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Folic Acid and the Prevention of Neural-Tube Defects

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Outline

- [REFERENCES](#)
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To the Editor: Wald's call for increased folate fortification concerns us for a number of reasons. By assuming that plasma folate levels plateaued after three weeks of folate supplementation, Wald's model underestimates the effect of fortification on plasma folate levels. Rather than leading to a 20 percent decrease in neural-tube defects, as Wald suggests, fortification should have decreased neural-tube defects by 45 percent. The disparity between Wald's model and the observed effects of folate supplementation may be explained in part by the fact that women who take supplements (approximately 30 percent of women), eat fortified breakfast cereals, or both would be expected to benefit less from fortification. Concurrently, Wald's model assumes that the population enrolled in the Medical

Research Council (MRC) Vitamin Study and the U.S. population are comparable (e.g., genetically and nutritionally).

In addition, folate alone may not optimally prevent neural-tube defects. Cosupplementation with other vitamins (i.e., cobalamin and vitamin B₆)) may prove more beneficial than further increasing folate intake. For example, plasma homocysteine concentrations in women with 5,10-methylenetetrahydrofolate polymorphisms - those who are most vulnerable to pregnancies involving neural-tube defects - appear to be more dependent on cobalamin than homocysteine concentrations in women with the wild-type gene. [\[1\]](#)

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REFERENCES

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