

Cesarean Section in the Delivery and Neonatal Center –Al-Saab-Aden Hospital from 1st Jan-31st Dec 2016

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DOI: <https://doi.org/10.47372/uajinas.2020.n1.a20>

Abstract

A caesarean section (CS) is a life-saving surgical procedure when certain complications arise during pregnancy and labour. However, it is a major surgery and is associated with immediate maternal and perinatal risks and may have implications for future pregnancies as well as long-term effects that are still being investigated.

The aim of the study is to estimate the rate of CS to evaluate the most common indications of the operated CS, to estimated, and outline the most common types of CS in the delivery and neonatal center (Al-Saab-Aden Hospital).

A retrospective analysis of clinical medical records of woman operated cesarean section and managed in the Department of Obstetrics and Gynecology at the Delivery and Neonatal Center -Al-Saab-Aden Hospital from 1st Jan to 31st December 2016.

Out of 1532 deliveries over the study period from 1st of Jan– 31st of Dec 2016, 312 cases had cesarean section representing 20.4% of total deliveries. More than half (52.9%) of cesarean section cases had repeated cesarean section and 77.2% in the Maternal age group 20 – 34 years, Cephalo-pelvic disproportion constitutes 14.7% of registered indications of CS, and the majority of C S due to previous one Scar (28.9%).

The cesarean section rate still high with continuous increasing more than the rate stated by WHO. It is obvious that previous scare is the most common indications for CS. The decision to perform a CS must be maternity-centered and not technology-centered, in turn, lower the total cesarean delivery rate.

Keywords: Cesarean delivery, Cephalo-pelvic disproportion, previous scar.

Introduction

A caesarean section (CS) is a life-saving surgical procedure when certain complications arise during pregnancy and labour. However, it is a major surgery and is associated with immediate maternal and perinatal risks and may have implications for future pregnancies as well as long-term effects that are still being investigated. ^(15,19, 23, 31)

Recently there has been a dramatic rise in the cesarean section rate worldwide, especially in the developed countries. ⁽³⁰⁾ Around the world, a rise has been seen in cesarean rates in developed and emerging countries. ⁽⁶⁾ In sub-Saharan regions, the cesarean rate is only 3%; ⁽²⁹⁾ in Central America it is 31% and in North America it is 24%. ⁽⁷⁾ The rate in Europe is around 25% of all deliveries, while in the USA the rate is estimated at 32.2%. ⁽¹⁴⁾

Elective cesarean section is a term used when the procedure is done at a pre-arranged time during pregnancy to ensure the best quality of obstetrics, anesthesia, neonatal resuscitation and nursing services. The procedure is termed as emergency CS when it is performed due to acute obstetrics emergencies. ⁽²⁵⁾

The World Health Organization stated, that : "There is no justification for any region to have CS rates higher than 10 - 15 %". ⁽³³⁾ Nevertheless, we can observe in many high and middle income countries that the rate is clearly above the recommended rate, such as the United States (US) and Italy where the rate of CS are reprehensively 30.2% and 37% respectively, this can occur due to maternal request to reduce the pain of vaginal delivery. ⁽³⁴⁾ Although the mean world of the total caesarean section is estimated around 15% , in Africa 3.5% and 40.5% in Eastern Asia. ⁽³⁴⁾

Many theories have been proved to explain this trend, including a decrease in vaginal births after cesarean (VBAC), an increase in cesareans performed for maternal request, increased number of high-risk expectant mothers, the obstetrical medico-legal environment, and changes in provider practice patterns.^(1, 24)

Cesarean delivery is abdominal surgery with short- and long-term risks and consequences, such as surgical complications, admission to neonatal intensive care, and higher costs; compared with vaginal delivery.⁽⁸⁾

The decision to perform a cesarean section is based primarily on the question of what is best for, or may save the lives of the mother and child. The indications for the cesarean section, can therefore, be divided into absolute and relative indications. Elective cesarean section performed solely at the wish of the mother, without any medical indication, is considered a separate indication.⁽²⁰⁾

The parity plays role in determining the type of C.S, there were association between low parity and the emergency CS. while overall primary cesarean delivery rates are high among older primiparous women, while in multiparous women higher rates in older ones.⁽¹⁸⁾

Many factors are considered as indications for determining the type of CS, most of them are related to mother, fetus or placenta, whereas maternal age is considered as an important factor to determine the type of CS (emergency or elective). Some results revealed there was a significant relationship between advancing maternal age and an increased likelihood of emergency CS.⁽¹⁷⁾

In Aden, at Al-Sadaka Teaching Hospital, Shaker Arwa performed a study as a hospital based study; she reported the rates of 7.1% in 1995, 9.4% in 1996, 8.7% in 1997, and 9.3% in 1998.⁽²⁸⁾

Obel Asmahan's study in Aden General Teaching Hospital (2002-2004) reported the rates of 6.1% in 2002, 7.5% in 2003 and 12.8% in 2004.⁽²⁶⁾ A study in AL-Sadaka Teaching Hospital (2010), the cesarean section rate was 20.1 per 100 deliveries⁽³⁾ and in 2011, the cesarean section rate was 14.26 per 100 deliveries.⁽⁵⁾

This study was conducted to determine the frequency and pattern of cesarean section operation and the most common indications of the operated CS in the Delivery and Neonatal Center- Aden Hospital.

