

Letter to the Editor

Folic Acid Fortification and Supplementation

To the Editor:

I read with great interest the statement of the American College of Medical Genetics [Crandall et al., 1998] on folic acid fortification and supplementation. I agree fully with the increase of folic acid fortification to 0.28 mg/100 g of grain (mcg is a typing error in the first point of the statement), because the daily intake of folate is about 0.2 mg but only 60% of folate can be absorbed. The optimal daily intake of folate–folic acid is 0.66 mg in the periconceptual period [McPartlin et al., 1993]. There is only one double-blind randomized controlled trial to check the effect of a folic acid–containing multivitamin for the prevention of first occurrence of neural tube defects and it provided evidence for the efficacy of 0.8 mg of folic acid daily [Czeizel and Dudás, 1994]. Thus, an additional 0.4 mg of folic acid in a multivitamin preparation is recommended daily in the periconceptual period of women.

However, I do not agree with the statement to recommend 4.0 mg of folic acid daily starting at least 1 month prior to conception for the reduction of neural-tube defect recurrences because the efficacy of 0.36 mg of folic acid in a multivitamin preparation was documented by the intervention study of Smithells et al. [1989] and there is a potential concern of masking timely detection of B12 deficiency if the daily intake of folic acid exceeds 1.0 mg.

I agree with the Statement: "Adults should be advised of the benefits of folic acid supplementation to reduce the risk of cardiovascular disease." However, several recent studies have shown that vitamin B12 and B6 also have an independent role in the reduction of hyperhomocysteinemia-related vascular diseases

[e.g., Rimm et al., 1998]. In Hungary the national basic food is bread, the average daily intake is 200 g, and thus bread is fortified with folic acid (the daily intake is 0.2 mg), vitamin B12 and B6 to reduce the occurrence of congenital abnormalities (particularly neural tube defects) and vascular diseases. An extra advantage of vitamin B12 supplementation is that it can neutralize the possible adverse effect of pharmacological dose (>1 mg) of folic acid in people with pernicious anemia [Herbert and Bigaoutte, 1997].

REFERENCES

- Crandall BF, Corson VL, Evans MI, Goldberg JD, Knight G, Salatsky IS. 1998. American College of Medical Genetics statement on folic acid: fortification and supplementation. *Am J Med Genet* 78:381.
- Czeizel AE, Dudás I. 1994. Prevention of first occurrence of neural-tube defects by periconceptual vitamin supplementation. *N Engl J Med* 327:1832–1835.
- Herbert V, Bigaoutte J. 1997. Call for endorsement of petition to the Food and Drug Administration to always add vitamin B12 to any folate fortification or supplement. *Am J Clin Nutr* 65:572–573.
- McPartlin J, Halligan A, Scott JM, Darling M, Weir DG. 1993. Accelerated folate break-down in pregnancy. *Lancet* 341:148–149.
- Rimm EB, Willett WC, Hu FB, Sampson L, Colditz GA, Manson JE, Hennekens C, Stampfer MJ. 1998. Folate and vitamin B6 from diet and supplements to risk of coronary heart diseases among women. *JAMA* 279:392–393.
- Smithells RW, Sheppard S, Wild J. 1989. Prevention of neural-tube defect recurrences in Yorkshire: final report. *Lancet* 2:498–499.

Andrew E. Czeizel*

Family Planning Centre
National Centre for Public Health
WHO Collaborating Centre for the Community
Control of Hereditary Diseases
Budapest, Hungary

*Correspondence to: Andrew E. Czeizel, M.D., Family Planning Centre, National Centre for Public Health, WHO Collaborating Center for the Community Control of Hereditary Diseases, Bolgárkerek v. 3, Budapest, H-1148 Hungary.

Received 1 September 1998; Accepted 10 September 1998