

A Review of the Rise in Incidence of Caesarean Sections in India: Grounds and Necessities

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Background and Rationale

A pattern of quick rise in rates of caesarean deliveries is observed worldwide varying across different regions, over the past few decades. [1]. The rate of this increase is substantial in many countries but there has been evidence of this rise at a slower pace in sub-Saharan countries. [2] Likewise, India has also experienced this escalation in rates of delivery by Caesarean section (C-section). According to the previous literature available, the rates of C-section in India have increased more than two-fold on the whole, from 8% in 2005-2006 to 17% in 2015-2016 [3].

The World Health Organisation (WHO), has appraised a C-section as a surgical procedure which that can save the life of a woman and her baby when undertaken for medical reasons. Thus, it should be used only for complicated pregnancies where vaginal delivery is not feasible or there is an emergency due to feto-maternal risk.[4] However, as C-sections have eventually become more common in developing countries, it was already quite common in developed nations from a long time. Looking at the statistics of developing nations, like in India, the threshold of C-sections decided by WHO was 15% which has already been surpassed, pointing to the fact that it is of severe public health concern. [5].

Although, with the use of C-section their can be reduction in maternal and neonatal mortality and complications viz. obstetric fistula. However, its implementation without a medical indication can in turn even increase risk of short and long-term health issues to the pregnant female. WHO also advises that access to caesarean sections should only be done when a medical necessity is visualized and does not suggest a target rate to achieve for countries to at the population level [6]. In the current times, unnecessary caesarean deliveries are emerging as a major and fundamental concern in India and social disparity in access to this procedure has led to unexpected imbalance in the equitable rights to health care services. This review was needed to understand the statistics (NFHS 4 vs NFHS 5), possible factors of the high C-section rates in India and role of WHO recommendations in reducing the caesarean section rates.

Rise in caesarean section rates in India: Current Scenario (NFHS 4 vs NFHS 5)

In the Indian context, According to the National Family Health Survey (NFHS-4), 17% of live births were from C-section deliveries, in the 5 years before the survey was conducted. Moreover, of these C-section deliveries 45% were reported to be planned after the initiation of labour pains (NFHS-4) [7]. In the NFHS-3 survey the prevalence of the deliveries from C-section in India was 8.5% while a 9% increase was seen in the NFHS-4 which was done 10 years later. The NFHS-4 data showed that it has increased to 17.2% [8].

Later, again in 2019-21 NFHS found that 22 percent of live births in the five years before the survey were delivered by caesarean section. 9 percent of the C-sections were decided on after the onset of labour pains, compared with 12 percent that were decided on before the onset of labour pains [9]. Since 2015-16, the rate of C-sections has risen, from 17 percent to 22 percent in 2019-21. Caesarean deliveries are more common among primigravida (28%) than in multigravida (ranging from 4% to 20%). Private sector health facilities (48% of deliveries) have shown to have more C-sections, an increase from 41 percent in 2015-16. Urban centres had a higher rate of caesarean delivery than rural areas (32% against 18%)(Figure 1). The incidence was higher in those females who had higher educational qualification. The caesarean rate for deliveries for women with 12 or more years of schooling is 35 percent, compared with 27 percent for women with 10-11 years of schooling, 19 percent for women with 8-9 years of schooling, and 8 percent for women who had not gone to any school. There is strong relationship of positive association between socio-economic parameters and delivery by C-section. Mothers in households in the highest wealth have shown more likely to deliver through C-section (39%) than those mothers in lower socio-economic status (7%). Most districts in India have over 30 percent of births delivered in private health facilities that were delivered through C-section [10].

Grounds and Necessities for the increasing CS rates in India

WHO states that there exist many entangled reasons for the rise of caesarean section rates, and these differ widely between and within various countries. Before putting in action any intervention to decrease the rates, more research should be carried out which points out and clarifies why rates are on a rising trend, as well as what are those locally relevant determinants of births by C-section, and also women and providers' point of views and cultural norms in their areas [11].

There are medical clarifications for the use of C-section delivery. Surgical intervention during pregnancy is usually performed to ensure safety of the mother and child in view of obstetric risks [12]. This medical intervention is justified under certain circumstances such as breech presentation, dystocia, previous caesarean section and suspected fetal compromise [13]. In a recent study by Singh N et al (2020), it was reported that the most repeated indications for electing C-sections in India were previous

delivery of caesarean section, 29 (33%). Other frequent indications were fetal distress, 17 (19%); malpresentations, 11 (13%); and on request of the mother, 8 (9%). The main attestation for emergency C-sections were fetal distress (39 (62%)) and others were previous caesarean section who presented in labour (12 (19%)) [14].

