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## Rising Rate of Cesarean Section

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### Rate of Cesarean Section

Thikra N Abdullah

Cesarean section, which was introduced into clinical practice as a lifesaving procedure for both the mother and the baby, is one of the most common surgeries performed in modern obstetrics. Formerly it was performed in interest of the mother; currently it is frequently done for fetal indication. As other procedures of some complexity, its use follows the health care inequity pattern of the world; underuse in low income setting, and adequate or even unnecessary use in middle and high income setting<sup>(1)</sup>.

The first modern cesarean section was performed by German gynecologist Ferdinand Adolf Kehrer in 1881. Cesarean section is often performed when a vaginal delivery would put the baby's or mother's life or health at risk. Many are also performed upon request<sup>(2)</sup>.

Pregnancy and delivery are considered a normal physiological state in women; however, of all deliveries approximately 10% are considered high risk, some of which may require Cesarean section<sup>(3)</sup>.

The cesarean delivery rate has increased throughout the world. Cesarean rates have increased over the past 40 years from approximately 5% to more than 30% in many industrialized countries<sup>(4)</sup>. The cesarean rate is approximately 21.1% for the most developed regions of the globe, 14.3% for the less developed regions, and 2% for the least developed regions<sup>(5)</sup>.

Recent studies reaffirm earlier recommendations of the world health organization (WHO), about optimal C-section rates, addressing that the best outcomes of mothers and babies appear to occur with C-section rates of 5% to 10%, while rates above 15% seem to do more harm than good<sup>(6)</sup>.

In US the cesarean rate increased dramatically during the 1970s and early 1980s this may be accredited to the improved technology in detecting pre-birth distress, and began to decline in the late 1980s (based on data from the National Hospital Discharge Survey). Between 1989 and

1996 the total cesarean rate decreased as a result of a decrease in the primary rate and an increase in the rate of vaginal birth after Cesarean (VBAC). Since 1996, these trends have reversed, and increases have been rapid and sustained for primary and repeat Cesareans over the past decade<sup>(7)</sup>.

According to the Iraq Multiple Indicator Cluster Survey 2006 (Iraq MICS 2006)<sup>(8)</sup>, about 20% of births were delivered by C-section (Table 1). Moreover, a brief and rapid survey of C-sections in Baghdad Teaching Hospital, a tertiary referral hospital, indicated that the emergency C-sections account only for 62.2% of the total number of C-sections performed outside the working hours during April 2010<sup>(9)</sup>.

Table1: Rate of Cesarean Section Iraq Governorates<sup>(8)</sup>.

Region/ Governorates	Cesarean Section (%)
South/ Centre Iraq governorates	21.0
Al-Qadisiya	28.2
Baghdad	26.2
Diala	25.8
Salahuddin	25.3
Al-Najaf	24.7
Thi-Qar	23.2
Babil	21.0
Missan	19.8
Basrah	19.4
Kerbala	18.0
Al-Muthanna	17.5
Wasit	14.6
Kirkuk	14.4
Al-Anbar	13.1
Nineveh	13.0
Kurdistan Region governorates	17.6
Sulimaniya	21.2
Erbil	18.5
Dohuk	12.1

Cesarean sections do not change the rate of bad outcomes in low risk pregnancies<sup>(10)</sup>. Elective Cesarean section should not be scheduled before 39 weeks gestational age unless there is a medical indication to do so. Professional societies have established guidelines for non-medically indicated cesarean before 39 weeks<sup>(11)</sup>.

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### Why The Rate of Cesarean Section is High?

Samar D Sarsam

The proliferation of C-section deliveries on the past 20 years has been attributed predominantly to non-obstetric factors, including increase use of birth technology, fear of litigation, financial incentives, and physician preference. In addition some researchers have reported that women are requesting C-section delivery, which is thought partly to account for high C-section rate<sup>(1)</sup>.

In an attempt to identify the reasons behind this high rate, no single factor alone appears to account for a large portion of the growth in the cesarean rate since it began to rise in 1996; accordingly, the following interconnected

factors were suggested to contribute to the high cesarean section rate<sup>(2)</sup>:

