The Commonest Indications of Cesarean Sections at Ghalib Teaching Hospital in Year 2017; Cross-sectional Study

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Abstract

Background: In the past few decades, the rate of cesarean section (CS) has increased worldwide which is common in high income countries. Although cesarean section has lots of socioeconomic impacts in the career of mothers and babies especially in LMICs like Afghanistan, it is also increasing in such countries. In compare to vaginal delivery the cesarean section has higher risks for maternal health. The most important aim of this study is to search the commonest indications of cesarean section at the only teaching hospital in west region of Afghanistan, Ghalib Teaching Hospital in 2017.

Material and Method: This was a cross-sectional study. Among 456 pregnant women who came to Ghalib Teaching Hospital, 287(63%) had vaginal delivery and 169 (37%) had cesarean section delivery in 2017. Data was collected reviewing medical records; patients discharge certificate and a questionnaire which consisted of the data like; history of previous cesarean sections, age, and so on. Data was analyzed by epi info 7.

Results: the prevalence of cesarean section in Ghalib Teaching Hospital was 37%, the median age was 28 years old, the mean age was 23.83 and the most ages were between 21-25 (42.5%). The commonest indications were severe oligohydramnios (29.5%) followed by previous cesarean section (12.4%) and elective cesarean section 10.9% (on maternal request). The least indication was cephalopelvic disproportion (3.09%). In our research we had more than one indication about 10.3%.

Conclusion: according to the research the commonest indication of cesarean section was severe oligohydromnios which shows emergency indication among pregnant women. As the women in Afghanistan want many children so they usually do not consider having cesarean section deliveries. Cesarean section on maternal request also has high rate which needs appropriate guidelines and also policies to decrease this high rate of selective cesarean section. In our research 52.1% of indications of CS was fetal factors. This shows in LMICs many fathers have valued to the health of babies instead of mothers. It is highly needed to inform fathers to know about health of both babies and mothers.

Plain English Summary

In this research we counted the indications of cesarean section deliveries at the only teaching hospital, Ghalib Teaching Hospital at the west region of Afghanistan. In Afghanistan where resources are limited and the boy babies are golden babies, so we wanted to compare the indications of this operation in Afghanistan with high income countries. Our research showed than vaginal delivery is still high in Ghalib Teaching Hospital, unfortunately we still have mothers who bring babies at lower ages. We found that the indications of this operation is higher in babies in compare to mothers. We recommend the families not to bring babies at lower age and also have more attention to the health of mothers.

Introduction

Cesarean Section is a common procedure which is made through incision in the abdominal wall baby and components are removed through it. It is mainly divided into emergency and elective cesarean section [1]. Cesarean deliveries have been playing a major role in lowering both perinatal and maternal mortality and morbidity rates during the past centuries. The fundamental and primary purpose of the operation is to preserve the life of the mother and help with obstructed labor, but indications have expanded over the years to include delivery for the subtle dangers variety to the babies and mothers. Contributing to its frequently using is increased safety that is largely due to improved anesthesia, better surgical techniques, effective antibiotic and availability of blood donation.

The indications of cesarean section depend on maternal and fetal indications. Prolonged or obstructed labor, previous cesarean section, problems in pelvic anatomy, preeclampsia, pregnancy induced hypertension, placenta previa and abruptio placenta are the maternal indications on the other hand fetal distress, malpresentation, transverse lies and large babies are the common indications of fetus [2].

The cesarean rate during the past decade, both in the developed and developing countries dramatically has increased. The percentage of women in the US delivering by cesarean increased from <5.0% in 1965 to 30.2% in 2005 and has increased 40% since 1996. Cesarean Section is the most common operation performed in the United States now [3]. In 1967, The Medical Birth Registry of Norway registered all births there. Almost 2 % of the babies were delivered with cesarean section in Norway [9]. In the 1990s, it was about 12-13 %, and in 2011 it was 17% [10]. There are a number of reasons for this striking increase. The actual reason for this increase is not known but increasing selective cesarean section without a medical indication among women might be scary of episiotomy, painful, obstructed and long labor, trauma of pelvic floor and subsequent incontinence associated with vaginal birth [5]. In a study conducted in 137 countries worldwide, the prevalence of C-sections in 54 countries was reported less than 10% and in 69 countries more than 15% [6]. The incidence of C-section in Iran, based on a meta-analysis, was reported 48% among 74,809 cases [7]. Also the increase of cesarean section might be with increasing age among mothers, this caused of previous cesarean section and it is more common with multiple babies.

