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Impact of zinc fortification on zinc nutrition.

Hess SY¹, Brown KH.

Author information

Abstract

Food fortification is increasingly recognized as an effective approach to improve a population's micronutrient status. The present report provides a critical review of the scientific evidence currently available on the impact of zinc fortification on zinc nutrition. The available studies clearly show that zinc fortification can increase dietary zinc intake and total daily zinc absorption. Most absorption studies also indicate that adding zinc to food does not adversely affect the absorption of other minerals, such as iron. Despite the positive effect of zinc fortification on total zinc absorption, only a few studies have found positive impacts of zinc fortification on serum zinc concentrations or functional indicators of zinc status. The reasons for these inconsistent results are uncertain but may relate to the choice of food vehicles, the age group and zinc status of the study populations, or particular aspects of the study design. Thus, additional research is needed to determine the impact of zinc fortification, with or without other micronutrients, in populations at risk for zinc deficiency. Because of the benefits of increasing intake in populations at high risk for zinc deficiency, the documented increase in total zinc absorption that occurs following zinc fortification, the absence of any adverse effects, and the relatively low cost of adding zinc, public health planners should consider including zinc in mass and targeted fortification programs in such populations. Because of the limited available information on program impact, it will be important to evaluate the outcomes of such programs.

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