



Indications and Common Complications of Caesarean Section: An Overview Study

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ABSTRACT	<p>A cesarean section involves delivery of the fetus by doing surgical incision in the women abdomen (laparotomy) and an incision in the uterine cavity (hysterotomy). On a large scale around the world, the incidence of caesarean sections is high if compared to natural birth, which makes the possibility of exposure to health complications that is result from caesarean birth is somewhat high. On the other hand, the complications that may accompany a woman who is undergoing a caesarean section differ according to the several a circumstances which is surrounding those women such as age, health status, previous medical history, family history and follow-up by the health team in the hospital. For some women, a cesarean delivery can be the safest or even the only way to deliver a healthy baby.</p>
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Introduction:

Cesarean section considers the most common surgical procedure which doing for women in childbearing age for delivery the baby. Now around the world, the cesarean birth deems the more birth method that chosen for delivery the fetus from the women or her family whether the condition requires to do this birth method or not ⁽¹⁾. Despite the recommendations emphasized by the World Health Organization with regard to making the rate of caesarean section is 15% of all births. However, there are 37 out of 60 developed countries in which

caesarean section rates exceed the rate advocated by the World Health Organization. The rate of caesarean sections in Canada and the United Kingdom is approximately 25%, while in the United States 32%, in Brazil 46% and the rate of CS in China 40% ^{(2) (3)}.

In Iraq, the rate of cesarean section has begun to increase if compared with the percentage of normal vaginal delivery, during the year 2009 in public sector the percentage of cesarean birth was 24.5% elevated to become 25.8% through 2010, while in private sector for the same years the rate of Cs was very high

where 75.8% in 2009 and elevated to reaching about 79.5% in 2010 ⁽⁴⁾. There are many potential complications that women may experience after performed a caesarean section and they may sometimes express the most common adverse consequences, including post-operative blood loss, infection and wound complications and venous thromboembolic events, as well as complications from anesthesia drugs ⁽⁵⁾. Notwithstanding these complications resulting from the caesarean section, it may interpret the increased desire for act a caesarean section as a way for birth the fetus to save the mother and the child life and prevent them from being exposed to bruises and injuries during childbirth. At the same time, health professionals, parents and family are opting for a caesarean section for reasons of convenience and better control of the timing of delivery ⁽⁶⁾. On the other hand, the health systems in most countries of the world suffered from heavy workloads, including dealing with women undergoing caesarean sections ⁽⁷⁾ when the world health organization (WHO) announced on 11 March, 2020 that the new coronavirus (COVID-19), which is an acute respiratory syndrome a life-threatening global pandemic ⁽⁸⁾.

In this period, the impact of COVID-19 on the health status of pregnant women has become worrisome for health professionals from several aspects such as the fear of complications that a pregnant woman infected with corona may be exposed to it and there may be a possibility of transmitting the virus to the fetus from the mother, in addition to the high number of patients in health institutions ⁽⁹⁾. Regular prenatal check-ups that are approved to assess the health condition of mother and baby have been affected by the epidemic, which has made a pregnant woman more at risk of poor perinatal health care and may lead to a series of negative pregnancy outcomes on the mother and fetus ⁽¹⁰⁾. Health education can play an important role to increase knowledge, and change attitude and behavior of pregnant women using applicable theories and models. The aims of antenatal health education are to increase women's trust in their own capability

to deliver, to improve knowledge and attitude about normal vaginal delivery, and to assist pregnant women in developing personal birth plans which provide a way map for save birth as normal as possible in spite of if complications happened ⁽¹¹⁾. The aim of this article is to highlight on the cesarean section and the more recurrent and common complications that may face the women who undergoing for this type of delivery.

Indication of Cesarean Section

There are many obstacles that women face during childbirth and thus impede the delivery of the child through the vagina. Predominating, these reasons are dangerous and critical therefore the vaginal delivery will be life-threatening for the mother in some clinical scenarios ⁽¹²⁾.

Maternal indications for cesarean delivery includes several health condition which is lead to this matter such as prior cesarean delivery maternal request (elective cesarean section), pelvic deformity or cephalo-pelvic disproportion, previous perineal trauma, prior pelvic or anal/rectal reconstructive surgery, herpes simplex or HIV infection, cardiac or pulmonary disease, cerebral aneurysm or arteriovenous malformation, pathology requiring concurrent intra-abdominal surgery and perimortem cesarean ⁽¹³⁾. As well as, the indications related to anatomy of woman uterine organ that is involve abnormal implantation of the placenta (such as placenta previa, placenta accreta), placental abruption, prior classical hysterotomy, prior full-thickness myomectomy, history of uterine incision dehiscence, invasive cervical cancer, prior trachelectomy, genital tract obstructive mass and permanent cerclage ⁽¹⁴⁾.