Materials And Methods

This was a cross-sectional study. The study population was pregnant women who came to Ghalib Teaching Hospital from 01 January to 31 December 2017. The study also included the pregnant women in this period of time in order to estimate the prevalence of cesarean section deliveries. 456 Pregnant women were admitted to Ghalib Teaching Hospital in 2017. 287(63%) of these pregnant women had vaginal delivery and 169(37%) had cesarean section. Exclusions were 9 pregnant women because of incomplete data, not convinced and end of pregnancy before age 28 weeks. The data was collected using medical records, discharge certificates and questionnaire.

The questionnaire consisted of demographic information such as age, number of previous pregnancies, date of delivery, kinds of anesthesia and history of C-section, the questionnaire also included C-section reasons such as maternal and fetal factors. The gathered data were analyzed by epi info 7.

Results

Totally 456 pregnant women came to Ghalib Teaching Hospital from 1 January to 31 December 2017. From these 456 women 287 vaginal deliveries and 169 cesarean section deliveries took place in Ghalib Teaching Hospital. 9 cesarean sections were excluded because of problems in data collections. According to this research the rate of cesarean section was 37% at Ghalib Teaching Hospital in 2017. Figure 1: prevalence of Cesarean Section at Ghalib Teaching Hospital

In this research the women were aged between 16 to 40 years old and the median age was 28.

In our research we divided the age of women to 5 groups. Most women were in age between 21-25 years (42.5%). The least age was between 36-40 years (1.875%). In this study we also have pregnant women aged below 18 years about (3.125%).

Table1 : Age group			
No	Age group	Numbers	Percentage
1	16-20	32	20%
2	21-25	68	42.5%
3	26-30	38	23.75%
4	31-35	19	11.875%
5	36-40	3	1.875%
Total		160	100%

In this study 34 women of cesarean section had more than one indication. The most common indication was sever oligohydramnios 29.9% followed by previous cesarean section 12.37%, elective cesarean section 10.82%, others 20% (bad obstetric history 3.61%, placenta previa 2.06%, poly hydromnios 2.58%, preeclamsia 1.03% and golden baby 1.03%), lack of response to induction of labor 8.25%, malpresentation 6.7% , large baby 6.7%, prolonged labor 6.2%, fetal distress 5.7% and cephalopelvic disproportion (CPD) 3.09%. Figure 2: the 10 indications of Cesarean Section at Ghalib Teaching Hospital

In this study we also divided the causes of cesarean sections to maternal and fetal factors. About 194 indications are shown in the following chart.

Table 2: CS causes			
Causes of CS		No	%
Maternal Factors	previous cesarean section	24	12.37113
	Cephalopelvic disproportion (CPD)	6	3.092784
	selective ceserean section	21	10.82474
	lack of response to induction of labor	16	8.247423
	prolonged labour	12	6.185567
	Preeclamsia	2	1.030928
	Bad Obstetric History (BOH)	7	3.608247
	Polyhydrominous	5	2.57732
Total		93	47.93814
Fetal Factors	large baby	13	6.701031
	sever oligohydramnios	58	29.89691
	Malpresentation	13	6.701031
	fetal distress	11	5.670103
	Golden Baby	2	1.030928
	placenta previa	4	2.061856
Total		101	52.06186
Total		194	100%

According to our study the fetal factors made 52.1% and the maternal factors made 47.9% causes of cesarean sections in Ghalib Teaching Hospital.

Discussion

In this study the overall rate of cesarean section was 37% in Ghalib Teaching Hospital. According to a survey by the World Health Organization (WHO) in the years 2007-2008 the rate of cesarean section in Asian countries were 27% [4]. Analysis from National Centre of Health Statistics in the US have showed that in 2009 the cesarean section rate reached 34 % in there [11]. Another cohort retrospective from Sweden found that the rate of CS rose from 11% to 20% from 1992 to 2005 [12]. Our research is approximately equal to the above mentioned researches, a little difference is because of less number of repeated CS and elective CS in our hospital due to economic and social situations. In the past few

decades, and we witness a constant rise in global CS rates. In addition to an induced rates in the numbers of CS deliveries worldwide, there has been a change in the indications for CS also; a reflection of changing times [13]. The rate of C-section in different countries varies between urban and rural areas, different socio-economic groups, religious, cultural, economic, professional, technological developments and among people with different rate of access to different public and private services [8].

In our study the most aged women were between 21-25 about (42.5%). In a survey on causes of cesarean sections performed at the university hospitals of Niknafs and Ali-Ibn Abi Talib of Rafsanjan, Iran, in the second trimester of 2014 the most aged women were between 26-35 years 65%[14]. In a descriptive analysis of the indications for caesarean section in mainland China in 2011 the most aged pregnant women was >35 years 69.88% [15]. The difference of age in our research and researches in Rafsanjan and China is mainly because Afghan women traditionally marry in young ages and they bring many children. This is especially common in rural areas like our hospital that is located in west region of Afghanistan.

