The Global NGO Forum on Sexual and Reproductive Health and Development will act as a clarion call to reinvigorate the ICPD Programme of Action to make it a reality for all women, men, and young people. We have clear evidence that sexual and reproductive health saves lives and makes a critical contribution to poverty reduction and development. Strengthening sexual and reproductive health and rights is a pressing global need, one on which the future of humankind may well depend.

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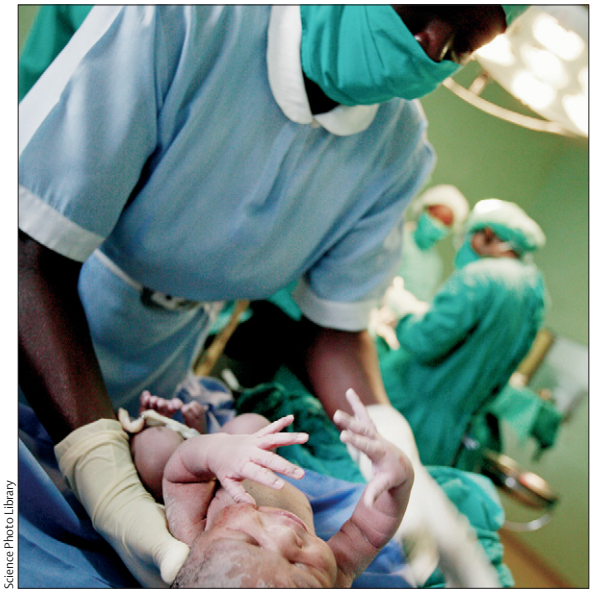
Elective caesarean sections—risks to the infant

Beena Kamath and colleagues[1] recently reported that, in 2006, 31·1% of births in the USA were by caesarean section. Over 80% of women who have had a first caesarean section will have a repeat operative delivery, because of the fear of scar rupture during normal labour. Although there is concern about this high rate of surgical delivery, a consensus group of the US National Institutes of Health (NIH) in 2006 found no good evidence of harm to the mother from one or even two caesarean sections.[2] However, they did recommend that elective delivery should not be done before 39 weeks of pregnancy because of the risk of respiratory problems in the baby, echoing findings from UK studies.[3,4]

Kamath and colleagues assembled a retrospective cohort of 672 women with one previous caesarean delivery. They compared outcomes in the baby after repeat caesarean section before labour with planned caesarean section after the onset of labour, and after successful and unsuccessful planned vaginal delivery (emergency caesarean section). Babies born by successful planned vaginal delivery had the best outcomes, and those born by emergency caesarean section the worst. Delivery by elective caesarean section was more expensive in terms of costs from the hospital and physician, and the babies had higher rates of admission to the neonatal unit, need for supplemental oxygen, hypoglycaemia, and respiratory problems. Worryingly, despite the NIH recommendations, median gestation at elective caesarean section before labour was 39·1 weeks, indicating that almost 50% of women still delivered too early, presumably for convenience or choice. Those who had emergency caesarean sections (26% of those attempting vaginal birth) had the greatest morbidity, but this finding was largely accounted for by induction of labour and chorioamnionitis, each of which is an independent predictor of adverse outcome for the baby.

The recommendation of Kamath and colleagues that rates of caesarean section should be reduced takes no account of the fact that some women fear a vaginal birth, especially if their first labour (or that of a close friend or relative) was a bad experience that ended in an emergency caesarean section[5] or damage to the pelvic floor. However, in this relatively small sample, there were no cases of catastrophic uterine rupture, the most feared consequence of "trial of scar". Caesarean delivery is often considered an expression of maternal autonomy



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and, in keeping with this, Kamath noted that women who elected for a section before labour were older and had more university or postgraduate education. Paradoxically, because higher socioeconomic status is usually associated with better health outcomes, this group had the greatest newborn morbidity.

In addition to the well recognised increase in short-term adverse outcomes for the baby, caesarean delivery is also associated with risks to long-term health. Meta-analyses indicate that infants delivered by caesarean have a 20% increase in the odds of developing asthma and type 1 diabetes in childhood or adulthood.[6,7] There is also a suggestion of increased occurrence of food allergy[8] and obesity.[9] Thus, the life-long costs of caesarean delivery might be considerable and may outweigh short-term concerns. Although the physiological determinants of short-term infant morbidity are largely understood, the biological pathways that lead from caesarean delivery to compromised adult health remain unknown. Epigenetic alteration of gene expression by the endocrine milieu of labour might affect long-term hepatic and other metabolic responses[10] and modify immune function. Subsequent function of the hypothalamic–pituitary–adrenal axis seems influenced by the stress response to labour,[11] and mode of delivery is also likely to affect the gut microbiome, which can increase energy harvesting[12] from food and predispose to obesity.

Thus there is a conflict between the choice a mother might make for herself (avoiding labour and a possible emergency caesarean section by choosing an elective section) and the detrimental effects of caesarean delivery on the baby. Perhaps in the future we will be able to mimic the way that labour and vaginal delivery prepare a baby for life outside the womb, but until we can do better than the old habit of hitting the caesarean-born baby on the bottom, we need to recognise that an elective abdominal delivery has long-term implications for the mother and the baby. Should a woman's right to choose take second place to her baby's right to health? At present, we can only recommend that obstetric counselling for non-medically indicated caesarean sections should include written information on the risks of surgical delivery to the short-term and long-term health of the infant.

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