## List of Figures

Figure No.	Title	Page No.
2.1	Global stunting prevalence – percentage of children under age 5 who are moderately or severely stunted.	13
2.2	Undernutrition (children under five years of age) in India among DHS countries	14
2.3	Rank of countries based on their commitment to end undernutrition	16
2.4	Media coverage of Undernutrition (Malnutrition) in the recent past	17
2.5	State-wise Malnutrition Status	18
2.6	Immediate, underlying, and basic causes of malnutrition	30
2.7	Immune response in malnourished host during infectious	34
2.8	Various organs involved in Immune System	37
2.9	Concept Map of Immunity	38
2.10	Spatial and temporal aspects of intestinal microbiota composition	46
2.11	Commensal bacteria exert a miscellany of protective, structural and metabolic effects on the intestinal mucosa	49
2.12	Factors impacting gut microbiota	53
2.13	Effect of Various Diets on the Intestinal Microbiota	54
4.1	Study Plan: "Morbidity Status And Gut Health Of Normal And Undernourished	73
4.2	Location of the study area	74
4.3	Process of serial dilution as applied in the microbial analysis of gut flora of undernourished children	84
4.4	Experimental design for case-control trial	95
4.5	CONSORT for the intervention trial	96
4.6	Composition of Ice-cream (per cup) as reported by Amul co-operative	99
4.7	Segregation of contents of bilingual recipe booklet	101
5.1	Age and Gender wise distribution of children under study	114

5.2	Percent distribution of Nutritional Status of primary school children	115
5.3	Percent distribution of undernourished school going children	116
5.4	Nutritional Status based distribution of age of primary school going children	118
5.5	Gender wise scenario of Nutritional Status of school going children	119
5.6	Mean log counts of E.coli of children in different grades of undernutrition	139
5.7	Mean log counts of Lactic Acid Bacteria of children in different grades of undernutrition	139
5.8	Mean log counts of Bifidobacteria of children in different grades of undernutrition	139
5.9	Mean Serum IgA levels of Children having different Nutritional Status	144
5.10	Predictors for BMI in 1st Quartile of Serum IgA levels	150
5.11	Predictors for BMI in 2nd Quartile of Serum IgA levels	152
5.12	Predictor for BMI in 3rd Quartile of Serum IgA levels	154
5.13	Predictors for BMI in 4th Quartile of Serum IgA levels	156
5.14	Percent adequacy of the nutrient intake in school going children	158
5.15	Comparative analysis of percent contribution of Energy from the diet of Undernourished and Nourished school going children	159
5.16	Predictors for BMI (age and gender) in the best fit model of linear regression	175
5.17	Percent Difference after Intervention in mean log counts of E.coli	181
5.18	Percent Difference after Intervention in mean log counts of Bifidobacteria	181
5.19	Percent Difference after Intervention in mean log counts of Lactic acid bacteria	181
5.20	Percent Difference after intervention in morbidity profile of school going children	183