

## How to Combat Micronutrients Deficiency

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Food fortification is a medium- to long-term solution to alleviate particular nutrient deficiencies in a population. It involves the addition of measured amounts of a nutrient-rich 'premix,' which contains the required vitamins and minerals, to normally eaten foods during processing. According to Codex Alimentarius (a collection of internationally accepted food standards, codes of practice, and guidelines) [1], fortification or enrichment means the addition of at least one fundamental nutrients to a food, whether it is normally contained in the food, for the purpose of preventing or correcting a demonstrated deficiency of one or more nutrients in the population or particular population groups.

FAO/WHO has defined food fortification as the addition of at least one basic supplements to a particular food, regardless of the possibility that it is present in that food, in order to counteract or correct an exhibited inadequacy of at least one supplements in a population [2]. The commonly fortified foods include staple products for example, rice, flour, sugar, milk, and milk products, fats and oils, salt, and cereals.

The process of fortification ought to likewise guarantee that the amount of fundamental supplement added is adequate to amend or prevent the targeted deficiency, particularly when the food is expended in normal amounts by the population at risk [3]. It should guarantee that the food selected as the vehicle be steady and uniform that lower and upper limits of intake ought to be known.

Small amounts of micronutrients such as minerals and vitamins are needed for proper growth and development of human body. These micronutrients have diverse functionalities and potentials in the body's metabolism and homeostasis, however, deficiency of these bio-active components can bring about an abundant incidence of common disorders and infection manifestations. For a good and balanced nutrition, distinctive plant (vegetables and fruits) and animal sources can be expended to get various important minerals. In spite of the fact that the required amounts of minerals in the body are not an indication of their significance, less amount of trace minerals for the body is required compared with major ones. Accordingly, a balanced diet can regularly support all essential minerals for the body [4].

Deficiencies of micronutrients are a major global health problem. It is an absence of basic vitamins and minerals required in little quantities by the body for appropriate growth and development. More than 2 billion people in the world today are estimated to be deficient in key vitamins and minerals, particularly vitamin A, iodine, iron and zinc. Most of these people live in low income countries and are typically deficient in more than one micronutrient. Deficiencies occur when people do not have access to micronutrient-rich foods such as fruit, vegetables, animal products and fortified foods, usually because they are too expensive to buy or are locally unavailable. Micronutrient deficiencies increase the general risk of infectious illness and of dying from diarrhoea, measles, malaria and pneumonia. These conditions are among the 10 leading causes of disease in the world today [5]. The solutions include ingestion of oral supplements (tablets, capsules, and syrups), public health measures, food fortification, and other food-based methodologies. Such supplements could be a critical instrument in fighting supplement insufficiencies.

Micronutrients include, but are not limited to Vitamins A, B, C and D, Calcium, Folate, Iodine, Iron and Zinc. However, common micronutrient deficiencies include: Iron, Iodine, Vitamin D, Selenium, Vitamin A, Vitamin B12, Folate and Zinc. Micronutrient inadequacies can

be successfully prevented and even wiped out if populations expend sufficient amounts of the bioavailable forms of required vitamins and minerals on a ceaseless and continuous basis [6]. And is a method for giving diverse supplements utilizing staple foods as agents, with the aim of supplementing the diet through the admission of these supplements. Such supplements could be a critical instrument in fighting supplement insufficiencies. Cereals are one of the eligible vehicles for food fortification, where minerals or vitamins can be added directly by mixing or as covering. As fortification policies are reliant on government decisions, fortification is voluntary in some countries, while in others it is obligatory [7].

Micronutrients bioavailability can be enhanced through biofortification of agricultural crops and direct fortification of processed foods (cereals, dairy and bakery products) with different minerals [8]. The potential for further undertaking of fortification to prevent micronutrient deficiencies and future research ought to consider multinutrient preparations and clinical outcomes [9].

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