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Determining the Prevalence and Causes of Cesarean Section in the Ahvaz Amir-a-Imomenin Hospital affiliated to the Social Security Organization in 2009

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ABSTRACT

Cesarean section is the commonest surgery in gynecology and it is one method of pregnancy termination. An overview of cesarean section status in world shows that its rate is very high. The published reports of cesarean status in Iran also indicate very high rate. Therefore, this study aimed to investigate cesarean section rate and the main influencing factors among patients referred to Amiralmomenin Hospital in Ahvaz, Iran. This is a descriptive and cross sectional retrospective study. The data's from all of patients that undergo cesarean section in year 2009 registered in questionnaire arranged before. Then the data's analyzed with descriptive indexes and spss-16 program. Of 9753 case that %51.6 of those was natural delivery and 48.4% of those was performed by cesarean section. In this study 59.27% of women had a history of previous cesarean section. Majority of cesarean section indications arranged by rate were previous cesarean section (59.27%), thick meconium stain (11.5%), non-cephalic presentation (6.26%), dystocia (5.47%), CPD (3.8%) and fetal distress (2.64%). Near half of pregnancy termination is performed by cesarean section where the most common cause of this rate is previous history of cesarean section.

Key words: Cesarean section, Indication, Rate.

INTRODUCTION

Pregnant women delivery happens in vaginal and Caesarean ways. Four common reason for cesarean are repeated cesarean, dystocia or disorder in the development of vaginal delivery, breech presentation and fetal distress (1). The cesarean rate is different in different statistics. In Brazilian government centers, it is 25 percent in Chile, 27 to 28% and in 19 countries in Latin America, cesarean rates have been reported between 16.8 and 40% (2-4). Given that international acceptable level for Caesarean section delivery is 25 percent (5), statistics show higher percent of cesarean rate in Iran (6-9).

The maternal mortality in cesarean section even in the best conditions is 5 to 7 times greater than normal delivery and delivery complications and length of hospital stay in this method is more in this method (1-6, 11, 10). After cesarean surgery major risks such as severe infection, bleeding and unconsciousness, thromboembolism and respiratory pneumonia attacks threat the patient (9, 7). Although it is not possible to provide a complete list of all indications for cesarean section, more than 85% of cesarean delivery are due to previous cesarean, fetal distress, dystocia, and breech presentation (1).

Repeating cesarean now includes more than 35% of Caesarean sections in the United States. Dystocia, fetal distress, breech presentation and other obstetric conditions are the most common indication for primary cesarean delivery in most cases. Recently, indications such as meningomyelocele and special degrees of hydrocephalus, which are of treatable anomalies of the fetus, have been added to previous indications (10, 12, 13, 16). Some side post-delivery effects such as unexplained fever, endometritis, wound infection, bleeding, aspiration, atelectasis, urinary tract infection and thrombophlebitis and pulmonary embolism are seen in 25 percent of women who delivered by cesarean delivery.

Late complications of cesarean delivery in the mother include bowel obstruction due to adhesions and cutting uterine rupture in subsequent pregnancies. Both of these complications are more common in the traditional cutting than lower uterine segment incision (16). There is no doubt that in case of emergency, cesarean delivery is necessary to reduce maternal and neonatal mortality, but as research and investigations have shown natural childbirth with all its identified benefits is replaced by the surgeries with greater complications. According to statistics provided, the prevalence of caesarean section in private hospitals is significantly greater than in academic hospitals (8). On the other hand, because of the lack of cooperation from the private hospitals in providing accurate statistics and lack of access to their real information, this study has been conducted in Imam Ali Hospital of social security of Ahwaz that is referral hospital for families covered by social security and has a state between university and private hospitals so that intermediate statistics results are obtained, and prospects for cesarean status in these centers is drawn as well.

MATERIALS AND METHODS

This study is a descriptive cross-sectional study, in which the population under study is all women referring to Imam Ali Hospital (pbuhs) of Social Security in 2009 for childbirth. Completing the form data collection was through referring to patients' medical records and the data was analyzed by statistical software spss16. Data collection form was based on the views of a number of social medicine specialists, women, and by referring to studies of the same kind and content validity.

Table 1: Relative and absolute frequency distribution of the subjects according to the type of delivery

Type of delivery	Frequency	Percent
Natural	5026	51.6
Caesarian	4727	48.4
Total	9753	100

Table 2: Relative and absolute frequency distribution of the subjects by age

Age	Frequency	Percent
≤19	**496**	**10.5**
20-24	**1986**	**42**
25-29	**2005**	**28.5**
30-34	**661**	**14**
≤34	**236**	**5**
Total	**4727**	**100**

Table 3: Absolute and relative frequency of cesarean women by location

Location	Frequency	Percent
Village	993	21
City	3734	79
Total	4727	100

Table 4: Absolute and relative frequency distribution of cesarean women based on their jobs

Pregnant women job	Frequency	Percent
Housewife	3947	83.5
Employed	780	16.5
Total	4727	100

RESULTS

This study examined 9753 pregnant women referring to a government center in Ahvaz for giving birth. Patients were divided into two groups based on the delivery method (Table 1).

Mothers in the study were categorized according to age as well (Table 2).

