

Assessment the Indication for Caesarean Section among Women's attending AL -Dewaniya Maternity and Pediatric Hospital

تقييم دواعي العملية القيصرية لدى النساء اللواتي يحضرن مستشفى الديوانية للولادة والأطفال

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الخلاصة:

خلفية البحث: معرفة مؤشرات العملية القيصرية سيساعد في الحصول على لمحة عامة عن هذا النوع الشائع من إجراءات التوليد والتخطيط لمستوى عالٍ من إدارة الرعاية.

الاهداف: تهدف الدراسة إلى تقييم دواعي العملية القيصرية لدى النساء اللواتي يحضرن مستشفى الديوانية للولادة والأطفال. ومعرفة العلاقة بين دواعي العملية القيصرية وبياناتهم الاجتماعية الديموغرافية.

المنهجية: دراسة وصفية مقطعية أجريت للفترة من 26 / كانون الأول / 2020 إلى 1 / حزيران / 2021 في مستشفى الديوانية للولادة والأطفال. تم تحديد صلاحية الاستبيان من خلال لجنة من الخبراء والتحقيق من موثوقيتها من خلال دراسة تجريبية. من خلال عينة غرضية من بين أولئك الذين خضعوا لعملية قيصرية جمعت البيانات من خلال الاستبيان وتقنيات المقابلة وحلت من خلال الإحصاء الوصفي والاستنتاجي.

النتائج: تشير النتائج إلى متوسط العمر المشاركين 29 ± 7.723 للفئة العمرية 20-29 سنة (217؛ 43.4٪)، لا يقرأ ولا يكتب (149؛ 29.8٪)، أكثر من نصف المشاركات كانوا ربة منزل (339؛ 67.8٪)، معظم المشاركات في الدراسة يعانون من زيادة الوزن (248؛ 49.6٪). كان الفشل في تقدم المخاض هو السائد في الدواعي الأكثر شيوعاً للولادة القيصرية، وكان قلة السائل الأمنيوسي للجنين هو أكثر الدواعي للعملية القيصرية، وكذلك، لم تكن هناك علاقة ذات دلالة إحصائية بين البيانات الديموغرافية للمرأة ودواعي العملية القيصرية عند قيمة $p > 0.05$.

الاستنتاج: كان فشل تقدم المخاض أكثر الدواعي للعملية القيصرية وكان قلة السائل الأمنيوسي للجنين هي أكثر العوامل المشار إليها في العملية القيصرية.

التوصيات: يجب تشجيع تجنب الولادة القيصرية غير المبررة وتقديم مبررات طبية مفصلة لإجراء العمليات القيصرية من قبل الأطباء.

الكلمات المفتاحية: التقييم، الولادة القيصرية، النساء.

ABSTRACT:

Background: Knowing the indications for a cesarean section will help to have a better understanding of this common obstetrical procedure and prepare for the high level of care management that it entails.

Aims of the study: The goal of this study was to determine the factors that influence caesarean section indications among women who visited AL-Dewaniya Maternity and Pediatric Hospital, as well as the relationship between caesarean section women's indications and socio-demographic data.

Methodology: A descriptive cross-sectional study design is conducted for the period of December 26th 2020 to June 1st 2021 at Al Dewaniya Maternity and Pediatric Hospital. The validity of the questionnaire is determined through a panel of experts and reliability is achieved through a pilot study. By a purposive sample is selected among those who are undergo caesarean section, data was collected through the use questionnaire and interview techniques; and analyzed through the descriptive and inferential statistic.

Results: the mean age was 29 ± 7.723 , most of the patient were in the age 20-29 years old ($n=217$; 43.4%), about ($n=149$; 29.8%) not read and write, more than half of study participants are housewife ($n=339$; 67.8%), most of study participants are overweight ($n=248$; 49.6%). Failure of labor progress were predominated were most common indications for cesarean section, the Oligohydramnios were the most factors indicated for cesarean section, as well as, there were no-significant relationship between women demographic data and their indications for caesarean section at $p\text{-value} > 0.05$.

Conclusion: failure of progress of labor was the most indication for cesarean section. Oligohydramnios was the most fetal factors indicated for cesarean section.

Recommendations: Avoiding unjustified cesarean section delivery should be encouraged and detailed medical justification for performing caesareans by doctors should be provided.

Keywords: Assessment, Caesarean Section, Women.

