

# Bicarbonate of soda could spare women in developing countries from caesarean section

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Credit: AI-generated image ([disclaimer](#))

Lack of access to a caesarean section, or complications arising from one, accounts for many deaths in developing countries, but now a team of scientists has identified that a simple drink of bicarbonate of soda could make all the difference.

A simple kitchen scale that is cheap, accessible and easy to use has the potential to save lives, as a recent study has demonstrated. Labour fails when contractions are not strong enough and treatment with oxytocin is usually the next step. If that doesn't work then a Caesarean section can be the solution.

But in rural environments in developing countries these may not be options and if a C-section can be carried out at all, there may be complications. The World Health Organisation explains that almost all maternal deaths (99 percent) occur in developing countries and that the risk of [maternal mortality](#) is highest for [adolescent girls](#) under 15 years old. Complications in pregnancy and childbirth is a leading cause of death among adolescent girls in developing countries.

## **A simple sachet of sodium bicarbonate from the corner shop could help women give birth naturally**

A study just conducted, involving 200 women, found that, when dissolved in water, [bicarbonate](#) of sodium enables between 17 and 20 percent of women having slow or difficult labours to give birth naturally, without harming their babies.

Professor Susan Wray, from the University of Liverpool, and a team of researchers at the Karolinska Institute in Sweden, gave bicarbonate of soda to 100 women in labour experiencing difficulties, as well as oxytocin. Another 100 women were treated with just oxytocin. The results, published in the journal of Maternal-Fetal & Neonatal Medicine, found those who had bicarbonate of soda increased their chances of a vaginal delivery.

"The study was conducted with clinical colleagues in Sweden, and there at the corner shop you can buy this as an antacid, it really is low rent,"

said Prof Wray.

## **Why sodium bicarb?**

Speaking on BBC Radio 4's Today Programme, Prof Wray explained that studies at the University of Liverpool had found that the levels of acidity in the blood surrounding the uterus of women suffering a failure to progress in labour was significantly higher than any other group.

Prof Wray and her team hypothesised that if they could neutralise that acid in these women, that would help them to have a normal, spontaneous vaginal delivery and avoid the surgery. Without knowing which group they were in, one group received oxytocin alone, while the other had bicarbonate of sodium to in the hope of neutralising the acid in their uterus, then oxytocin one hour later.

Describing the outcome as "amazing," Professor Wray added, "We were able to significantly increase the number of women having a spontaneous delivery, avoiding the emergency Caesarean section. Not by just a few percent, but by around 17-20 percent."

She stressed that the study was a small, randomised controlled study. "But nevertheless we had 100 women in each of the two groups of our study and that was sufficient to rule out confounding factors like differences in BMI."

## **A simple solution to an urgent problem could be on the way**

If the work they carried out with the cohort of 200 is replicable, the researchers could have proven a way to reduce maternal mortality and suffering using a very cheap, shop floor medication and kitchen cabinet

staple. The team are really keen to replicate the results in more centres, but what Prof Wray is really looking forward to doing is getting one branch of the study up and running in sub-Saharan Africa. Liverpool has good links with hospitals in Uganda and Malawi, for example.

"In those low resource settings I'm sorry to say that women still die in large numbers in childbirth and this failure to progress is one of the reasons. So if those [women](#) could have this as a treatment, avoid surgery which, in any case may not be available to them or when it is, it's not without significant risk, that would be just wonderful. Because you don't need to keep this in the fridge, don't need electricity... it's so exciting."

Provided by CORDIS

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