



Food Fortification

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Deficiency of Micronutrients

- This is a worldwide problem affecting all but worst affected are children
- 47 million children under 5 yrs are wasted
- 14.3 million are severely wasted
- 144 million are stunted
- 45% of deaths among children below 5yrs linked to under-nutrition
- About 462 million people are underweight
- Iodine, vitamin A and iron are the most important in global health as their deficiency presents major health threat particularly in children & pregnant women



Indian Scenario

- Between 2016-18 Comprehensive National Nutrition Survey (CNNS) conducted on nutritional status of Indian children & adolescents up to age 19.
- 112,316 were surveyed with over 51,000 blood, urine & fecal samples were collected to analyse micronutrient deficiencies
- Zinc deficiency among 19% pre-school children & 32% adolescents
- Folate 23% pre-schoolers & 37% adolescents
- Vitamin B12, A and D between 14% - 31% pre-schoolers to adolescents
- Poshan Abhiyan plans to reduce stunting by 2%, underweight by 2%, anemia by 3% and low birth weight by 2% per annum



Micronutrient Status in India – Other studies

- Several programmes launched to improve nutrition & health status but large population still deficient
- Anemia affects almost 50 to 60% pre-schoolers & women & Vitamin A deficiency & iodine-deficiency disorders have improved as per review study by ICMR scientists
- Recent NIN study in H'bad found that diet of 62% urban population was micronutrient inadequate
- Micronutrient deficiency among children in urban slums in Mumbai was found to be iron 61.4%, B12 17%, folate 19.9% acc to researchers from Kasturba Health Society & SNDT Univ in collaboration with Cornell Univ



Fortification

- In the US in 40's vitamins B & iron added to wheat flour what was lost during flour making
- In India, vanaspati was mandatorily added with vitamin A, salt was iodised
- Many countries are encouraging addition of vitamins and minerals to food products
- These micronutrients are commonly deficient in the diets of people and fortification greatly helps



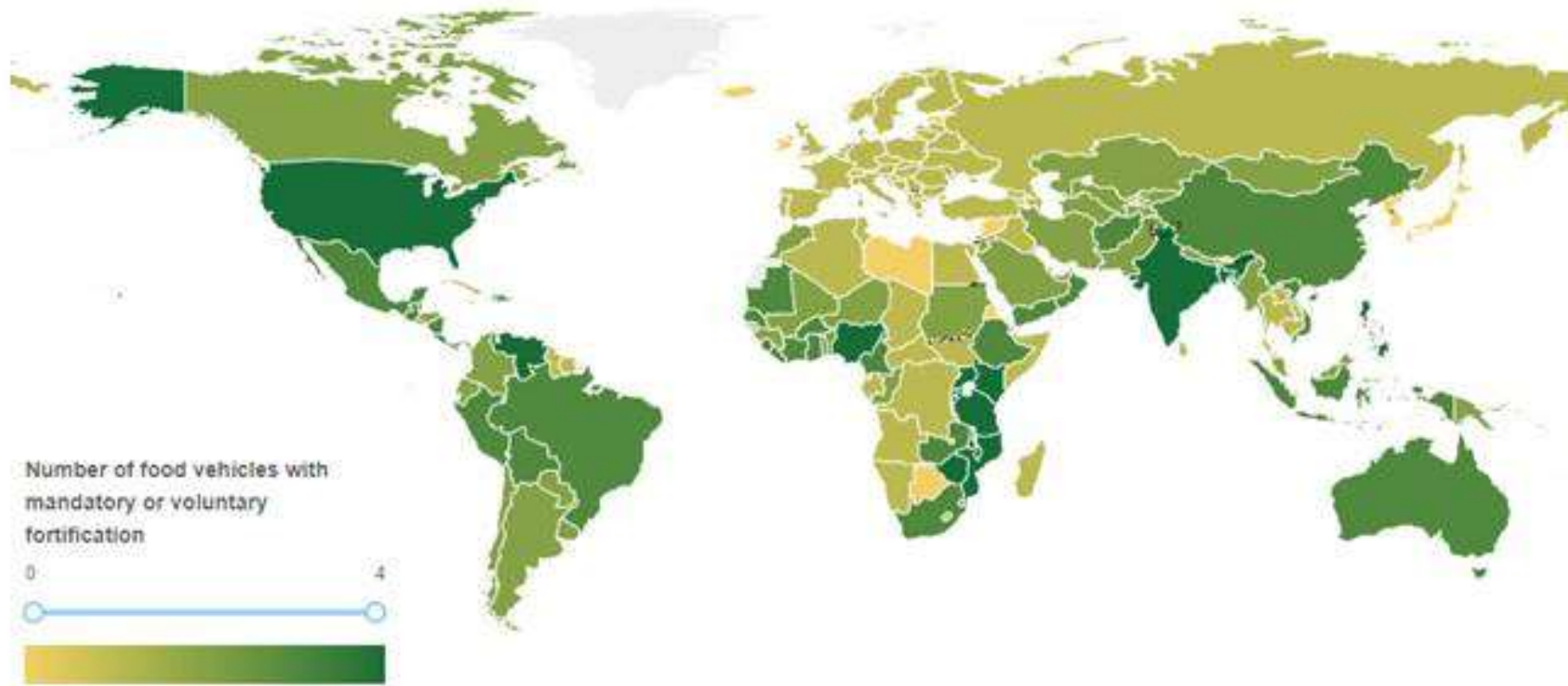
Nutrition Facts	
About 73 servings per container	
Serving size 1/4 cup (31g)	
Amount per serving	
Calories	110
% Daily Value*	
Total Fat 0g	0%
Sodium 0mg	0%
Total Carbohydrate 23g	9%
Protein 3g	
Iron 1mg	8%
Thiamin 0.2mg	15%
Riboflavin 0.1mg	8%
Niacin 2mg	15%
Folate 80mcg DFE (48mcg folic acid)	20%