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INTRODUCTION

In obstetrical care, the Caesarean Section (CS) was the most routinely performed surgery. It has the potential to save a person's life and is also a highly successful procedure for preventing problems like dystocia. In 2015, the World Health Organization (WHO) emphasized that instead of aiming for a set rate, every effort should be taken to deliver CS to

women in need ⁽¹⁾. The levels of CS rates vary greatly over the world. The CS rate in the least-developed countries was frequently 5%, based on data from 36 developing countries. In most rich and rising economies, however, CS appeared to be overused. In some countries, the CS rate was more than 30% ⁽²⁾.

Cesarean delivery at the request of the mother is not a well-known clinical phenomenon. Few studies compare the intended mode of distribution directly (i.e., cesarean delivery on maternal request with planned vaginal delivery). For singleton term gestations with vertex presentation, no randomized clinical trial has compared cesarean delivery to trial of labor. The majority of current understanding is based on indirect analysis that compare vaginal, unplanned cesarean, and emergency cesarean deliveries to a mixture of vaginal, unplanned cesarean, and emergency cesarean deliveries instead of cesarean delivery on mother request (instead of planned vaginal deliveries) ⁽³⁾.

The WHO performed a global survey on maternal and perinatal health with 373 health institutions from 24 countries in Latin America, Africa, and Asia from 2004 to 2008 ⁽⁴⁾. In recent decades, it has been discovered that the rise in CS rates in middle-income nations such as Argentina and Paraguay has been faster than that in high-income countries. According to the global survey, Japan had a C/S rate of 19.8% in 2012, while the United States had a CS rate of 32.8 percent. The most prevalent grounds for Caesarean section are previous Caesarean scar, malpresentation and malposition, antepartum hemorrhage, obstructed labor, cephalopelvic disproportion, no reassuring fetal heart rate pattern, and multiple pregnancies ⁽⁵⁾.

According to a global WHO survey, C/S without medical grounds raised the likelihood of negative short-term effects ⁽³⁾. The importance of avoiding medically unnecessary primary CS was highlighted in a secondary study of two WHO multi-country surveys ⁽⁶⁾. Avoidance of medically unnecessary primary C/S has become especially important in China with the implementation of the two-child policy for only-child parents (a regulation that permits couples to have two children if one of the parents is an only child) in 2014. In March of 2014, the American College of Obstetricians and Gynecologists, as well as the Society for Maternal-Fetal Medicine, has both asked for legislative changes to safely reduce the rate of primary caesarean deliveries ⁽⁷⁾.

Although CS is a safe procedure, it puts mothers and their newborns at risk of short- and long-term health concerns when it is performed without medical necessity. The majority of CS problems, on the other hand, stem from the underlying source of the condition Obesity, fetal macrosomia; extended labor, multiple pregnancy, and early birth are all factors that increase the risk of problems in some women ⁽⁴⁾.

In this context from a professional standpoint, this demonstrates and supports the need to reduce C/S rates at the global and national levels. Therefore knowing the rate and indications of the cesarean section will help to have an overview of this common type of obstetrical procedure and to plan for the high level of care management. According to the limited available research, the cesarean section rate in Iraq is considerably higher than the recommended upper limit of 10%. Research concerning the factors contributing to the increased rate of cesarean sections in Iraq is very scarce. The private healthcare sector in Iraq has witnessed a rapid unguided expansion during the last decade Therefore, this study aimed at assess the indications for C/s among women undergo C/s in AL Dewaniya Maternity and Pediatric Hospital / Iraq.

AIMS OF THE STUDY

The study aims to:

1. Assess indications for caesarean section among women's attending AL Dewaniya Maternity and Pediatric Hospital.

2. Find out relationship between caesarean section women's and socio-demographic data.

METHODOLOGY

A descriptive cross-sectional study design was carried out at Al Dewaniya Maternity and Pediatric Hospital in the period of December 26th 2020 to June 1st 2021 in order to identify incidences rate of Caesarean Section and its indications, complications and associated factors.

A purposive and non-probability sample consisted of five hundred married women who were at reproductive age, pregnant (prime or multipara) who were planned to have birth by elective cesarean section or emergency caesarian section. All pregnant who were planned to have birth by elective cesarean section or emergency caesarian section who attended maternity and pediatrics Hospital in Al Dewaniya city are included in this study, and women who had vaginal delivery are excluded.

A questionnaire is constructed for the purpose of the study throughout the review of literature and background experience and consultation from panel of experts and related studies A questionnaire deal with women indications for caesarean section which composed of (12) items; and fetus indications for caesarean section which composed (9) items.