Patients and methods

This is a descriptive retrospective , hospital based study , which was carried out at the Delivery and Neonatal Center, Aden General Hospital, Aden, during the period from 1st Jan to 31st Dec 2016, including 312 cases that were performed Cesarean Section. For the same period of study there were 1532 live births. Factors analyzed from the available 312 medical records of CS patients include age of the woman, parity, indications , socio-demographic , obstetric, and surgical history, and the type of CS. These data were collected from the clinical records using a designed form, analyzed and processed by using computerizing system SPSS version 16. Data were represented in tables and figures. Permission and approval to conduct research was obtained from the management of the hospital.

Results:

There were 1532 births during the study period in the Obstetric Department of the Delivery and Neonatal Center . The study population consisted 312 representing 20.4% of the total of deliveries in the hospital. Fig.(1).

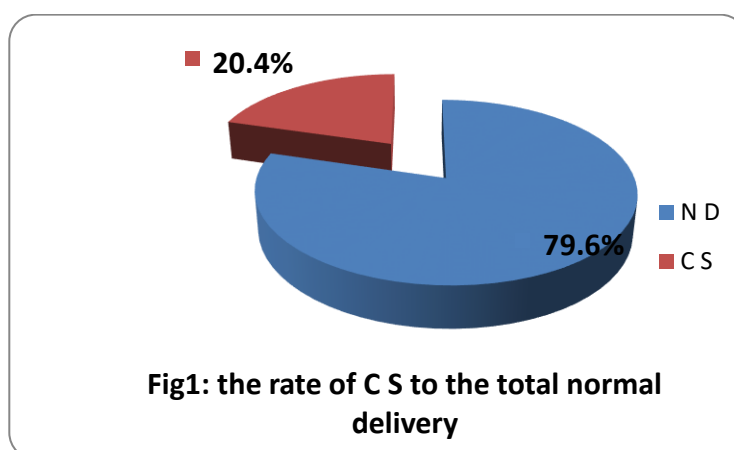


Table (1) shows the distribution of the study sampleS according to pattern of CS . It was clearly observed that elective CS was the common type practiced, it represents 59.9%, while the emergency C S (40.1%). It alsoi shows that the women with no history of vaginal delivery (primary CS) represented 45.5%, while 54.5% of the cases were with previous scars. More than half of the women with one previous cesarean section (54.1%) CS, while 45.9% with two or more cesarean section.

Table 1: Distribution of the study samples according to the time and type of Cesarean Section

Pattern of CS	NO. (312)	% 100
Time of CS		
Emergency CS	125	40.1
Elective CS	187	59.9
Type of CS		
Primary CS	142	45.5
Secondary CS	170	54.5
No. of previous CS		
Previous one	92	54.1
Previous two	64	37.6
Previous three	13	7.7
Previous four	1	0.6

Table (2) shows the distribution of the study samples according to socio-demographic and obstetrics factors . In this table the majority of women (77.2%) were at the age 20-34 years, while the low rate appears among woman in the age ≥ 40 years. The majority of women delivered by cesarean section (58.2%) had pluripara (1-3) , and 38.1% were nullipara.

The majority of cesarean section was performed for the women with gestational age ≥ 37 weeks (91.0%) while 9.0% were with preterm gestational age ≤ 36 weeks .

This table also shows that birth weight of the newborn babies (90.1%) were between 2500-3999 grams, while 8.0% were with birth weight ≤ 2500 grams and 1.9% ≥ 4000 gm. Male babies (52.9%) were the majority among the total deliveries by cesarean section.

Table 2: Distribution of the C S according to socio-demographic and obstetrics factors

Maternal age (Year)	NO. n=312	%
< 20 years	15	4.8
20-24 years	69	22.1
25-29 years	83	26.6
30-34 years	89	28.5
35-39 years	49	15.7
>40 years	7	2.3
Parity		
Nulli para	119	38.1
Pluripara (1-3)	182	58.2
Multipara (4-5)	8	2.7
Grand multipara (≥ 6)	3	1.0
Gestational age		
28-36 weeks	28	9.0
37- 42 weeks	277	88.8
> 42 weeks	7	2.2
Birth weight	No.	``
Less than 2500gm	25	8.0
2500- 3999 gm	281	90.1
4000 gm and more	6	1.9
Sex of the baby		
Male	165	52.9
Female	147	47.1

In table (3) shows that the women who performed CS with inter - pregnancy interval (≥ 24 months) represented about two third (71.1%) of cases while 18.8% with inter-pregnancy interval (18-< 24 months).

