

Folic Acid May Improve Kids' Language Skills

By Stephen Daniels, NUTRA Ingredients

The benefits of folic acid supplements during pregnancy may extend beyond birth defects and may reduce the risk of the child having severe language delay by age three, says a new study.

Children of mothers who took folic acid supplements alone or in combination with other supplements around the time of conception were at a significantly lower risk of severe language delay than children of mothers who did not take folic acid, according to results of a study with 38,954 Norwegian children published in the Journal of the American Medical Association.

The study, led by Christine Roth, MSc, ClinPsyD, of the Norwegian Institute of Public Health, is reported to be the first prospective observational study to investigate the potential of prenatal folic acid supplements to influence severe language delay in children.

The data does not differentiate between correlation and causation. "If in future research this relationship were shown to be causal, it would have important implications for understanding the biological processes underlying disrupted neurodevelopment, for the prevention of neurodevelopmental disorders, and for policies of folic acid supplementation for women of reproductive age," wrote the researchers.

Benefits for babies

An overwhelming body of evidence links has linked folate deficiency in early pregnancy to increased risk of neural tube defects (NTD) - most commonly spina bifida and anencephaly - in infants.

This connection led to the 1998 introduction of public health measures in the US and Canada, where all grain products are fortified with folic acid - the synthetic, bioavailable form of folate.

Preliminary evidence indicates that the measure is having an effect with a reported 15 to 50 per cent reduction in NTD incidence. A total of 51 countries now have some degree of mandatory fortification of flour with folic acid. The US Centers for Disease Control and Prevention (CDC) recently listed the prevention of neural tube defects through flour fortification amongst its list of 10 great health achievements in the US for the last decade.

The location of the new study – Norway – does not have such fortification measures. Folic acid supplements are recommended for mothers-to-be in the Scandinavian country.

Scientific infancy

Commenting on the study's findings, Harry Rice, PhD, VP of regulatory and scientific affairs for the United Natural Products Alliance (UNPA) told NutraIngredients-USA that, while the results from this study provide further support for folic acid supplementation, the reality is that folic acid, as it relates to neurodevelopment, is an area of research in its infancy.

"To approach a cause and effect relationship will require further research. I applaud the authors for recognizing this and not embellishing the importance of the results," said Dr Rice.

Cara Welch, PhD, VP of scientific & regulatory affairs for the Natural Products Association (NPA) added that the study offers yet another benefit of folic acid supplementation during pregnancy.

"While the authors explain the study's limitations, they also provide the first study looking specifically at folic acid use during prenatal development and delayed language skills and do so with a solid set of conditions, I would be interested in the follow up studies mentioned at the 5-year mark as well as other studies looking at this correlation,"

she said.

Study details

The Norway-based scientists analyzed data from 19,956 boys and 18,998 girls born before 2008. General supplement use and specific folic acid supplement use from 4 weeks before to 8 weeks after conception was assessed.

Results showed severe language delay in 0.9% of children whose mothers took no dietary supplements around the time of conception. A similar results was observed for children of mothers who used supplements that did not contain folic acid.

However, only 0.4% of children whose mothers took folic acid supplements around the time of conception showed severe language delay.

The same reduced incidence was observed for children of mothers who consumed folic acid in combination with other supplements.

"We found no association, however, between maternal use of folic acid supplements and significant delay in gross motor skills at age 3 years," wrote Roth and her co-workers.

"The specificity provides some reassurance that there is not confounding by an unmeasured factor. Such a factor might be expected to relate to both language and motor delay."

Concern?

Despite numerous studies supporting the benefits of folate and folic acid for infant and adult health, some concerns over folic acid supplements remain. The Norwegian researchers note that studies "have suggested, but not proven, that folic acid supplements may be linked to asthma and atopy in children".

"The results from this observational study, on the other hand, are strongly suggestive of beneficial effects on child health, but we caution that this study alone is not a sufficient basis for causal inference or policy recommendations."

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"Folic Acid Supplements in Pregnancy and Severe Language Delay in Children"

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