Maternal vitamin B-12 and folate status during pregnancy and excessive infant crying.

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BACKGROUND: The etiology of excessive infant crying is largely unknown. We hypothesize that excessive infant crying may have an early nutritional origin during fetal development.

AIMS: This study is the first to explore whether (1) maternal vitamin B-12 and folate status during pregnancy are associated with excessive infant crying, and (2) whether and how maternal psychological well-being during pregnancy affects these associations.

STUDY DESIGN: Women were approached around the 12th pregnancy week to complete a questionnaire (n=8266) and to donate a blood sample (n=4389); vitamin B-12 and folate concentrations were determined in serum. Infant crying behavior was measured through a postpartum questionnaire (±3months; n=5218).

SUBJECTS: Pregnant women living in Amsterdam and their newborn child.

OUTCOME MEASURES: Excessive infant crying, defined as crying ≥3h/day on average in the past week.

RESULTS: Multiple logistic regression analysis was performed for 2921 (vitamin B-12) and 2622 (folate) women. Vitamin B-12 concentration (categorized into quintiles) was associated with excessive infant crying after adjustment for maternal age, parity, ethnicity, education, maternal smoking and psychological problems (OR[95%CI]: Q1=3.31[1.48-7.41]; Q2=2.50[1.08-5.77]; Q3=2.59[1.12-6.00]; Q4=2.77[1.20-6.40]; Q5 = reference). Stratified analysis suggested a stronger association among women with high levels of psychological problems during pregnancy. Folate concentration was not associated with excessive infant crying.

CONCLUSIONS: First evidence is provided for an early nutritional origin in excessive infant crying. A low maternal vitamin B-12 status during pregnancy could, in theory, affect infant crying behavior through two potential mechanisms: the methionine-homocysteine metabolism and/or the maturation of the sleep-wake rhythm.

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