- **Low priority of enhancing women's own abilities to give birth;** The decision to switch to cesarean is often made during labor when caregivers could use watchful waiting, positioning and movement, comfort measures, oral nourishment and other approaches to facilitate comfort, rest, and labor progress.
- **Side effects of common labor interventions;** Current research suggests that some labor interventions make a c-section more likely. For example, labor induction, continuous electronic fetal monitoring, having an epidural early in labor or without a high-dose boost of synthetic oxytocin ("Pitocin") seems to increase the likelihood of a c-section.
- **Refusal to offer the informed choice of vaginal birth;** More than nine out of ten women with a previous cesarean section are having repeat cesareans in the United States. Similarly, few women with a fetus in a breech position have the option to plan a vaginal birth, and twins are increasingly born via planned cesarean section.
- **Casual attitudes about surgery and variation in professional practice style;** the cesarean rate varies quite a bit across states and areas of the country, hospitals, and maternity professionals. Most of this variation is due to "practice style" rather than differences in the needs and preferences of childbearing women.
- **Limited awareness of harms that are more likely with cesarean section;** cesarean section is a major surgical procedure that increases the likelihood of many types of harm for mothers and babies in comparison with vaginal birth.
- **Incentives to practice in a manner that is efficient for providers;** many health professionals are feeling squeezed by tightened payments for services and increasing practice expenses. The flat "global fee" method of paying for childbirth does not provide any extra pay for providers who patiently support a longer vaginal birth.

#### Rising rate of C-section in Iraq worries health officials and doctors

The society perception and trust in doctors has changed in the last 40 years in Iraq. Decades of sanctions and wars have seriously compromised a once proud and functional health system.

The rising rate started since 1991 during and after the gulf war due to issues regarding access to medical care. The main rise occurred with the implication of the self-financing system at 1998 and the poor payment of doctors after the sanction.

The last rise occurred after 2003 because of security circumstances which prevent the patients from reaching the hospitals and medical staff from being available all over the day and night for proper management. Curfew, current situation and traffic jam all played a role in this rising rate; it prevented obstetricians from treating patients scientifically, as we know vaginal birth needs time.

Private hospitals handled about 10 percent of births in 2010. But as Iraq's economy improves and more people opt for private hospitals, the rate of C-sections is expected to climb. At private hospitals, C-sections cost two to three times as much as vaginal births. Even public hospitals, which are virtually free to patients, have been opening

private wings where a slightly better level of service is available.

Other issue is the shortage in well trained nursing staff and equipment to monitor intra partum fetal wellbeing. So, our health system should be revised and we need to implement our own guidelines. In addition the attitude of the ministry of health towards problem solving is rather complicated and needs to be reconsidered, as obstetricians in the last few years are having low threshold for performing cesarean section, fear of lawsuits and community litigation is becoming a nightmare to obstetricians.

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### Is Cesarean Section as Safe as We Think?

Asmaa T Majeed

Most mothers are healthy and have good reason to anticipate uncomplicated childbirth. Cesarean section is a major surgery and increases the likelihood of many short- and longer-term adverse effects for mothers and babies. Bad outcomes in low risk pregnancies occur in 8.6% of vaginal deliveries and 9.2% of C-section deliveries. The mortality rate for Caesarian sections is 13 per 100,000 and for vaginal birth 3.5 per 100,000 in the developed world<sup>(1)</sup>.

The UK National Health Service gives the risk of death for the mother as three times that of a vaginal birth<sup>(2)</sup>. As with all types of abdominal surgeries, a Cesarean section is associated with the risks of postoperative adhesions, incisional hernias and wound infections<sup>(3)</sup>.

When Cesarean is performed under emergency situations, the risk of the surgery may be increased due to a number of factors. The patient's stomach may not be empty, increasing risk of anesthesia<sup>(4)</sup>. Other risks include severe blood loss and postdural-puncture spinal headaches<sup>(3)</sup>.

The risk of placenta accreta, a potentially life-threatening condition, is 0.13% after two Cesarean sections, but increases to 2.13% after four and then to 6.74% after six or more. Along with this is a similar rise in the risk of emergency hysterectomies at delivery<sup>(5)</sup>.

Non-medically indicated (i.e., elective) childbirth before 39 weeks gestation carry significant risks for the baby with no known benefit to the mother. Complications from

elective cesarean before 39 weeks include: newborn mortality at 37 weeks may be 2.5 times the number at 40 weeks. Researchers in one study and another review found many benefits to going full term, but no adverse effects in the health of the mothers or babies<sup>(6)</sup>. Problems among babies delivered "pre-term" in this study included respiratory distress, jaundice and low blood sugar<sup>(7)</sup>.

In the case of cesarean sections, rates of respiratory death were 14 times higher in pre-labor at 37 compared with 40 weeks gestation, and 8.2 times higher for pre-labor cesarean at 38 weeks. In this review, no studies found decreased neonatal morbidity due to non-medically indicated (elective) delivery prior to 39 weeks<sup>(6)</sup>. Other risks include wet lung caused by retention of fluid in the lungs, which can occur if not expelled by the pressure of contractions during labor<sup>(8)</sup>.