Not a significant source of saturated fat, trans fat, cholesterol, dietary fiber, total sugars, added sugars, vitamin D, calcium and potassium.

* The % Daily Value tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



Fortification Globally



Why Food Fortification

- Commonly consumed by target population
- Have a constant consumption pattern with a low risk of excess consumption
- Have good stability during storage
- Relatively low in cost
- Centrally processed with minimal stratification of the fortificant
- Should have no interaction between fortificant & food
- Should be present in most meals with availability unrelated to socio-economic status
- Should be linked to energy intake.



FSSAI Efforts with Food Fortification

- New position of FSSAI allows industry to make their products more nutritious by fortification
- Many complain that refined ingredients lose the micronutrients
- FSSAI allows these lost micronutrients to be added back to them so foods made from them will be nutritious
- Oil refining loses fat soluble vitamins
- Flour made from wheat loses B vits and iron
- Purified salt loses minerals
- Lower fat milk loses vitamins
- White polished rice loses B vitamins and iron



The infographic features a central circular logo with a blue square containing a white plus sign and a blue letter 'F', with the word 'FORTIFIED' written below it. Five lines radiate from this central logo to five circular images of food products: a glass of milk (Fortified Milk), a bowl of wheat flour (Fortified Wheat Flour), a bowl of white rice (Fortified Rice), a glass of oil (Fortified Oil), and a pile of salt (Double Fortified Salt). Above the central logo, the text reads 'Looks the same, tastes the same but improves your health multifold!'. At the top of the infographic are three logos: 'FORTIFIED' on the left, 'POSHAN Abhiyaan' in the middle, and 'Food Fortification Resource Centre' on the right. At the bottom, it says 'To know more, visit our website: ffrc.fssai.gov.in/' and a green banner at the very bottom contains the hashtags '#EatRightEatFortified #PoshanMaah #POSHANAbhiyaan'.

Looks the same, tastes the same
but improves your health multifold!

Fortified Milk

Fortified Oil

Fortified Wheat Flour

Fortified Rice

Double Fortified Salt

To know more, visit our website:
ffrc.fssai.gov.in/

#EatRightEatFortified #PoshanMaah #POSHANAbhiyaan

What Foods to Fortify

- Milk
- Rice
- Wheat flour
- Salt
- Oil



Food Products for Fortification





THANK YOU