Inclusion and Exclusion criteria

The inclusion criteria was having no previous delivery

2-7 Data Analysis

The data were analyzed using SPSS statistical software.

3- RESULTS

In the present study, 174 hospital records were evaluated. Maternal causes were 44.2% of the causes leading to cesarean section, among which 27.5% were delayed delivery, 5.2% were preeclampsia, 4.6% were chorioamnionitis, decolman and HELLP syndrome were 1.75%, and CPD was 3.4%. Fetal causes with a prevalence of 55.8% included fetal distress with 19%, placenta previa with 12%, multiple births with 11%, placental and umbilical cord prolapse with 9.2% and macrosomia with 4.6%, respectively (**Table 1**).

Table-1: Frequency of causes of cesarean sections in primiparous women (N=174)

	Cause	Number	Percentage
Maternal (44.2%) (N=77)	Lack of labor progress	48	27.5
	Preeclampsia	9	5.2
	Chorioamnionitis	8	4.6
	Decolman	3	1.75
	HELLP Syndrome	3	1.75
	CPD	6	3.4
Fetal (55.8%) (N=97)	Fetal Distress	33	19
	Placenta Previa	21	12
	multiparity	19	11
	Placental and umbilical cord prolapse	16	9.2
	Macrosomia	8	4.6
All	-	174	100

Moreover, in the study of emergency cesarean sections, the lack of progression of labor with 33.6% is the most important maternal cause of emergency cesarean

section; and motherhood and fetal distress with 23.2% is the most common cause of emergency cesarean section due to fetus (**Table 2**).

Table-2: Frequency distribution of causes of emergency cesarean section in primiparous women

	Cause	Number	Percentage
Maternal (44.2%)	Lack of labor progress	48	33.6
	Preeclampsia	5	3.5
	Chorioamnionitis	5	3.5
	Decolman	3	2.1
	HELLP Syndrome	3	2.1
	CPD	3	2.1
Fetal (55.8%)	Fetal Distress	33	23.2
	Placenta Previa	21	14.5
	multiparity	11	7.7
	Placental and umbilical cord prolapse	8	5.6
	Macrosomia	3	2.1
All	-	142	100

4- DISCUSSION

The most common cause of cesarean section in the present study was delayed delivery followed by fetal distress. Delayed delivery, and other maternal diseases, abnormal fetal placement, multiple births, placental abruption, mismatch (CPD) and other causes of cesarean section were performed on Noli Par women.

In a study by Mohammad Beigi, 2008, on determining the factors affecting the selection of cesarean sections in Shiraz hospitals, it was reported that the most important factor was delivery arrest (16), which is consistent with our findings. In the study of Johari et al., on the rate of cesarean section and its causes in Fasa city, in line with our results, the lack of progress in delivery was found to be the most common cause of cesarean section in 2011 (17). In a study conducted by Khayatian on the prevalence and causes of cesarean sections in public delivery centers in Kashan in 2014, the most common

cause was fetal distress (14.8%), while meconium excretion (8.7%) and lack of labor progression (7.4%) were in the next ranks (18). In a study by Rahmanian et al. investigated the prevalence of cesarean section and the reasons for performing it in Jahrom city, 2008, proposing that the most common causes of cesarean section are fetal distress (20.2%), lack of progress in labor (11.1%) and the Cephalopelvic disproportion (10.7%); 6.7% of cesarean sections were performed at the request of mothers (19). In another study, Tetsuya Kawakita stated that the most common causes of cesarean sections in nulliparous women were lack of delivery progression and Cephalopelvic disproportion 33.2%, fetal heart problems 22.9%, malpresentation 23.7%, elective 8.8% Maternal hypertension 2.4%, placenta previa 2%, AIDS 1.5%, uterine scar 1.3%, fetal anomaly 1.2%, placental abruption 1%, chorioamnionitis 0.7%, and macrosomia 0.6% (20).

Boyle et al., in their study in 2013, stated the following causes: delivery arrest (41.3%), fetal heart problems (23.4%), fetal malpresentation (15.8%), preeclampsia (3.6%), macrosomia (2.8%), birth defects (1.7%), Elective (2.7%), fetal anomaly (1.9%), uterine scar (1.4%), HIV (0.8%), chorioamnionitis (1%), and shoulder dystocia (0.01%) (21).

In a study by Tommy et al., 2018, it was stated that labor was not progressed by 20.5%, and fetal heart problems were the second cause (26.2%), followed by fetal malpresentation (10.8%), macrosomia (3.8%), twins (10.7%), preeclampsia (4.5%), maternal causes (2.8%), and maternal-fetal causes (8.4%) (22).

5- CONCLUSION

In the present study, labor arrest and then fetal distress were the most important causes of cesarean delivery in primiparous women. The other maternal causes were considerably less frequent in these women. It is, therefore, suggested that the causes leading to the lack of progress in labor and fetal distress be further evaluated.

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