

# Vitamins in pregnancy review

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With the high rate of unplanned pregnancy in the UK and an increasingly obese pregnant population, vitamin supplementation is an important public health issue with potential significant impact on maternal and fetal morbidity and mortality, says a new review published today in *The Obstetrician & Gynaecologist (TOG)*.

The review was led by researchers from the Division of Women's Health at King's College London and looks at existing evidence and current guidelines on [vitamin supplementation](#) in [pregnancy](#).

Vitamins are essential for normal cell function, growth and development. During pregnancy there is an increased demand for vitamins such as folic acid, yet intake among women of reproductive age in the UK is reported as low, says the review.

Certain vitamins, if taken around the time of conception and in early

pregnancy, can reduce the likelihood of neural tube defects and other fetal anomalies. There is also debate surrounding the role of supplementary vitamins in the reduction of certain diseases of pregnancy, such as pre-eclampsia, preterm birth and small-for-gestational-age infants.

The review states that free provision of vitamins to all [pregnant women](#) should be considered and the benefits would outweigh the costs.

Dr. Lucy Chappell, Senior Lecturer in Maternal and Fetal Medicine at King's, and co-author of the review said: "Vitamins are an essential part of a healthy diet. A varied package of interventions may be needed to increase uptake, particularly for those groups with the lowest use, but there are considerable difficulties with any approach, particularly given the significant [unplanned pregnancy](#) rate in the UK.

"Further research is needed to look at potential harms of supplementation, benefits and optimal dosages.

"If any woman is concerned about vitamin deficiency, or would like advice on which [supplements](#) might benefit them, they should contact their GP.'

Review findings:

## **Folic acid**

Folic acid supplementation (400 micrograms/day) is recommended preconceptually and during the first trimester of pregnancy. It has a strong protective effect against neural tube defects, however, a recent systematic review estimated that only 21-48% of mothers take folic acid supplements around the time of conception, say the authors.

Fortification of flour with folic acid is explored in the review. The authors state that mandatory fortification should be explored and this would assist in reducing the incidence of [neural tube](#) and other congenital defects.

## **Vitamins A, B, C, E**

During pregnancy, vitamin A and B supplementation is not recommended, however, a multivitamin with low doses of vitamins C and E is recommended, says the review. Vitamin C has important roles in collagen synthesis, wound healing, prevention of anaemia and as an antioxidant.

## **Vitamin D**

Vitamin D supplementation is recommended in women at risk of deficiency. It is naturally found from exposure of skin to sunlight. However deficiency is often found in women of South Asian, African, Caribbean or Middle Eastern ethnic origin, women who have limited exposure to sunlight and women with a pre-pregnancy BMI of more than 30.

Vitamin D deficiency has been associated with infantile rickets (with severe deficiency), while supplementation of the vitamin has been linked with reduced childhood wheezing and reduced type I diabetes in children, says the review.

The authors recommend that pregnant women at risk of vitamin D deficiency, in particular obese women, should be identified and encouraged to take supplements of 10 micrograms/day.

The journal's Editor –in-Chief, Jason Waugh said: "It is important for all

women to eat a healthy diet, however, for women trying for a baby and during early pregnancy, some supplementation can be beneficial. Folic acid supplementation is recommended and [vitamin D](#) is now recommended by the Chief Medical Officers in the UK for all pregnant women to ensure the mother's requirements are met. It is important that [women](#) are aware of their diet and eat a range of foods alongside keeping active and leading a healthy lifestyle."

Provided by King's College London

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