Table 3: Distribution of the cases with previous scar according to inter-pregnancy interval

Inter-pregnancy	NO.	%
12 - <18 months	17	10.0
18-<24 months	32	18.8
≥ 24 months	121	71.2
Total	170	100.0

Table (4) shows that previous C S was the most common indications of cesarean section (54.5%), followed by cephalo-pelvic disproportion (11.5%).

Table No.4: Distribution of the study samples according to the indications of CS

Indication of C S	NO. (312)	% (100)
Maternal indications (182)		
Previous C S scare	170	54.5
PROM	8	2.6
Failure of induction	2	0.6
B.O.H	2	0.6
Maternal- Fetal indications (57)		

Prim breech	19	6.1
Cephalo-pelvic disproportion C P D	36	11.5
Primi big baby	1	0.3
Obstructed labour	1	0.3
Fetal indications (67)		
Malposition and malpresentation	13	4.2
Fetal distress	12	3.9
Precious baby	19	6.2
Post term	7	2.2
oligohydromnious	11	3.5
Twins	4	1.3
Congenital malformation (Hydrocephalus)	1	0.3
Placental indications (6)		
Placenta previa	6	1.9

Discussion:

Currently, the caesarean birth rates in many developed and developing countries far exceed the tolerable limit specified by the WHO, that is 5-15%, indicating unnecessary use of this intervention.⁽³³⁾ Cesarean sections usually determines the future obstetric course of any women and, therefore, should be avoided whenever possible. ⁽²²⁾ The finding in the current study indicates that the rate of C S in the Delivery and Neonatal Center of Aden Hospital, during the study period, is higher than that reported by the WHO ⁽³³⁾ and the study of Shaker A, which presented the rates of C S in four years during 1995-1998 as 7.1%, 9.4%, 8.7% and 9.3 % representitively, ⁽¹⁸⁾ the rate of this study is also higher than that reported by Obeal A in the General hospital (2002 - 2004) which were 6.1% , 7.5% and 12.8%. ⁽²⁶⁾ This result is similar to that reported in Sudan (20% in 1993) and lower than that from a study done by Khawaja M. et al, Egypt (26% in 2003), and higher than that from Libyan Arab Jamahiriya, Morocco, Oman, Saudi Arabia, United Arab Emirates and West Bank when the rate is between (7% and 9%). ⁽²¹⁾

The cesarean delivery rate in the United States has steadily increased since 1996 when the rate was 21%. In 2007, the rate was the highest ever recorded at 32%, representing 1.4 million births and a 53% increase since 1996. ⁽²⁴⁾

The rate of emergency and elective C S in our study appear with 40.1% and 59.9% respectively. These rates are not in agreement with many studies in Arab and non-Arabs countries. ^(9, 11,14) , Forty percent of CS in our study was emergency operations which is not in agreement with that result from Ghana by Gulati, Dipali, Hjelde, et al who reported that 70% were emergency and 30% were elective. ⁽¹⁶⁾ And that study in Saudi Arabia by Al Nauaim L, Soltan M, Khashoggi T, et al the two-thirds (67%) of all CS deliveries were emergency CS, and the remaining deliveries were elective CS (33%). ⁽⁴⁾

Cesarean section contributed to 40.1% in compared by repeat elective CS (59.9%). This seems to be reason for the rise of Cesarean section rate. There is a need to encourage trial of labor following a Cesarean done for non- recurrent indication.

Primary cesarean deliveries are a major driver of the total cesareans, and they represented a substantial proportion of first birth cesarean deliveries (45.5%). This high rate of primary cesarean delivery states the efforts to safely reduce these procedures, the risk factors associated with the state's primary cesarean deliveries. The primary cesarean delivery rate is considered a more accurate indicator of current practice than the total cesarean delivery rate because the total cesarean delivery rate also reflects the now-routine repeat cesarean in women having a previous procedure.⁽³²⁾

The maternal age is an important factor in the determining the CS. In our study, when the maternal age is between 20-34 years old, the rate of C.S is 77.2%, this is in agreement with that study from Oman by Al Busaidi, et al. ⁽²⁾ and higher than that from study done in 1998 ⁽¹⁰⁾ that said, "when the maternal age is <25 years old, the rate of CS is 11.6%, while in this study it represented 26.9%. This result reflects our background about the idea of early marriage of girls is more predominant in Yemen.

