Response to the letter of editor entitled: Supplementation with folic acid and orofacial clefts by Dr. Marcos Roberto Tovani-Palone

Respuesta carta al editor titulada: Suplementación con acid fólico y fisuras orofaciales

We completely agree with Dr. Tovani-Palona that an “adequate” supply of folates (contained in foods plus supplementation with folic acid) is essential to prevent NTD and other malformations like orofacial clefts. We think that the concept “adequate” should have considerations in terms of the period of use and in terms of concentrations that have to be optimal. It is important to follow the current advice for pregnant women on folic acid supplementation between 4 weeks before until 12 weeks pregnancy. Additional periods of supplementation before and during pregnancy can induce epigenetic modifications in offspring genes related to metabolism with yet unknown impact on (later) health1,2.

The topic related to the optimal folic acid concentrations that are needed to prevent fetal malformations and avoid long-term pathologies in the offspring is more complex. The source of our concern is that in Chile the fortification of wheat flour with folic acid (FA) is much higher than that recommended by the United States (2.4 mg/kg of flour)3. In addition, Chile has a high consumption of bread by the whole population4,5 and pregnant women are also supplemented with 1mg of daily FA. Both strategies are probably surpassing the upper limit established for the synthetic form of folates, defined by its ability to mask the vitamin B12 deficiency, which in women of childbearing age is around 10%. Because an elevated folates/vit B12 ratio has been associated with several health impairments6,7, a balanced ratio is very important to achieve, not only by supplementation but also by supplying an adequate amount vitamin B12 needed to maintain the correct functioning of the one carbon metabolism.

Our goal was to emphasize the importance of the interaction between these two vitamins and their effects on the body, mainly on fetal programming, but without ignoring the importance of fortification programs in reducing the prevalence of malformations like NTD and orofacial clefts.

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References

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