

Deaths from caesarean sections 100 times higher in developing countries: global study

[who.int/reproductivehealth/death-from-caesarean-sections/en](https://www.who.int/reproductivehealth/death-from-caesarean-sections/en)

Outcomes for women “*far worse*” than expected

28 March 2019 – Maternal deaths following caesarean sections in low- and middle-income countries are 100 times higher than in high-income countries, with up to a third of all babies dying, according to data from 12 million pregnancies. A new review, published in *The Lancet*, has considered 196 studies from 67 low- and middle-income countries.

Data from 1990 to 2017 show that a quarter of all women who died while giving birth in low- and middle-income countries had undergone caesarean section. “The outcomes for women in low and middle-income countries are far worse than we expected,” said first author, Dr Soha Sobhy of Queen Mary University of London. “In sub-Saharan Africa, one in 100 women who has a caesarean section will die - 100 times more than women in the UK. The outcomes for their babies are even worse, with eight per cent not surviving longer than a week.” These figures indicate a lack of access and inappropriate use of the procedure.



Lieve Blancquaert

[Maternal and perinatal mortality and complications associated with caesarean section in low-income and middle-income countries: a systematic review and meta-analysis](#)

THE LANCET

The Lancet Published: March 28, 2019

The risk for stillbirth and perinatal deaths was similarly higher in low- and middle-income countries. The overall rate of stillbirth in babies born by caesarean section was 56.6 per 1000 caesareans, with the highest rates in sub-Saharan Africa (82.5 per 1000). The perinatal death rate was 84.7 per 1000 caesarean sections, with the highest rates in the Middle East and North Africa (354.6 per 1000) followed by sub-Saharan Africa (100.4 per 1000).

Moreover, women undergoing emergency caesarean section in low- and middle-income countries were twice as likely to die than those delivering by elective caesarean section, and when caesarean section was performed in advanced labour at full dilation of the cervix (second stage). The odds increased 12-fold compared to caesarean section in the first stage. Perinatal deaths increased 5-fold with emergency vs elective caesarean sections, and 10-fold when undertaken in the second vs first stage of labour.

A third of all deaths following caesarean section were attributed to postpartum haemorrhage (32%), 19% to pre-eclampsia, 22% to sepsis, and 14% to anaesthesia related causes. This is in line with an increased body of evidence warning about caesarean section as a primary cause of postpartum haemorrhage and underscores gaps in resource and skills to manage massive obstetric haemorrhage, and a need for specific training in this area.

“Overuse and underuse of caesarean section are a current global concern and the focus of debates and research. In many low- and middle-income countries, overuse and underuse coexist making it particularly difficult to increase the provision of caesarean section to those women in need without aggravating the overuse which, in turn, places women at higher risk of complications”

Dr Ana Pilar Betrán, medical officer, World Health Organization

Overuse and underuse of caesarean section coexist

Every year, 300 000 women die during childbirth, 99% of whom are from low- and middle-income countries. Timely access to caesarean section when needed is required for safe childbirth, but ‘too little, too late,’ or ‘too many, too soon’ are part of a problem and not a solution. While many women in need of caesarean sections still do not have access to caesarean section particularly in low resource settings, many others undergo the procedure unnecessarily, for reasons which are not medically justified.

Lead author Professor Shakila Thangaratinam, Queen Mary University of London, added: “Caesarean sections are the most commonly performed operation worldwide. They are meant to be life saving for both mother and baby, but because of many factors [...] this is

not always the case. Now that we know the risk factors and countries associated with poor outcomes, we can make a more targeted effort [...] so that timely and safe caesarean sections can be done wherever they are needed.”

Caesarean section context

There are many complex reasons for the rise in caesarean section rates, and these vary widely between and within countries. Before implementing any intervention to reduce these procedures, research should be undertaken to identify and define the reasons behind the increase in caesarean sections in particular settings, as well as the locally relevant determinants of caesarean births, and the views and cultural norms of women and health care providers.



A call to improve access to safe surgery, appropriate intrapartum care and training

Caesarean birth is associated with short- and long-term risks that can extend many years beyond delivery; affect the health of women and their children, as well as future pregnancies. These risks are higher in women with limited access to comprehensive obstetric care. WHO recommends that caesarean section should only be conducted when medically necessary.

Quality of care is of particular concern in low- and middle-income countries. Researchers of the study are calling on policy-makers and health care professionals to promote appropriate use of the procedure, improve access to quality surgery and intrapartum care, and improve services on neonatal resuscitation to help improve outcomes for babies.

The authors also highlighted that training is needed in decision making to reduce unnecessary caesarean sections, and in appropriate intrapartum care including instrumental deliveries to reduce caesarean sections performed in the second stage of labour, which carry greater risk.

WHO response

Improving maternal health is one of WHO's key priorities. WHO works to reduce maternal

mortality by increasing research and evidence, providing evidence-based clinical and programmatic guidance, setting global standards, and providing technical support to Member States.

Robson classification: implementation manual

Improved understanding of caesarean section rates has been hindered by the lack of a consistent, internationally-accepted classification system to monitor and compare caesarean section rates. To address this, WHO proposed in 2015 the adoption of the Robson classification system, which can facilitate comparison and analysis of caesarean rates within and between different facilities, and across countries and regions.



Robson classification: interactive on-line platform

WHO is also preparing an interactive on-line, web-based platform in which facilities all over the world will be able to upload data according to the Robson classification. The platform will facilitate global sharing of perinatal data, enabling a discussion and synergy of efforts that foster local and global understanding of caesarean rates and associated perinatal outcomes with the ultimate objective of optimizing the use of caesareans.