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"STABILITY STUDY AND FORTIFICATION SAMBAR POWDER WITH FERROUS BIS GLYCINATE"

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ABSTRACT

Iron deficiency anemia (IDA) is major health concern in India. Strategies to target Iron deficiency anemia, including food fortification and supplementation, have been used with limited impact in low income, rural populations. Food insecurity, reduced dietary diversity, diets rich in Fe absorption inhibitors and low consumption of animal products and fortified foods contribute to the underlying causes of IDA. Fortification with iron is technically more difficult than fortification with other nutrients because iron is a prooxidant and therefore promotes lipid oxidation (El-Kholy and others 2011). Therefore, the ideal iron compound for food fortification should be one that supplies high bioavailability of iron and does not affect the nutritional value or sensory properties of the food, should be stable during food processing and of low cost (El-Kholy and others 2011).

It is therefore proposed that iron salts should be microencapsulated to reduce or prevent these negative effects. Microencapsulation is the technology of packaging solid, liquid and gaseous materials in small capsules that release their contents at controlled rates over prolonged period of time (Abbasi and Azari, 2011). The choice of iron compounds also depends on its solubility in gastric juice and on the presence of activators or inhibitors in the fortification food (Boccio and others 1997). Iron amino acid chelate is being increasingly considered in programs for iron fortification of foods.

Study Hypothesis

Considering the bioavailability of chelated Iron salt at the time of consumption the levels of fortification in the MTR Sambar Powder can be decided to ensure delivering 100% RDA for the target consumer population.

Objective

- Increases consumer acceptance by minimizing unpleasant tastes and odors associated with certain nutrients
- The fortification with ferrous BI glycinate compound in sambar powder will improve the iron content in sambar powder
- To prevent the anemia deficiency in General category people and improve the absorbance of iron in the target population
- The fortification in Sambar powder is experimented and it is analyzed at NABL accredited lab. Fortification is done on different proportions and finalized by sensory evaluation consisting of select panel of judges
- The study was done with ferrous BI glycinate compound which is scientifically approved by The Scientific Panel on Dietetic Products, Nutrition and Allergies

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Literature Review

Nutritional deficiencies are still problem in a modern and developing societies around the world. Malnutrition is a condition in which the body does not absorb enough nutrients for its adequate development (Tulchinsky, 2010). Nutritional deficiencies depend on the type of nutrients lacking in the diet.

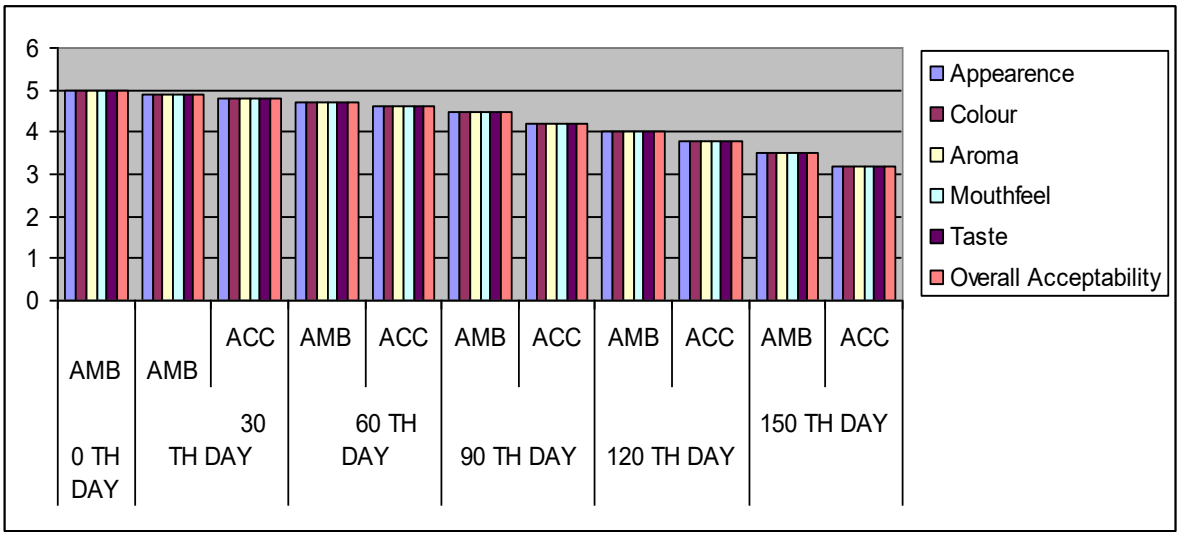
Macronutrient malnutrition occurs due to an imbalance of major macronutrients such as carbohydrates, fats and proteins alone or in combination. In early stages of malnutrition, muscle mass is protected due to expenditure of glycogen and visceral fat; however once these stores are depleted, muscle catabolism starts in order to meet metabolic needs. This chronic clinical stage is called marasmus (total energy deprivation), similar malnutrition stages, kwashiorkor, could observed due to protein deficient diets (Grover-Kopec et al., 2005; Jeejeebhoy, 2012; Water low, 1972).

RESULTS AND DISCUSSIONS

TRIAL SAMPLE SHELFELIFE SENSORY

`.ANALYSIS

`.ANALYSIS



4.1 (a) figure

AMB = AMBIENT , ACC = ACCELARATED

In this trial according to sensory panel members the trial sample was comparable to control in taste and other attributes.

Conclusion:

Sambar powder fortified with Ferrous is-Glycinate compound will be an effective vehicle to prevent and control of iron deficiency anemia. On the basis of the Ferrous BI glycinate compound on bioavailability, metabolism, toxicity, data on dietary supplementation and fortification with ferrous BI glycinate compound in sambar powder its didn't effect on the sambar powder. The success with sustaining food fortification depends on the cooperative dissemination of an innovation involving advertising by private industry, appropriate government action, counseling by private health care providers, and public health campaigns.

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