Risks of rising Cesarean section rates and means to decrease them

Summary of WHO policy brief "Rising caesarean deliveries in Latin America: how best to monitor rates and risks" and related articles

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Introduction

Cesarean section is considered a risk to the mother and newborn and a burden on the health care system when unnecessarily done.

Therefore the overall C-section rates are not sufficient to calculate the risks to the mother and fetus and burden on health care system.

In the Latin America study, eight countries were chosen.[1] The overall C-section rate was 35.4 %.

Further classification of C-sections was according to being: nulliparous or multiparous without previous scar, labor induction or one previous C-section scar, preterm labor and other obstetrical indications for cesarean section.

The policy brief showed that there are two subgroups of women undergoing C-sections that need to be monitored:

1. The first group consisted of women with no previous uterine scar whether be primigravidae or multigravidae who had spontaneous labors, with cephalic presentation at term.
2. The second consisted of women with one previous C-section scar allowed to go into spontaneous labor at term and with cephalic presentation.

High rates of C-sections in these two groups indicate that there are unnecessary C-sections done for women. These should be audited in order to decrease the overall C-section rates. The policy brief itself did show means of how to audit and decrease C-section rates by dividing the indications into clinical ones rather than those related to timing or incision type and further categorized two subgroups of women that should be audited in order to decrease C-section rates though it did not give a minimal percentage of acceptable limits

This policy brief was based on the global survey of maternal and perinatal health in Latin America[2] which is a multi country multi centre hospital based study which showed that rising C-section rates does indicate better health care neither for the mother nor for her newborn. And that the risk of maternal morbidity was significantly increased with rising C-section rates. Regarding the newborn there was a significant rise in neonatal deaths and newborn stay in NICU for more than 1 week after delivery in C-section rates between 10-20%.

A further analysis for the same study, the 2005 WHO global survey on maternal and perinatal health in Latin America, showed a protective effect of C-section on breech presentations regardless of gestational age and reduced the risks of intrapartum fetal death, though clearly stated that the current means of intrapartum fetal monitoring are short of actually showing the true status of the fetus in utero.[3]

A more recent and a continuation of the above studies; but in another part of the world (Asia) confirmed the same findings but this study stated more clearly the target population that would benefit out of the results of this study which are the doctors and the women undergoing the C-section without a medical indication stating that these two groups should know the risks behind such indications (or no indications) for operation.[4]

But all three studies did not show that there are other stakeholders though their role was clearly shown in the text .These are the decision and policy makers which would

like to know the cost savings behind decreasing C-section rates (which should not be at the expense of maternal and perinatal safety).[2,4]

Further literature

Cesarean sections are traditionally classified according to the timing of operation into: emergency, urgent, scheduled or elective C-section. They are also classified according to the type of incision: lower segment and vertical midline C-section.[5]

This classification would allow for crude number and C-section rate but does not actually show in light of increasing C-section worldwide where and how to decrease their rates.

Several studies were done worldwide that indicated a rise in C-section rates in industrialized countries[6] and other developing countries as well including those in the East Mediterranean region like Egypt[7] and Jordan[8].

The Egyptian study was an observational one and gave only speculations (without statistical methods) to explain the rise in C-section rates in Egypt from 5% in 1992 to 22% in year 2000.[7] While the study in Jordan showed how could a change in practice lead to a change in an outcome which is the C- section rates without necessarily increasing the perinatal mortality.[8]

Another study from England shows in a similar way though with better statistical methodology how would auditing and changing strategies of practice lead to decreasing C-section rates.[9]

A community-wise study showed that although low income countries had lower C-section rates, yet there was a negative linear association between C-section rates and maternal and neonatal outcomes in these countries.[10]

Another study showed that the attitude of the treating physician was a determinant of C-section rate.[11]

In Iraq

In our hospital (Baghdad Teaching Hospital) a brief and rapid survey of C-sections outside the working hours was done for the month of April 2010: the total number of C-sections was 403, while the emergency C-sections (these fulfill the criteria of intrapartum and emergency C-section in the above studies[2-4]) outside working hours were 251 (62.2%). Upon further classification similar to the policy brief[1] we found the following (table 1):

Table 1: categories of C-sections done outside the working hours in Baghdad teaching Hospital for the month of April 2010.

	Type of C-section	n	%
1	Multiparae with no previous uterine scar	8	3.1%
2	Nulliparae, cephalic, spontaneous labor	11	4.1%
3	Elective C-section with no previous scar or labor induction	6	2.4%
4	Previous one C-section and failure of scar trial	28	11.1%
5	Preterm labor with or without previous scar	0	0%
6	Obstetrical indication with or without scar including breech C-section	53	21%
7	Previous 2 C-sections or more	145	57.7%

Previous two C-section or more are considered absolute indications for C-section in Iraq. From the above table with all the limits and scarcity of the above information we can explain the high rates of C-section in hospital because of high repeat C-section rates (category7). Nevertheless the high rates of obstetrical indications at “category 6" would indicate the need for further stratification and assessment of the cause of C-section.

Other hospitals (e.g. comprehensive obstetric hospitals) would show different percentages for each category since Baghdad Teaching hospital is a tertiary referral hospital. If a multi centre study is conducted in this way, deficiencies and gaps would be clarified and corrected.

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