

# Caesareans linked to better nutrition

**Tom Whipple** Science Editor

Rising rates of caesarean section deliveries across the world may be a result of recently improved nutrition as much as cultural factors, scientists have said.

A study has concluded that mothers who have caesarean sections could be relying on the procedure because of a mismatch between how well fed they were as children compared with during their pregnancy.

There is a huge variance in the proportion of women having caesarean sections. In some sub-Saharan African countries as few as 2 per cent of women give birth that way, while in Egypt, Turkey and Brazil almost half do. In Britain about one in five does. Public health officials had attributed this to social trends but researchers have found that much of the difference in caesarean rates could be explained by changes in adult height.

In countries where adults had increased in average height the most, indicating a rapid improvement in nutrition during childhood, the proportion of caesarean section deliveries was highest. In countries in which they had decreased in height, because of failing economies, it was the lowest. The relationship remained when they accounted for improving health systems in developing countries.

The scientists behind the study, which was published in the journal *Proceedings of the Royal Society B*, said

that there was an obvious explanation for this. "If there is a continual increase in living conditions then the foetus, which is a generation ahead of the mother, experiences even better conditions," Philipp Mitteröcker, from the University of Vienna, said.

He added that in countries with rapid development, where mothers were well fed during pregnancy but less well fed during their childhood, there was more likely to be a mismatch between the sizes of mothers and babies. "This might make childbirth more difficult, lengthy and risky, and hence increase the use of caesarean sections," he said.

Giving birth for humans is harder than for other mammals, with a tighter fit between a baby's head and a mother's pelvis. Caesarean sections are recommended when the baby is too big for the mother's birth canal. This means that a slight increase in the size of babies compared with mothers could have a large effect on the difficulty of birth.

An interpretation of the finding is that rather than a continually rising trend in those having caesareans there should be a levelling off and then a drop as more countries escape poverty. Professor Mitteröcker said that this may take some time, and could still be in progress in Britain. "If you have a period like that in Europe after World War Two, where the body height increase is strongest, then that is when obstetric practice is established. Once that happens it is hard to reduce it."