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[Intervention Review]

Vitamin supplementation for preventing miscarriage

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ABSTRACT

Background

Miscarriage is a common complication of pregnancy that can be caused by a wide range of factors. Poor dietary intake of vitamins has been associated with an increased risk of miscarriage, therefore supplementing women with vitamins either prior to or in early pregnancy may help prevent miscarriage.

Objectives

The objectives of this review are to determine the effectiveness and safety of any vitamin supplementation, on the risk of spontaneous miscarriage, maternal adverse outcomes and fetal and infant adverse outcomes.

Search methods

We searched the Cochrane Pregnancy and Childbirth Group Trials Register (21 June 2010).

Selection criteria

All randomised and quasi-randomised trials comparing one or more vitamins with either placebo, other vitamins, no vitamins or other interventions, prior to conception, periconceptionally or in early pregnancy (less than 20 weeks' gestation).

Data collection and analysis

At least two review authors independently assessed trials for inclusion, extracted data and assessed trial quality.

Main results

We identified 28 trials assessing supplementation with any vitamin(s) starting prior to 20 weeks' gestation and reporting at least one primary outcome that was eligible for the review. Overall, the included trials involved 96,674 women and 98,267 pregnancies. Three trials were cluster randomised and combined contributed data for 62,669 women and 64,210 pregnancies in total. No significant differences were seen between women taking any vitamins compared with controls for total fetal loss (relative risk (RR) 1.04, 95% confidence interval (CI) 0.95 to 1.14), early or late miscarriage (RR 1.09, 95% CI 0.95 to 1.25) or stillbirth (RR 0.86, 95% CI 0.65 to 1.13) and most of the other primary outcomes, using fixed-effect models. Compared with controls, women given any type of vitamin(s) pre or peri-conception were more likely to have a multiple pregnancy (RR 1.38, 95% CI 1.12 to 1.70, three trials, 20,986 women).

Authors' conclusions

Taking any vitamin supplements prior to pregnancy or in early pregnancy does not prevent women experiencing miscarriage or stillbirth. However, women taking vitamin supplements may be more likely to have a multiple pregnancy. There is insufficient evidence to examine the effects of different combinations of vitamins on miscarriage, stillbirth or other maternal and infant outcomes.

PLAIN LANGUAGE SUMMARY

Vitamin supplementation for preventing miscarriage

Supplementing women with any vitamins does not reduce the number of women who miscarry or have a stillbirth.

Poor diet, without enough vitamins, has been associated with an increased risk of women losing their baby in early pregnancy. Taking vitamin supplements prior to pregnancy or in early pregnancy may reduce the risk of miscarriage, but this review did not find this to be the case. However, women taking vitamin supplements before or at the time of conception may be more likely to have a multiple pregnancy. More research is needed to determine the impact of different combinations of vitamins. This review included 28 trials involving 96,674 women (98,267 pregnancies).