In the next step of evaluating cases, cesarean section women were classified based on the location (Table 3).

Cesarean section women were evaluated according to their job as well (Table 4).

Caesarean women were classified in terms of level of education (Table 5).

Causes of Caesarean section were evaluated in separation for maternal, fetal and maternal-fetal in mothers who were delivered by cesarean section (Table 6).

Table 5: Absolute and relative frequency of cesarean women in terms education

Level of education	Frequency	Percent
Illiterate	345	7.3
Elementary	1277	27
Guidance	1049	22.2
Diploma	1281	27.1
University education	775	16.4
Total	4727	100

Table 7: Absolute and relative frequency of maternal causes in women undergoing cesarean for maternal causes

Maternal causes	Frequency	Percent
Previous caesarian	2802	87.2
Medical and surgical causes	150	4.66
Late delivery	118	3.67
Lack of delivery progression	97	3
Lack of response to induction	26	0.8
Advanced maternal age	20	0.62
Total	3213	100

The frequency of maternal causes in women undergoing cesarean section are shown in Table 7

The frequency of fetal causes in cesarean women is shown in Table 8.

Frequency of maternal-fetal causes in women undergoing cesarean section is shown in Table 8.

Table 6: Absolute and relative frequency of cesarean women based on maternal, fetal, maternal-fetal causes

Reason	Frequency	Percent
Maternal	3223	68.2
Fetal	1065	9.3
Maternal-fetal	439	22.5
Total	4727	100

Table 8: Absolute and relative frequency of cesarean delivery of women for fetal causes membranes

Reason	Frequency	Percent
Previous Cesarean	2802	59.27
Rejecting Meconium	545	11.5
Non-cephalic presentation	296	6.26
Dystocia	259	5.47
Series-pelvic disproportion	180	3.8
Fetal distress	125	2.64
Late delivery	118	2.5
Lack of delivery progression	97	2
Multigestational	74	1.56
High blood pressure	45	0.95
Infertility	39	0.82
Diabetes	36	0.76
Restoration history (cerclage)	30	0.63
Lack of response to induction of labor	26	0.55
Old age	20	42.0
Placenta previa	19	0.4
Stillbirth	10	0.21
Abruption (placenta abruption)	6	0.12
Total	4727	100

Table 9: Absolute and relative frequency of cesarean delivery in women with maternal-fetal causes

Fetal causes	Frequency	Percent
Rejecting Meconium	545	51.17
Non-cephalic presentation	296	27.79
Fetal distress	125	11.73
Multigestational	74	6.94
Placenta previa	19	1.78
Abruption	6	0.56
Total	1065	100

Mothers studied were also classified by overall cesarean section reasons.

Table 10: Relative and absolute frequency of overall causes of cesarean section in women

Percent	Frequency	Causes
41	180	Failure to comply pelvic series
59	259	Other dystocia cases
100	439	Total

DISCUSSION AND CONCLUSION

Cesarean birth is a way of birth for emergency and should not be thought that it is an alternative to natural childbirth. Cesarean birth side effects made the World Health Organization consider the favorable horizon of cesarean section in 2000 as 15% (5). In this study, 9753 women were admitted for delivery, of whom included 5026 patients (51.6 percent) had normal delivery, and 4727 patients (48.4 percent) had cesarean delivery.

According to the results of other similar studies, the results of this study are consistent with the results of similar studies in our country, but the rate was higher than that of the United States (1, 9,15-18).

In this study, the mean age of women undergoing cesarean was 27.7 ± 5.2 years ranging from 14 to 44 years that was similar to some similar studies conducted in the country (1, 9, 17, 20).

In this study, the most common cause of cesarean were repeated cesarean delivery, rejecting thick meconium, non-cephalic presentations, dystocia, series-pelvic disproportion, fetal distress, and delayed delivery.

In the present study, like other similar studies, the most common obstetric cause of cesarean section was repeated cesarean section (8, 20, 19).

In the process of investigating cases of cesarean in Amir Almomenin Hospital, no cesarean was seen by mother's choice. Based on the above, it can be concluded that the most common cause of cesarean delivery in this study, like other studies, is repeated cesarean. However, unlike other studies, where a high percentage of cesarean sections was on maternal request, in this study, no cases of cesarean section has happened at the request of the mother, and investigation on the cause, can reduce the chance of cesarean section in the other medical centers.

The results showed that out of 4272cesarean sections, 3223 cases (68.2%) had maternal indications, 1065 cases (9.3%) fetal perfusion and 439 cases (22.5 %) maternal - fetal indication.

The prevalence of maternal indications were previous cesarean, surgery and medical causes including diabetes, maternal hypertension, infertility, uterine repair history, late delivery, lack of delivery progression, no response to induction and high maternal age. The most common fetal indications were meconium rejection, noncephalic presentation, fetal distress, multiple pregnancy, placenta previa and placental abruption. Of maternal-fetal indications, 3.8% was related to mismatched pelvic series and 5.47% percent was due to other causes of dystocia.

According to the results, it is recommended that other studies be done to

determine the relationship between cesarean section and demographic characteristics. It is also recommended that this study be repeated in other hospitals and in this hospital in the years before or after the study and the results be compared to get more information of the increase or decrease in the cesarean rate in this Hospital.

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