Women of the age ≥ 40 years old (in our study) had 2.3% rate of CS, this rate may be that due to the fact that those women with elder age were previously had more babies (the delivery is easier than that in women with no babies). In this study shows, when the maternal age increases, the rate of CS is decreased and that is not in agreement with a result from Sidney by Rodney Kirsop, Greg J. et al, that reported the rate of CS increase with the increase of the maternal age. ⁽²⁷⁾

When women had parity (1-3), the high rate of C.S reach as to 58.2% (in current study), and decrease the rate of C.S when parity increase.

This result coincides with the findings of Al. Moquable N, results at Al-Wahda Teaching Hospital in Aden (2010) who reported that pluripara is the most frequent group (37.9%) underwent cesarean sections. ⁽³⁾ This is in agreement with a result of study done in Oman by AL Busaidi I, Y, AL-Farsi, et al, increased parity (OR=0.38 p=0.03) were associated with decreased risk of cesarean section. ⁽²⁾

The most common indications were previous cesarean section (170 cases) 54.5%, followed by cephalo-pelvic disproportion (36 cases) 11.5%, Malposition and malpresentation (13 cases) 4.2%, and fetal distress (12 cases) 3.9%. The finding of this study reflects high rate (54.5%) of Previous CS scar considered as maternal indication for CS, this is in agreement with that of study done by Subedi S. et al from Oman, ⁽³¹⁾ and another one done by Festin M. et al. ⁽¹²⁾

Conclusion and recommendation:

The cesarean section rate is still high with continuous increasing more than the rate stated by the WHO, It is obvious that previous scare is the most common indication for CS, followed by the Cephalo-pelvic disproportion. The rate of C.S decreasing with increasing with maternal age, and parity. The findings in this report may be particularly useful to these endeavors in identifying potential targets to further reduce the primary cesarean delivery rate and, in turn, lower the total cesarean delivery rate. The decision to perform a CS must be maternity-centered and not technology-centered, in turn, this reduces the total cesarean delivery rate. We strongly recommend in the introduction of evidenced based strategies to reduce the number of primary cesarean section as a first step towards safe motherhood

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العمليات القيصرية في مركز التوليد ورعاية المواليد - مستشفى الشعب - عدن من

يناير إلى ديسمبر 2016م

نهلة صالح الكعكي

القسم العلمي لطب النسائية والتوليد، كلية الطب والعلوم الصحية، جامعة عدن

DOI: <https://doi.org/10.47372/uajnas.2020.n1.a20>

الملخص

العمليات القيصرية هي عمليات إنقاذ لحياة الأم عندما تكون هناك مخاطر في أثناء الحمل والولادة، ومن ناحية ثانية العمليات القيصرية هي عمليات جراحية كبرى محفوفة بالمخاطر للام والطفل في داخل الرحم أو عند ولادته وإمكانية المضاعفات للخمول التالية، ولمدة طويلة يظل هذا التأثير. إن الهدف من الدراسة هو تحديد معدل العمليات القيصرية وتقييم أكثر الأسباب لإجراء العمليات القيصرية وتقييم أنواع العمليات القيصرية في مركز الشعب ورعاية المواليد - مستشفى الشعب - عدن. هذه الدراسة تحليل وصفي للملفات الطبية للمرضى التي أجريت لهن عمليات قيصرية وعُولجن في قسم النساء والولادة في المركز للفترة من 1 يناير إلى 31 ديسمبر 2017م. إن من بين 1532 ولادة تمت بالمركز في مدة الدراسة أجريت 312 عملية قيصرية بمعدل (20.4%) من إجمالي الولادات. أكثر من نصف العمليات القيصرية (52.9%) هي عبارة عن عمليات مكررة وحوالي (77.2%) في الفئة العمرية من 20 - 34 عاماً. وعدم التناسق بين حوض الأم ورأس الجنين حوالي (14.7%) من إجمالي الأسباب لإجراء العملية القيصرية وأغلب العمليات بسبب العملية السابقة للأم بنسبة (28.9%). إن معدل العمليات القيصرية يُعد عالياً بالمقارنة مع المعدل الذي أقرته منظمة الصحة العالمية، ويظهر بشكل واضح أن العمليات القيصرية السابقة هي أكثر الأسباب لإجراء العمليات القيصرية. واتخاذ القرار لإجراء العمليات القيصرية لا بد أن يكون مركزاً على الأم والطفل وليس مركزاً على التطور والتكنولوجيا بالمقابل سيؤدي إلى خفض معدل العمليات القيصرية.

الكلمات المفتاحية: عملية قيصرية، الاختلال بين حوض الأم ورأس الجنين، العملية القيصرية السابقة.