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Inadequate Vitamin B₁₂ increases risk of birth defects

Mothers who gave birth to children with a neural tube defect (NTD) had significantly lower vitamin B₁₂ status according to findings published in *Pediatrics* this month. The study, involving three groups of women, found that low (inadequate or deficient) B₁₂ status is an independent maternal risk factor for having a NTD-affected pregnancy.

Blood vitamin B₁₂ concentrations of less than 250 ng/L during pregnancy were associated with the highest risks. Vitamin B₁₂ levels of < 200 ng/L put women at 3 times greater risk than levels of > 400 ng/L. The authors of the study suggest that women should have vitamin B₁₂ levels above 300 ng/L before becoming pregnant.

Vitamin B₁₂ is metabolically related to the B vitamin folate, which has proven to play an important role in preventing NTDs. It is estimated that folic acid fortification has reduced the prevalence of NTDs by as much as 50 to 70%. This study adds to the growing evidence that adequate maternal B₁₂ status may also be important for further lowering the risk of NTDs.

For your practice:

The British Columbia Nutrition Survey (2004) and the Ontario Food Survey (2003) estimated that more than 30% of women ages 19 to 30 and more than 20% of women ages 31 to 50 have inadequate vitamin B₁₂ intakes (below the Estimated Average Requirements). Inadequate intakes or deficiency may result from low intakes of foods naturally rich in vitamin B₁₂, such as meat, seafood, milk products and eggs. Women of childbearing age should be encouraged to maintain adequate vitamin B₁₂ status to support healthy pregnancy outcomes.

Want to learn more?

Read the study abstract, [Maternal Vitamin B₁₂ status and Risk of Neural Tube Defects in a Population with High Neural Tube Defect Prevalence and No Folic Acid Fortification](#), by Molloy AM et al. *Pediatrics*, 2009; 123:917-923.

See, our [Nutrition Perspective](#) newsletter for health professionals: *Vitamin B₁₂*

and the Health of Canadians (September 2006), which includes a 2-page client fact sheet.

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