

Maternal folic acid supplement use in early pregnancy and child behavioural problems: The Generation R Study.

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Folate deficiency during embryogenesis is an established risk factor for neural tube defects in the fetus. An adequate folate nutritional status is also important for normal fetal growth and brain development. The aim of the present research was to study the association between folic acid use of the mother during pregnancy and child behavioural development. Within a population-based cohort, we prospectively assessed folic acid supplement use during the first trimester by questionnaire. Child behavioural and emotional problems were assessed with the Child Behaviour Checklist at the age of 18 months in 4214 toddlers. Results showed that children of mothers who did not use folic acid supplements in the first trimester had a higher risk of total problems (OR 1.44; 95 % CI 1.12, 1.86). Folic acid supplement use protected both from internalising (OR of no supplement use 1.65; 95 % CI 1.24, 2.19) and externalising problems (OR 1.45; 95 % CI 1.17, 1.80), even when adjusted for maternal characteristics. Birth weight and size of the fetal head did not mediate the association between folic acid use and child behaviour. In conclusion, inadequate use of folic acid supplements during early pregnancy may be associated with a higher risk of behavioural problems in the offspring. Folic acid supplementation in early pregnancy, aimed to prevent neural tube defects, may also reduce mental health problems in children.

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