Data was collected through the use questionnaire and interview techniques, each women in the study is interviewed by face to face interview, for the researcher to explain the objectives of the study and the investigator introduced plan and explains objectives and the importance of the stud, then the data analyzed through the descriptive and inferential statistic.

A panel of specialist (15) experts from different fields are determines the questionnaire's validity, and reliability was attained through a pilot research were gathered, out of (20) women is selected among those who are undergo caesarean section. Reliability-testing was used as a statistical analysis method to determine the concordance among the items of the questionnaire using the reliability coefficient. The scale had an acceptable level of internal consistency, as determined by a Cronbach's alpha.

RESULTS:

Table (1): Distribution of the study sample by their demographic characteristics

| Demographic Variables | Rating | NO=500 | % |
|-------------------------------------------|--------------------|--------|------|
| Age/years (Mean± S.d= 29±7.723) | <20 years old | 56 | 11.2 |
| | 20-29 years old | 217 | 43.4 |
| | 30-39 years old | 158 | 31.6 |
| | 40 and older | 69 | 13.8 |
| Residents | Urban | 271 | 54.2 |
| | Rural | 229 | 45.8 |
| Education | Not read and write | 149 | 29.8 |
| | Read and write | 59 | 11.8 |
| | Primary school | 44 | 8.8 |
| | Secondary school | 32 | 6.4 |
| | Middle school | 57 | 11.4 |
| | Institute | 72 | 14.4 |
| | College | 87 | 17.4 |
| Occupation | House wife | 339 | 67.8 |
| | Employ | 102 | 20.4 |
| | Retired | 2 | .4 |
| | Student | 17 | 3.4 |
| | Private sector | 40 | 8.0 |

| | | | |
|-------------------------------|----------------------|-----|------|
| BMI (Kg/m²) | Thin (<18.5) | 21 | 4.2 |
| | Normal (18.5-24.9) | 213 | 42.6 |
| | Overweight (25-29.9) | 248 | 49.6 |
| | Obese (≥30) | 18 | 3.6 |

This table represents the descriptive statistics of socio-demographic information of the cesarean section women in term of frequencies and percentage. Out of (500) women participated in this study, their age ranged from 20-29 years old and made up (43.4 percent) of the total number of participants.

Table (2): Maternal Indication for Caesarean Section

| L. | Maternal Indication Items | Rating | NO=500 | % | Mean | S.d. | Ass. |
|----|-------------------------------------------------------------------|--------|--------|------|------|-------|------|
| 1 | The women undergoes a previous repeated caesarean delivery | No | 96 | 19.2 | 1.81 | 0.394 | Yes |
| | | Yes | 404 | 80.8 | | | |
| 2 | Previous rupture of the uterine wall | No | 473 | 94.6 | 1.05 | 0.226 | No |
| | | Yes | 27 | 5.4 | | | |
| 3 | Maternal wish for cesarean section | No | 184 | 36.8 | 1.63 | 0.483 | Yes |
| | | Yes | 316 | 63.2 | | | |
| 4 | Woman's weight | No | 447 | 89.4 | 1.11 | 0.308 | No |
| | | Yes | 53 | 10.6 | | | |
| 5 | Failure of labor progress | No | 45 | 9.0 | 1.91 | 0.286 | Yes |
| | | Yes | 455 | 91.0 | | | |
| 6 | Pregnancy after primary or secondary infertility | No | 465 | 93.0 | 1.07 | 0.255 | No |
| | | Yes | 35 | 7.0 | | | |
| 7 | High blood pressure associated with pregnancy | No | 348 | 69.6 | 1.30 | 0.460 | No |
| | | Yes | 152 | 30.4 | | | |
| 8 | Congenital anomaly of the uterus | No | 486 | 97.2 | 1.03 | 0.165 | No |
| | | Yes | 14 | 2.8 | | | |
| 9 | Antepartum hemorrhage | No | 449 | 89.8 | 1.10 | 0.303 | No |
| | | Yes | 51 | 10.2 | | | |
| 10 | Gestational diabetes | No | 434 | 86.8 | 1.13 | 0.339 | No |
| | | Yes | 66 | 13.2 | | | |
| 11 | Previous pelvic reconstructive surgery | No | 458 | 91.6 | 1.08 | 0.278 | No |
| | | Yes | 42 | 8.4 | | | |
| 12 | The presence of a pelvic mass that impedes normal delivery | No | 476 | 95.2 | 1.05 | 0.214 | No |
| | | Yes | 24 | 4.8 | | | |

Mean (1.5), No indication (mean = <1.5), Yes indication (mean ≥ 1.5), S.d= Stander deviation

This table presents the mean analysis for assessing the women indication for caesarean section. Findings illustrated that the women undergoes a previous repeated caesarean delivery, their wish for cesarean section and Failure of labor progress were the most indication for cesarean section. Findings showed according to mean that failure of labor progress were predominated (1.91) followed by women undergoes a previous repeated caesarean delivery (1.80) and maternal wish for cesarean section (1.63) were those factors consider the most indication for cesarean section.

