Context: Prenatal folic acid supplements reduce the risk of neural tube defects and may have beneficial effects on other aspects of neurodevelopment.

Objective: To examine associations between mothers' use of prenatal folic acid supplements and risk of severe language delay in their children at age 3 years.

Design, Setting, and Patients: The prospective observational Norwegian Mother and Child Cohort Study recruited pregnant women between 1999 and December 2008. Data on children born before 2008 whose mothers returned the 3-year follow-up questionnaire by June 16, 2010, were used. Maternal use of folic acid supplements within the interval from 4 weeks before to 8 weeks after conception was the exposure. Relative risks were approximated by estimating odds ratios (ORs) with 95% CIs in a logistic regression analysis.

Main outcome measure: Children's language competency at age 3 years measured by maternal report on a 6-point ordinal language grammar scale. Children with minimal expressive language (only 1-word or unintelligible utterances) were rated as having severe language delay.

Results: Among 38,954 children, 204 (0.5%) had severe language delay. Children whose mothers took no dietary supplements in the specified exposure interval were the reference group (n = 9052 [24.0%], with severe language delay in 81 children [0.9%]). Adjusted ORs for 3 patterns of exposure to maternal dietary supplements were (1) other supplements, but no folic acid (n = 2480 [6.6%], with severe language delay in 22 children [0.9%]; OR, 1.04; 95% CI, 0.62-1.74); (2) folic acid only (n = 7127 [18.9%], with severe language delay in 28 children [0.4%]; OR, 0.55; 95% CI, 0.35-0.86); and (3) folic acid in combination with other supplements (n = 19,005 [50.5%], with severe language delay in 73 children [0.4%]; OR, 0.55; 95% CI, 0.39-0.78).

Conclusion: Among this Norwegian cohort of mothers and children, maternal use of folic acid supplements in early pregnancy was associated with a reduced risk of severe language delay in children at age 3 years.

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