Other indications of cesarean birth which related to fetal health status, this condition includes, non-reassuring fetal status (such as abnormal umbilical cord Doppler study) or abnormal fetal heart tracing, umbilical cord prolapse, failed operative vaginal delivery, malpresentation, acrosomia, congenital anomaly, thrombocytopenia and prior neonatal

birth trauma ⁽¹⁵⁾. Study conducted at Al-Najaf governorate to measure the effect of type of C/S for 600 women, whether it is elective or emergency & the effect of risk factors on the incidence of intra-operative minor & major surgical complications, the results of this study express the indications of cesarean section as following recurrent C/S (32.8%), prolonged/obstructed labor (19.1%), fetal distress (10.6%), breech (5%), preeclampsia/eclampsia (8.5%), diabetes mellitus (1%), cephalo-pelvic disproportion (9.1%), antepartum hemorrhage (4.8%) and postdate (8.8%) ⁽¹⁶⁾.

Common Complications of Cesarean Section

Caesarean section has a complication that vary in its severity, there are the usual and simple complications such as pain at the site of the wound and bleeding after birth, which may cause problems if it exceeds the limit, that there are other complications that include adhesions in the pelvic area that affect the menstrual regulation of cycle, there are also complications of anesthesia and serious complications which lead to life threatening ⁽¹⁷⁾.

One of the common minor complications after cesarean section is wound infection, wound infection and endometritis often occur after cesarean delivery frequently for many women. In a study examining the effectiveness of vaginal cleansing, endometriosis after surgery decreased from 8.7% to 3.8% with cleansing ⁽¹⁸⁾, a clinical study indicated the used of azithromycin as antibiotic drug saw a reduction in the wound infection from 6.6% to 2.4% with the additional antibiotic, as well as a serious adverse events lower from 2.9% to 1.5%. However, there are approximately up a million women undergoing a cesarean birth every year, these percentages yet a represent a large number of women suffering from wound infection complications ⁽¹⁹⁾.

Through intra-operative phase, there are some complications which may happen for woman such as bleeding & lacerations in different rate related to the type of surgery, for elective cesarean birth the rate approximately 6% while 15% for urgent cesarean section ⁽²⁰⁾.

Among babies with full term, the risk of newborn respiratory distress syndrome that presupposed dealing with it by oxygen therapy is higher for birth by cesarean section (35.5 with a pre-labor C/S versus 12.2 with a C/S during labor versus 5.3 with vaginal delivery) per 1000 live births ⁽²¹⁾. On other hand, the intraoperative complications after doing the cesarean delivery among women with ruptured membrane over long time and several intra-vaginal examinations were more chance to exposure to infection and damage or stretching of the lower maternal segment organs such as uterus or bladder ⁽²²⁾. According the results of study carried out in AL-Zahra'a Teaching Hospital for Maternity & Pediatrics in Najaf city about the complications of C/S in intraoperative phase for 600 women, the results indicate the surgical problems related cesarean birth is internal iliac artery ligation, uterine artery injury, bladder injury, broad ligament hematoma and hysterectomy which is occur in different rate ⁽¹⁶⁾.

Caesarean section is very necessary in some cases for both the mother and the fetus, but it is considered one of the surgical interventions that accompanies many complications and health risks ⁽²³⁾. In the period after the cesarean section, a woman may be exposed to many health problems, including wound infection due to failure in sterilization procedures and this matter may develop into septicemia and formation the blood clots that would play a role in the develop the pulmonary embolism and death. In addition, a cesarean section may lead to complications in the future, including a high risk of ectopic pregnancy and some problems associated with the formation of the placenta and its location in the uterus ⁽²⁴⁾. However, the cesarean birth can lead to increase the rate of morbidity and mortality among infants and mothers together around the worlds when this surgical intervention done without clear need or appropriate indications ⁽²⁵⁾. In Iraq the study doing to identify the incidence of the cesarean section related maternal mortality, the results of this study showed the maternal mortality rate related to cesarean birth three

time higher than maternal mortality related to normal vaginal birth⁽²⁶⁾.

Conclusion

A cesarean delivery is a surgical procedure that is an alternative to a natural birth, which involves incision in the mother's abdomen and uterus to hold the baby outside women body. Although cesarean delivery has become a common procedure, it should be avoided before the mother reaches the 39th week of pregnancy to allow the child a suitable time to grow in the womb. In the majority of cases, physicians prefer a vaginal delivery rather than a cesarean delivery as it is the safest option for both mother and child, except in the presence of complex health conditions that necessitate prior agreement on caesarean section.

Therefore, the World Health Organization has always called for the need to reduce cesarean delivery rates around the world and to adopt vaginal birth as a method Safer to give birth. A cesarean delivery is always accompanied by many complications. These complications may occur in the operating room or after a caesarean section, or it may be delayed to negatively affect the woman's health in the future.

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