Nutrition interventions for pregnant women may improve some maternal and infant health and nutrition outcomes, but more studies are needed.

Poor maternal nutrition and maternal obesity are risk factors for maternal and infant health and nutrition outcomes. Balanced energy protein supplementation and food distribution programmes improve some of these outcomes.

Dietary interventions to prevent maternal obesity during pregnancy can reduce birth weight with no effect on other outcomes.

What is this review about?
Optimal nutrition plays a crucial role before, during and after pregnancy. Poor maternal nutrition and maternal obesity has risk factors for fetal complications and neonatal outcomes. Looking at birth, infant health, and developmental outcomes, this review aims to assess the effectiveness of balanced energy protein (BEP) supplementation, food distribution programmes (FDP), and dietary interventions to prevent maternal obesity during pregnancy.

What studies are included?
Eligible studies had to be randomised control trials or quasi-experimental trials to evaluate the impact of nutritional interventions (BEP, FDP and dietary interventions to prevent maternal obesity) compared to control or standard care, among healthy pregnant women of any age living in low- and middle-income countries.

Fifteen studies are included in the review. Of these, eight were on BEP supplementation, five on FDP, and two on interventions for obesity prevention. The included studies are mainly from Asia (7 studies) and Africa (6 studies).

Do the interventions work?
Overall, BEP and FDP have a positive effect on selected maternal and infant outcomes, but not on others. Obesity prevention programmes may beneficially reduce birth weight, with no effect on other outcomes. In all cases, the evidence is of low to moderate quality.
Balanced energy protein supplementation

BEP supplementation may show a reduction in the rate of stillbirths, perinatal mortality, low birth weight, babies who are small for gestational age, and an increase in birth weight of 107.3 g which is clinically significant in the countries where the intervention was provided.

BEP supplementation had no effect on miscarriage, neonatal mortality, infant mortality, pre-term birth, birth length and head circumference.

Food distribution programmes

FDP may reduce stunting and wasting and improve mean birth weight by 46 g as well as birth length by 0.20 cm.

There was no effect of FDP on perinatal mortality, miscarriage, maternal mortality, neonatal mortality, infant mortality, pre-term birth, low birth weight, small for gestational age, head circumference or underweight babies.

Obesity prevention

Obesity prevention was associated with a 195.6 g reduction in mean birth weight but not macrosomia (the proportion of babies much larger than average for their gestational age) or birth length.

Studies on interventions for obesity prevention among pregnant women did not report other outcomes such as miscarriages and mortality.

What do the findings of this review mean?

Our review highlights improvement in selected maternal, birth, and infant outcomes through BEP supplementation and FDP during pregnancy, though not on others. However, due to the small number of included studies and low quality of evidence, we are uncertain of the effect of BEP supplementation, FDP and dietary interventions for prevention of obesity on maternal, and infant outcomes. Thus, further good quality research is recommended to assess the effect of these interventions on maternal, infant and developmental outcomes.

How up-to-date is this review?
The review authors searched for studies published up to April 2019.

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About this summary

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