

Editorial

A Resolution on Folic Acid Fortification

Preamble to the Teratology Society Resolution on Folic Acid Fortification

The North American Teratology Society is committed to the prevention of birth defects and disorders of developmental origin globally. The United States, like several other countries, requires mandatory fortification of enriched cereal grains with folic acid. Since fortification was required in 1998, the United States has seen a 26% decrease in neural tube defects, including spina bifida and anencephaly (Centers for Disease Control and Prevention, 2004). In Canada, the reductions by province varied – 85% in Newfoundland and 40% in Ontario. In general, the percent reduction will be a function of how high the rate of spina bifida and anencephaly are before fortification (De Wals et al., 2007). If all countries would require fortification of folic acid, we believe it would substantially decrease the global incidence of these severe to life-threatening birth defects. While each country will have to determine the best strategy for implementing such a plan considering cultural preferences, cost/benefit, and quality of life concerns, the Teratology Society has developed the following resolution to support mandatory fortification efforts and hope that it can be used by fortification advocates worldwide to reduce the number of folic acid-preventable birth defects.

Resolution: Global Total Prevention of Folic Acid-Preventable Spina Bifida and Folic Acid-Preventable Anencephaly by 2024

Whereas, the mission of the Teratology Society is to prevent birth defects and disorders of developmental origin,

Whereas, there is unequivocal evidence that folic acid prevents a large proportion of spina bifida and anencephaly (MRC Vitamin Study Research Group, 1991),

Whereas, there are epidemics of spina bifida and anencephaly in many countries, with prevalence that exceed the expected prevalence of nonfolic acid preventable spina bifida and anencephaly of approximately 5 per 10,000 births (Berry, 1998; Berry et al., 1999; Yuskiv et al., 2004; Kondo et al., 2013),

Whereas, governments in approximately 70 countries require mandatory folic acid fortification, resulting in approximately 60,000 fewer pregnancies affected with folic acid preventable-spina bifida and folic acid-preventable anencephaly each year (Youngblood et al., 2013),

Whereas, mandatory folic acid fortification has led to marked reductions in folate deficiency and folate deficiency anemia in the U.S. population (Odewole et al., 2013),

Whereas, while there is no evidence demonstrating that folic acid fortification causes adverse health effects at a daily dose of 1000 micrograms (the current Tolerable Upper Intake Level (UL) set by the U.S. Food and Nutrition Board for synthetic forms of folate (i.e., folic acid) available in dietary supplements and fortified foods (Institute of Medicine, 1998)), it is important to respond to any new, substantiated research suggesting that levels of folic acid higher than 1000 micrograms a day pose a potential risk,

Whereas, folic acid fortification is highly cost-effective, saving approximately \$5 billion dollars in direct costs in the United States alone in a 10-year span (1996–2006) (Centers for Disease Control and Prevention, 2011),

Whereas, approximately 180,000 spina bifida and anencephaly pregnancies occur in 120 countries each year that may be preventable through mandatory folic acid fortification (Odewole et al., 2013),

The Teratology Society Recommends

All governments institute mandatory folic acid fortification of a centrally produced food (such as, but not limited to, wheat flour, corn flour or meal, rice, and maize flour or meal) to provide almost all adults with at least an additional 150 micrograms of folic acid per day,

That a global strategic plan for the total prevention of folic acid-preventable spina bifida and folic acid-preventable anencephaly by 2024 be written by 2015.

That members of the Teratology Society champion mandatory folic acid fortification in their home countries.

The content of this document has been reviewed and fully approved by the Council and the Public Affairs Committee of Teratology Society.

Submitted on behalf of the Teratology Society, Public Affairs Committee Mary Alice Smith,¹ Christopher Lau²

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