

## **CHAPTER 3**

### **SCOPE OF INVESTIGATION**

This study, entitled **“Morbidity Status and Gut Health of Normal and Undernourished School Going Children and its Alteration upon Feeding them with Fructooligosaccharide Incorporated Ice-Cream”** was investigated under the following stated scopes, as divided in four phases with a purview of re-establishing the ways and means of strategic preventional interventions implied for undernutrition in children of India.

#### **Phase I- Prospective Study: Cross-Sectional Study Design**

- ♣ Mapping the prevalence of various grades of undernutrition in primary school going children of urban Vadodara.
- ♣ Interviewing the parents/guardians of school going children for socio economic status, past breast feeding practices, immunization pattern, and morbidity profile for past one month.
- ♣ Assessing correlations between above mentioned parameters and nutritional status of the children.
- ♣ Determining the impact of social factors on nutritional status and morbidity profile.

### **Phase II- Observational Comparative Study: Case Control Design**

- ♣ Determining the difference between Nourished and Undernourished children based on mean log counts of gut *Bifidobacteria*; *Lactic acid bacteria* and *E. coli*; serum IgA levels, morbidity profile; anthropometric measurements and dietary intake.
- ♣ Determining if number and type of gut microflora, serum IgA levels, morbidity profile, and dietary intakes are associated with severity of under nutrition.

### **Phase III- Experimental Comparative Study: Randomized Clinical Placebo Trial**

- ♣ Supplementing the diets of undernourished children with FOS or Placebo incorporated Ice-cream.
- ♣ Studying the impact of FOS supplementation on mean log counts of *Bifidobacteria*; *Lactic acid bacteria* and *E. coli*; serum IgA levels, morbidity profile and anthropometric measurements.

### **Phase IV- Development of a Bilingual Booklet Based On Recipes Incorporated With Prebiotics viz. Inulin and FOS**

- ♣ To collect various recipes incorporated with FOS and Inulin, standardized in the department of Foods and Nutrition, The Maharaja Sayajirao University of Baroda, Vadodara.

## Scope of Investigation

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- ♣ Computation of above collected recipes for appropriate portion size with daily recommended value of prebiotic.
- ♣ Translation and documentation of the standard recipes in Hindi.
- ♣ Development and publication of bilingual recipe booklet.
- ♣ To advocate the FOS incorporated recipes in the diet counselling centres.