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# Nutri-candy

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# Presentation Outline

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# Product Background: India's country profile

Population: 1,168,714,600

Children-under-5 mortality rate: 79 per 1000

Vitamin A deficiency, in children 6 to 59 months old: 57%

Iodine deficiency: 33%

Prevalence of anemia, in children 6 to 59 months old: 69%

Prevalence of anemia, in women: 62%

# Product Description/use



- **Nutri-candy is a hard-boiled candy developed by the Micronutrient Initiative.**
- **The candy is fortified with multiple micronutrients, which are vitamin A and C, folic acid, and Iron.**

# Product Description/use

Target region: India

Target population: 2-6 yr old children, adolescent girls, pregnant and lactating women

Objectives:

- to improve micronutrient status in the target population
- to promote the attendance of beneficiaries at the supplementary feeding centres

# Product Formulation

prepare the ingredients (sucrose, citric acids, and fortificants)



mix together the ingredients



boil the mixture until the desired temperature has been reached (160° C)



cool



shape



pack

# Nutrient Bioavailability and its Interactions:

## Nutritional content of nutri-candy

Nutrients	Levels per 3 gram lozenge
Vitamin A	500 IU
Vitamin C	10 mg
Folic acid	50 mcg
Iron	7 mg

# Nutrient Bioavailability and its Interactions:

- Vitamin A: inadequate bioavailability
- Iron: affected by diets
  - phytates ↓ iron bioavailability by binding to iron to form insoluble complexes
  - phenolic compounds:
- Vitamin C: ↑ non-haem iron absorption from foods
- Folic acid: not readily available in cereal-based diets



# Package, storage, shelf life, and price/cost

- Storage: avoid contact with sunlight or heat.
- Packaging: high density poly-ethylene bags which can withstand higher temperatures
- Nutri-candy has a shelf life of at least 6 months
- Cost: 0.4 cents of USD/candy

# Hazard Analysis

Two important properties of hard-candies:

- Clarity or transparency for attraction
- A minimal tendency to absorb water from the air
  - Difficulty in separating candy & wrapper
  - Dental caries

# Home use:



Safety hazards:

- tooth decay or dental caries

Solution: children should only receive 1 candy/day and be educated with proper oral hygiene

- toxicity effects: highly unlikely

# Culture Appropriateness

- India: emphasize on home/family cooking using traditional and fresh ingredients.
- Fortification of centrally processed foods: may not be as effective
- No changes in diets or lifestyle.

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**Thank You**

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