Table (3): Fetal Indication for Caesarean Section

| L. | Fetus Indication Items | Rating | No=500 | % | Mean | S.d. | Ass. |
|----|------------------------------------------------|--------|--------|------|------|-------|------|
| 1 | Umbilical cord compression or prolapsed | No | 481 | 96.2 | 1.04 | 0.191 | No |
| | | Yes | 19 | 3.8 | | | |

| | | | | | | | |
|---|---------------------------------|-----|-----|------|------|-------|-----|
| 2 | In vitro fertilization IVF | No | 481 | 96.2 | 1.04 | 0.191 | No |
| | | Yes | 19 | 3.8 | | | |
| 3 | Oligohydramnios | No | 34 | 6.8 | 1.93 | 0.252 | Yes |
| | | Yes | 466 | 93.2 | | | |
| 4 | Congenital anomaly of the fetus | No | 474 | 94.8 | 1.05 | 0.222 | No |
| | | Yes | 26 | 5.2 | | | |
| 5 | Cephalopelvic disproportion | No | 402 | 80.4 | 1.20 | 0.397 | No |
| | | Yes | 98 | 19.6 | | | |
| 6 | Twin pregnancy | No | 487 | 97.4 | 1.03 | 0.159 | No |
| | | Yes | 13 | 2.6 | | | |
| 7 | Fetal distress | No | 308 | 61.6 | 1.38 | 0.487 | No |
| | | Yes | 192 | 38.4 | | | |
| 8 | Placental Abruptio | No | 51 | 10.2 | 1.90 | 0.303 | Yes |
| | | Yes | 449 | 89.8 | | | |
| 9 | Placenta Previa | No | 464 | 92.8 | 1.07 | 0.259 | No |
| | | Yes | 36 | 7.2 | | | |

Mean (1.5), No indication (mean = <1.5), Yes indication (mean \geq 1.5), S.d= Stander deviation

This table presents the mean analysis for assessing the fetus indication for caesarean section. Findings demonstrated that the caesarean delivery indication mostly due to Oligohydramnios and placental abruptio (93.2% and 89.8%) respectively. Findings showed according to mean that the Oligohydramnios were the most common indications for cesarean section (1.923) followed by placental abruptio (1.898) among studied sample.

Table (4): Relationship between Indication for Caesarean Section of Women and their Demographic Data

| Demographic Data | Chi-Square Value | D.f | P-Value | Sig. |
|--------------------------|------------------|-----|---------|------|
| Age/years | 3.674 | 3 | 0.299 | NS |
| Residents | 1.256 | 1 | 0.262 | NS |
| Education | 9.118 | 6 | 0.167 | NS |
| Occupation | 3.015 | 4 | 0.555 | NS |
| BMI (kg/m ²) | 4.887 | 3 | 0.180 | NS |

This table shows that there were no-significant relationship between women demographic characteristics and their indications of caesarean section at p-value >0.05.

DISCUSSION

Cesarean section is one of the most common surgeries around the world performed whenever abnormal conditions complicate labour and vaginal delivery, threatening the life or health of the mother or the baby. Although the cesarean section is a safe operation, when it is performed without medical need, it puts mothers and their babies at risk of short and long-term health problems. However, the factors are not persistent and there is limited information concerning the levels of cesarean section delivery and its associated factors in public hospitals.

Table 1: Concerning participants age, the mean age was 29 ± 7.723 , the age 20-29 years old (n=217; 43.4%), followed by those who are age 30-39 years old (n=158; 31.6%), followed by those who were age 40 years and older (n=69; 13.8%) and those who age <20 years old (n=56; 11.2%). These results come because those age groups were the age of production. In terms of residents, more than half of studied sample were urban residents (n=271; 54.2%) compared for those who were rural residents (n=229; 45.8%) due to the hospital covered by the study were located in urban areas so, the women residents in those areas. As well as,

urban residents were four times more likely to give birth through cesarean section than those who came from rural resident ⁽⁸⁾.

