

# Work to improve children's health should start before mother becomes pregnant

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Researchers from the Medical Research Council Lifecourse Epidemiology Unit, University of Southampton, believe the key to making future generations healthier could lie before the mother becomes pregnant.

Writing in the *American Journal of Clinical Nutrition* the researchers say that a greater understanding is needed of the role of maternal nutrition in preconception and its impact on the child.

They say that while the evidence published to date provides useful ways to improve the health of children, it also raises many questions.

The editorial is published alongside the largest ever meta-analysis and systematic review of international research trials pertaining to dietary interventions for expectant mothers, dating from 1978 to 2011.

Conducted by researchers from the University of Newcastle, in Australia, the review found there is no universal consensus on what constitutes an optimal diet for women before, during and after pregnancy, despite a glut of nutritional information being available. But they have shown that what you eat does matter.

The initial search found close to 5,000 relevant articles, of which more than 2,300 were exhaustively screened. Included were studies that provided dietary counselling and/or food interventions, with the collective results then used to determine the overall effect of diet on neonatal and infant health.

"Our aim was to analyse whether dietary interventions had an effect on pregnancy outcomes," says Ms Ellie Gresham, who led the review. "We found there was a positive effect on [birth weight](#) and a reduced incidence of [low birth weight](#) using whole foods and fortified foods as dietary interventions; fortified foods included foods

and drinks with higher levels of nutrients."

Evidence shows that small babies are more likely to start life in [neonatal intensive care](#) and that maternal nutritional status can have lasting effects on offspring health and wellbeing.

"It's an important time for both mother and child but we still can't pinpoint what is optimal," Ms Gresham adds. "While there are national dietary guidelines, we can't say to expectant mums that if you follow this particular diet you will have a healthy baby."

"From here, more high-quality research is needed for pre-conception diets, through pregnancy and lactation phases and finally subsequent pregnancies.. This will help determine when are the most crucial times to pay attention to diet."

Low birth weight affects approximately eight to 10 per cent of the population in Australia. The research found no significant effects on other outcomes such as placental weight, head circumference, and infant deaths.

Professor Keith Godfrey, of the University of Southampton and one of the editorial authors, comments: "This review is the largest to date and does provide some clues to help improve the health of the next generation, but it also highlights the challenges in providing sound advice for pregnant mothers. While it is clear that diet in pregnancy can affect immediate outcomes, far less is known about diet around the time of conception or the consequences for the child's health in later life. Getting [maternal nutrition](#) right may require ensuring that all women have access to adequate diets before conception, not just during pregnancy."

**More information:** "Effects of dietary interventions on neonatal and infant outcomes: a systematic review and meta-analysis." *Am J Clin Nutr* October 2014 ajcn.080655

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