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Food-to-Food Fortification: What is it Exactly and is There Potential to Alleviate Hidden Hunger?

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Abstract

Food-to-food fortification (FtFF) is an emerging food-based strategy that can complement current strategies in the ongoing fight against micronutrient deficiencies, but it has not been defined or characterized. We propose a working definition of FtFF. Comparison with other main food-based strategies clearly differentiates FtFF as an emerging strategy with the potential to address multiple micronutrient deficiencies simultaneously, with little dietary change required by consumers. A review of literature revealed that despite the limited number of studies (in vitro and in vivo), the diversity of food-based fortificants investigated and some contradictory data, there are promising fortificants which have the potential to improve the amount of bioavailable iron, zinc and provitamin A from starchy staple foods. These fortificants are typically fruits and vegetables, with high mineral as well as organic acid and β-carotene contents. However, as the observed improvements in micronutrient bioavailability and status are relatively small, measuring the positive outcomes are more likely to be impactful only if the FtFF products are consumed as regular staples.

Biography: Dr Johanita Kruger

Johanita Kruger is a researcher in the institute of Nutritional Sciences at the University of Hohenheim. She received her BSc and PhD in Nutritional Sciences from the University of Pretoria, South Africa where she developed a passion for fighting hidden hunger in the developing world, through optimisation of traditional Africa diets. She has two research focusses; firstly, to enhance food processing and food combinations to ensure optimal micronutrient content and bioavailability, and secondly, investigating the absorption mechanisms of both physiological mixed micelles and micelles formulated to improve micronutrient bioavailability (e.g., polysorbate 80 micelles).