According to our research we had pregnant women less than 18 years (3.125%) that shows marriage of Afghan women in young ages.

The most common cause of cesarean section in our study was severe oligohydramnios (29.9%). In a study in prevalence of causes of primary cesarean section operations in Al-Habubi hospital January - March in 2017 the rate of sever oligohydramnios was 6.3%. The big difference between our research and this research is because women in Afghanistan usually do not have antenatal care, they are usually under nutrition, they bring many children with no family planning thus they are ready to complications of pregnancy. Severe oligohydramnios is one of these complications among pregnant women in Afghanistan. In addition, in west region of Afghanistan there is no specific treatment like transabdominal amnioinfusion for severe oligohydramnios pregnant women.

In our study the previous cesarean section rate was 12.3%. Repeated C-section was the most common indication of primary deliveries in 28% of births in England and 32.8% of births in America [16]. Also in a study in Rafsanjan, Iran the prevalence of previous cesarean section was 52.9% [14]. As we mentioned before that most indications in this study shows emergency indications so the difference between our study and the other studies in the field of previous cesarean sections might be because of Afghan women want a lot of babies and repeated cesarean sections lessen the chance of bringing many babies. According to the American College of Obstetricians and Gynecologists (ACOG) in order to reduce maternal and fetal complications of repeated C-section vaginal birth after C-section was one of the practical solutions introduced in the 1990s [17]. Vaginal birth after C-section has an important role in reducing the incidence of C-section and its complications.

Elective cesarean section in this research was the third common cause about 10.8%. In the United Kingdom, 10% of midwives, 21% of obstetricians, 50% of urogynecologists, and 50% of colorectal surgeons preferred elective C-section [18]. In a study in mainland China CDMR (cesarean delivery for maternal request) accounted for 28.43% of all CS deliveries [15]. The deference is mostly because most

of pregnant women traditionally want vaginal delivery and vaginal deliveries are common especially in rural areas. The most afghan women are illiterate or with low educational background that prefers vaginal deliveries and most of deliveries are took place by DIAS (traditional birth attendants). One of the most factors in elective cesarean section among pregnant women is bilateral tube ligation especially in educated women. In our hospital oldest women came for both elective CS and tube ligation.

Fetal distress accounts for 5.6% of cesarean section causes in our research. In a study of indications for cesarean section in St. Joseph Medical Hospital, Moshi, Tanzania from 2009 to 2011 fetal distress was the main indication in 11% of the cesareans at the hospital [19]. In a study in mainland China about descriptive analysis of CS indications the rate of fetal distress was 12.46%.

Large babies in our study were 6.7%. In a study about descriptive analysis of the indications of cesarean section in mainland China the large baby rate was 6.1% [15]. Usually the women who had large baby has fear of child birth (tocophobia),

Conclusion

In this study we found that the cesarean section prevalence is 37% in Ghalib Teaching Hospital. Most of indications are emergency indications and the highest is sever oligohydramnios followed by previous cesarean section and the third indication is elective cesarean section. The least indication is cephalopelvic disproportion (CPD). The most aged women are between 21-25 years old. We also had women less than 18 years old. The rate of elective cesarean section is higher in educated women compared to illiterate women this is mainly because educated women brings less children and they might fear of vaginal delivery, incontinence, pelvic floor prolapse and other complications. In our research the youngest women was 16 years old (5 pregnant women) and the oldest was 40 years but most of ages were still younger. This shows despite of awareness programs in human rights the age of marriage is younger than other countries. Selection of the method of delivery by the doctor and the pregnant women is influenced by many factors, including factors related to labor conditions, the health care system, culture of the society, and cesarean and vaginal delivery consequences. We think in order to reduce the complications of cesarean sections it is needed to launch programs of the health care system to promote natural childbirth and reduce C-sections. This program should be conducted through policies such as encouraging vaginal delivery through promoting painless delivery, free labor costs in public hospitals for natural deliveries, reconstruction of delivery departments, making natural births pleasant [20].

Abbreviation List

1	CPD	Cephalopelvic disproportion
2	LMIC	Low middle income country
3	CS	Cesarean section
4	BOH	Bad obstetrics history
5	DIAS	Traditional birth attendants

Declarations

Ethics approval: Ghalib University ethics committee approved the research. A written consent paper was given of patients whom were included in the research.

Consent for publication: not applicable for this section

Availability of data and materials: not applicable for this section

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Authors contribution: HW collected the data and write the draft. AM analyzed and write the draft. MRF corrected and approved the draft. NW revised the manuscript. All the authors read and approved for final manuscript.

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Figures

Figure 1

prevalence of Cesarean Section at Ghalib Teaching Hospital

Figure 2

the 10 indications of Cesarean Section at Ghalib Teaching Hospital