With respect to education level, studied sample express a not read and write (n=149; 29.8%), followed by those who are college graduated (n=87; 17.4%), followed by those who were institute graduated (n=72; 14.4%), and followed by those who are primary and secondary graduate (n=44; 8.8% and n= 32; 6.4%) respectively. Occupation related findings, more than half of study participants were housewife (n=339; 67.8%), followed by those who were employed (n=102; 20.4%), and followed by those who were students and retired. In regards with body mass index, most of study participants were overweight (n=248; 49.6%), followed by those who were normal (n=213; 42.6%), followed by those who were thin (n=21; 4.2%), and followed by those who were obese (n=18; 3.6%).

The above findings come with findings of study conducted in Kurdistan region, Iraq. Results indicated that the (55.5%) were within age 20-29 years at mean age=28, (51%) were basic education, (61.7%) urban residences with normal to overweight ⁽⁸⁾.

Findings showed according to mean that failure of labor progress were predominated followed by women undergoes a previous repeated caesarean delivery and maternal wish for cesarean section were those factors consider the most indication for cesarean section. The indication from fetus, the Oligohydramnios were the most factors indicated for cesarean section at highest mean and followed by placental abruption considered factors indicated for women undergo caesarean delivery (Table 2&3).

This could be attributable to an increase in the use of cesarean delivery for vertex presenting twins and the use of cesarean delivery instead of induction of labor for preeclampsia, despite practice guidelines recommending vaginal delivery in these situations.

This finding comes with findings from Maternity Teaching Hospital in Erbil City, Kurdistan region, Iraq. Demonstrated findings that the main overall indications for cesarean section were a previous cesarean section (70.49%), cephalopelvic disproportion (35.31%) and mother's request (14.26%). Appropriate methods are required to reduce the rate of primary and secondary indications for cesarean section ⁽⁹⁾.

Hafeez et al. (2014), reported the previous cesarean section, failure progress of labour, fetal distress and breech presentation as main indications of cesarean section ⁽¹⁰⁾.

In a Jordanian study, failure of progress and fetal distress were the main indications of cesarean section in the overall and primary indication of cesarean section. Previous cesarean section was the main indication in repeated cesarean section ⁽¹¹⁾.

Results of a study done in Ghana found the main indications of cesarean section were previous cesarean section, fetal distress, malpresentation, failure in progress, cephalopelvic disproportion, preeclampsia/Eclampsia and antepartum hemorrhage ⁽¹²⁾.

In a study in Tanzania, prolonged/obstructed, previous cesarean section, abnormal presentation and fetal distress were the most common indications of cesarean section ⁽¹³⁾.

From a research standpoint, discovering effective ways for reducing the rate of repeated cesarean sections, as well as evaluating obstetrician clinical decision-making and midwife quality of care in the first stage of labor, is critical. An analysis of health-care providers' and women's attitudes could aid in lowering the rate of cesarean section.

Due to the women lack the awareness of risks factors and complications of cesarean section, and need to be educated regards that condition. Knowing the indications for a cesarean section will aid to have a better understanding of this common obstetrical procedure and prepare for the high level of care management that comes with it.

Findings shows that there was no-significant relationship between women demographic characteristics and their indications of caesarean section at p-value >0.05 (table 4), due to the interfere of reproductive variables were more effective than demographic variables, and those

come consisting with Cross et al. (2019), stated that the demographic characteristics were insignificant with the undergo caesarean delivery ⁽¹⁴⁾.

CONCLUSION

The study concludes the following:

1. Labor progress followed by previous repeated caesarean delivery and maternal wish for cesarean section was the most indication for cesarean section.
2. Fetus Oligohydramnios and placental abruption were the most factors indicated for cesarean section.

RECOMMENDATIONS

The study recommends the following:

1. Health education and giving a clear picture regarding the risks and benefits of cesarean section which indeed help decreased caesarean section rate.
2. Raising awareness about how to avoid pregnancy problems will help to lower the risk of caesarean section malpractice.
3. Avoiding unwarranted cesarean sections should be encouraged, and clinicians should be supplied with thorough medical justifications for doing caesareans.
4. A manual booklet of side effects of cesarean section and how to manage it should be written in simple words and use attractive pictures given to the women and family.
5. Further research must be carried out to include the national level and evaluate knowledge, attitudes and practices of health care providers related to cesarean section delivery.

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