A study by Roy N et al (2021) observed that there was a significant association of socioeconomic and biomedical factors with 'Caesarean (outcome variable)'. The age group 40–49 years of pregnant females, was more likely (OR–CI, 1.7 [1.52–2.05]) to undergo C-section as compared to those of earlier age group of 15–20 years, followed by age category of 30–40 years (OR–CI, 1.39 [1.32–1.48]) and 20–30 years (OR–CI, 1.08 [1.03–1.14]), respectively. Women belonging to the rural areas were less inclined (OR–CI, 0.84 [0.82–0.86]) to undergo delivery by C-sections as matched to women of the urban regions. Highly educated women were more likely to undergo caesarean as compared to the uneducated women (OR–CI, 1.64 [1.6–1.76]). The odds of the C-section delivery were significantly higher in the private hospital as compared to the public hospital (OR–CI, 4.45 [4.34, 4.57]). In India too, caesarean deliveries are increasing at an accelerated rate, especially by providers in private health centres which are totally unwarranted. In the centres of public health, C-section deliveries were available only in district hospitals and not in all public health facilities. Though national guidelines on the practice of C-section delivery exist, these are rarely practiced by the health care providers especially in the facilities regarding private health [15].

One of the most crucial reasons for this growing rate of C-sections is the increase of institutional births and other attributable factors like unregulated health facilities, mainly private institutions and an increasing trend of women opting for it. [16,17] These factors are regarded as non-clinical factors which need to be explored more to understand the increasing rates of caesarean deliveries [18].

WHO Recommendations for Reducing the Caesarean Sections rates.

WHO has described some key interventions which can reduce the increasing caesarean rates globally. India needs to adopt and advocate the key interventions and implement it strategically in the health care sector to achieve the desired sustainable development goal (SDG) of equitable rights to access of health care services. The recommendations include:

There should be effective educational interventions focussing on women in reproductive health group and their families to assist consequential dialogue with the appropriate stakeholders and will aid in informed decision-making on the mode of delivery (i.e., providing and supporting childbirth training workshops for the expectant mothers and couples, relaxation training and workshops supported by nurses, couple-based psychosocial prevention programmes, psychoeducation for women with fear of pain or anxiety during pregnancy). There should be effective utilization of clinical guidelines designed by national regulatory bodies, timely audits of caesarean sections occurring at various health facilities, and appropriate feedback to health professionals about caesarean section practices. There should be introduction of necessary second opinion for planning a caesarean section indication at the delivery point with ample resources.

Some interventions targeting the various health organizations are recommended only under meticulous research such as organization of a collaborative midwifery-obstetrician model of care (i.e., a health care support model in which staffing will be based on care provided primarily by midwives, with 24-hour support from an obstetrician who will solely dispense in-house labour services and delivery coverage without any separate competing clinical duties) or financial strategies (i.e., introducing insurance reforms where physician fees will be equalized for both the vaginal births and caesarean sections) [11].

The WHO recommendations can be a promising intervention in declining the rapid rise in the caesarean section rates in India. The policy makers of India should establish strict guidelines for both the private and public practitioners regarding the decision making of caesarean section in a patient. This will reduce the unnecessary burden of caesarean section on the health system and will ensure positive maternal and fetal outcomes.

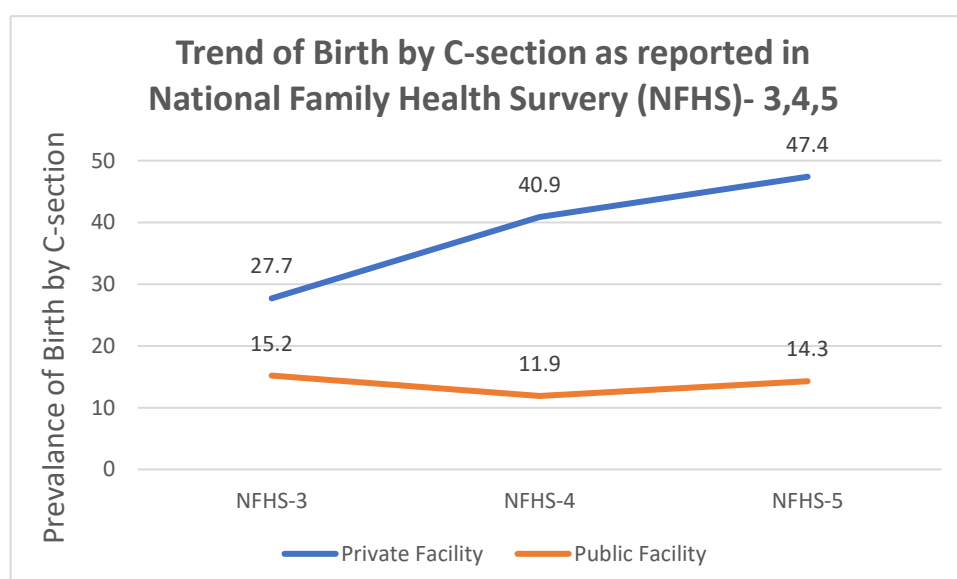


Fig. 1- Increasing trends of Deliveries by Caesarean Section in Private and Public facility, Data from NFHS- 3, 4 & 5

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