



# Infant Nutrition Council

Industry supporting both Breastfeeding & Infant Formula

This article was written by Professor John Birkbeck, MB, ChB (Edin), F.R.C.P.C., paediatrician and Adjunct Professor of Human Nutrition, Institute of Food, Nutrition and Human Health, Massey University, Albany Campus, Auckland NZ and does not necessarily reflect the views of the Infant Nutrition Council

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## Is folate the only vitamin related to neural tube defects?

The widespread use of folic acid supplements during pregnancy has resulted in a reduction of 50 to 70% in the proportion of infants born with neural tube defects, but it is not certain that greater levels of supplementation will improve the figures further. Of course some women will fail to take the supplements, or take them inconsistently. But a study in Ireland, which traditionally had a high incidence of these conditions, assessed the benefit of supplementation with vitamin B12, which is metabolically closely related to folate. Some earlier studies had suggested that mothers of infants with neural tube defects had low B12 levels.

The study contrasted the findings in a group of women who had a pregnancy known to include an affected infant; a group where the mother had had a previously affected infant but the current pregnancy was unaffected; and a control healthy group.

Mothers of children affected by the condition had B12 levels significantly lower than the rest of the subjects. Those with the lowest B12 levels had a 2-3 fold increased likelihood of having an affected pregnancy.

The study recommends that women with low B12 levels [under 300ng/L] should have supplements before becoming pregnant to minimise their risk, as is already recommended for folate. Whether a higher level would have an additional benefit is unknown.

One wonders whether the addition of folate to baking flour, now being introduced in Australasia, should also include some B12 as well. This vitamin would be cheap to add because the amounts needed are so tiny [micrograms per day], and it would remove the objection which was voiced that adding folate to baked goods might raise the risk of health problems in people with low body levels of vitamin B12.

Anne M. Molloy, Peadar N. Kirke, James F. Troendle, Helen Burke, Marie Sutton, Lawrence C. Brody, John M. Scott, and James L. Mills: Maternal Vitamin B12 Status and Risk of Neural Tube Defects in a Population With High Neural Tube Defect Prevalence and No Folic Acid Fortification. *Pediatrics* 2009; 123 (3): 917-923 .

PO Box 7190  
Yarralumla ACT 2600  
Australia

**Phone** +61 2 6282 4748 (Australia)  
+64 9 354 3272 (New Zealand)  
**Fax** +61 2 6161 4782  
**Email** [info@infantnutritioncouncil.com](mailto:info@infantnutritioncouncil.com)