Food Fortification

DEFINITION

Food fortification refers to the practice of deliberately increasing the content of an essential micronutrient in a food irrespective of whether the nutrient were originally in the food before processing or not, so as to improve the nutritional quality of the food supply and to provide a public health benefit with minimal risk to health. (WHO)

- Such micronutrient include vitamins and minerals (including trace elements).
- Common fortified foods include:
  - Cereal and cereal based products
  - Milk and milk products
  - Fats and oils
  - Accessory food items
  - Tea and other beverages
  - Infant formulas

Common nutrients added include

- Iodised salt
- Folic acid
- Niacin (added to bread)
- Vitamin D (added to margarine, vegetable oil and diary products)
- Fluoride
- Calcium (added to beverages)

Rationale for food fortification

- To replace nutrient which are lost during manufacturing of the food items
- To act as a public health intervention
- To ensure the nutritional equivalence of subsequent foods
- To ensure the appropriate nutrient and mineral nutrient composition of food for special dietary purposes.

Methods of food fortification

- Biofortification:
- Synthetic biology
- Commercial and industrial
- Home fortification

Types of food fortification

- Mass fortification
- Targeted fortification
- Market driven fortification
- Others
  - Household and community fortification
  - Biofortification of staple food

Criteria for selecting a food vehicle fortificant

- The food are consumed by a large proportion of the population, including (or especially) the population groups at greatest risk of deficiency.
- The food is consumed on a regular basis, in adequate and relatively consistent amounts.
- They can be centrally processed
- The food must allow a nutrient premix to be added relatively easily using low-cost technology, and in such a way so as to ensure an even distribution within batches of the product.

Limitations

- Major limitation is malabsorption e.g skimmed milk