Higher infant mortality risk in C-sections performed with no indicated risk (singleton at full term in a head-down position) has been reported with an estimated risk of death in the first 28 days of life as 1.77 per 1,000 live births among women who had C-sections, compared to 0.62 per 1,000 for women who delivered vaginally<sup>(9)</sup>.

Finally, in a research study widely publicized, children born earlier than 39 weeks may have developmental problems, including slower learning in reading and mathematics<sup>(10)</sup>.

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## How We Can Decrease This High Rate?

Taghreed K Alhaidari

In an attempt to reduce the progressively augmented rate of cesarean section, dedicated efforts have been focused on ascertaining the influencing factors behind this escalation. The fundamental recommendations on top of the most updated guidelines<sup>(1-3)</sup>, can be classified and summarized as follows;

### 1. General

- **Legislations and Policies**; protecting doctors against litigation by working in collaboration with insurance companies. Advocate for Private-Private, Public-Public work, with special concern regarding vaginal birth fees in the private sector and urgent need for setting guidelines for both sectors.
- **Provider Feedback**; it is a critical component as detailed data regarding cesarean section rates and risk factor rates should be given in a timely and regular fashion. The reports can be given in a confidential fashion and typically the results of all providers are shared, but in a confidential fashion.
- **Peer Review / 2nd Opinion**; a second opinion for non-urgent cesarean deliveries, particularly in the case of elective primary cesarean, or to review all cesarean sections by a case review committee's to make sure the reason for the abdominal delivery is well documented and the obstetricians used good clinical judgment.
- **Call Schedule Changes**; this change involves the formation of the larger call groups so there is less pressure for individual physicians to proceed with cesarean sections. This is obviously a clinical and economical challenge in many cases. Nonetheless, there is evidence that this can improve care.
- **Consumer Partnership**; better education of women at childbearing age regarding potential risks and benefits. Increased understanding of women's motivation, values, cultural factors, and fears related to requesting elective cesarean births through qualitative inquiry is essential. Childbirth education (CBE) classes could be of help for this purpose.

### 2. Labor

- **Availability of Resources**; availability of trained medical staff and requested instruments and tools that are used for assisted vaginal delivery and intrapartum fetal monitoring.
- **Anesthesia / Comfort Measures**; introduction of regional analgesia during labor can advocate for painless vaginal delivery.
- **Oxytocin Protocols**; which had been implemented in an effort to standardize usage and make safer labors have also been described as lowering cesarean section rates.
- **Active Management**; had been succeeded in lowering cesarean section rates. The classic technique involves frequent cervical examinations, aggressive oxytocin utilization and tight admission criteria.
- **FHR Interpretation Training**; improvement in heart rate evaluation (FHR) can often lead to a reduction in the

overall cesarean rates and more appropriate interventions for those fetuses who are being compromised.

- **Vaginal Birth After Cesarean (VBAC)**; most recent studies have confirmed the safety of this technique in the institutions which have appropriate response available. Trial rates can be augmented by a VBAC education program which incorporates the risk and benefits.
  - **Extending the Length of Time a Woman should be allowed to be in Labor**; this would help to lower the odds she will require a Cesarean section. "This is an extremely important initiative to prevent the first cesarean delivery".
- ### 3. Pre-Labor
- **Reducing Unnecessary Inductions**; recent realization that neonates have improved outcome if elective deliveries are postponed to or greater than 39 weeks have led to a number of institutions implementing induction criteria. This added benefit to the institution is that it often reduces the demands on the labor staff and allows him to focus and give more attention to laboring patients.
  - **Macrosomia Management Changes**; protocols which require careful assessment of the specific weight, quality of the ultrasound estimate and patient counseling can be used to reduce unnecessary interventions. The protocol can also include specific criteria for the diabetic patient.
  - **Management of Oligohydramnios**; careful protocols regarding the management of these patients, including independent assessment of the ultrasound measurement, can be helpful in reducing unnecessary interventions.
  - **No Admission Prior to 3 cm and other Labor Evaluation Techniques**; this is thought to be a critical element to active management of labor. This involves retraining of staff and protocols which give alternatives to the admission low risk patients presenting in labor who have not documented significant cervical change.
  - **Breech Detection and Version**; Breech version has shown to be successful in approximately 2/3 of attempts and is particularly more successful in patients who are parous. Approximately 85% of successfully turned fetuses will go on to deliver vaginally.

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