LIST OF FIGURES

Figure No.	Title	Page No.
2.1	Status of rise in obesity in top 10 countries of World from 1980-2013	14
2.2	Etiology of Obesity	22
2.3	Pathway via which intestinal microbiota can alter human metabolism producing obesity and insulin resistance	35
2.4	Pathophysiology of obesity	37
2.5	Co-morbidities with obesity	38
2.6	The pathophysiology of obesity leading to metabolic syndrome	39
2.7	Link of sympathovagal imbalance and altered biomarkers in the genesis of cardiovascular dysfunctions in obesity	40
2.8	Role of TBP-2 in promoting obesity-induced type 2 diabetes.	41
2.9	Proposed mechanisms involved in the pathogenesis of obesity-induced hypertension	42
2.10	Obesity treatment modalities	46
2.11	Diagram showing Gradient of intestinal microbiota along the gastrointestinal tract	53
2.12	Stages of microbial colonization of the infant and child intestine	54
2.13	Microbial diversity in human gut	56
2.14	Possible distribution of mechanisms among probiotics	60
2.15	Structure of inulin (left) and FOS (right)	63
2.16	High fat feeding diet changes the gut microflora, promote endotoxemia and obesity	71
2.17	Change in gut microflora by prebiotic (FOS) and decrease in LPS activity	71(i)

4.1.1	Flow chart indicating experimental design of Phase	82
4.2. 1	Flow chart indicating experimental design of Phase	89
4.2.2	Serial dilution technique along with Steps of Inoculation and Incubation	106
4.3.1	Flow chart indicating experimental design of Phase III	110
5.1.1 (a-e)	Mean values for organoleptic attributes of buttermilk added with varying levels of FOS	115
5.1.2 (a-e)	Mean values for organoleptic attributes of <i>lemon</i> juice added with varying levels of FOS	119
5.1.3 (a-e)	Mean values for organoleptic attributes of milk added with varying levels of FOS	123
5.1.4 (a-e)	Mean values for organoleptic attributes of tomato soup added with varying levels of FOS	127
5.1.5 (a-e)	Mean values for organoleptic attributes of <i>potato</i> curry added with varying levels of FOS	131
5.1.6 (a-e)	Mean values for organoleptic attributes of dal added with varying levels of FOS	135
5.1.7 (a-e)	Mean values for organoleptic attributes of <i>kadi</i> added with varying levels of FOS	139
5.1.8 (a-e)	Mean values for organoleptic attributes of <i>kheer</i> added with varying levels of FOS	143
5.1.9 (a-e)	Mean values for organoleptic attributes of khichdi added with varying levels of FOS	147
5.2.1(a)	Mean hunger scores of Normal weight and obese subjects at various meal timings	159
5.2.2(a,b)	Dietary intakes of macronutrients of Normal weight and obese subjects	160
5.2.3	Plasma LPS levels of normal weight and obese subjects	165
5.2.4	Plasma GLP-1 levels of normal weight and obese subjects	165
5.2.5	Mean log values (cfu/g) for microbial parameters in fecal samples of normal weight and obese subjects	166

5.3.1(a)	Weight (kg) of the obese subjects before and after FOS supplementation	205
5.3.1 (b)	Waist circumference (cm) of the obese subjects before and after FOS supplementation	205
5.3.1c)	WHR of the obese subjects before (and after FOS supplementation	206
5.3.2(a)	Hunger score before breakfast of the obese subjects before and after FOS supplementation	208
5.3.2(b)	Hunger score before lunch of the obese subjects before and after FOS supplementation	208
5.3.2(c)	Hunger score before evening snack of the obese subjects before and after FOS supplementation	209
5.3.2(d)	Hunger score before dinner of the obese subjects before and after FOS supplementation	209
5.3.2(e)	Total mean hunger score of the obese subjects before and after FOS supplementation	210
5.3.3(a)	Energy intake of the obese subjects before and after FOS supplementation	212
5.3.3(b)	Carbohydrate intake of the obese subjects before and after FOS supplementation	212
5.3.3(c)	Protein intake of the obese subjects before and after FOS supplementation	213
5.3.3(d)	Fat intake of the obese subjects before and after FOS supplementation	213
5.3.4(a)	Plasma LPS levels of the obese subjects before and after FOS supplementation	215
5.3.4 (b)	Plasma GLP-1 levels of the obese subjects before and after FOS supplementation	215
5.3.5(a)	Lactic acid bacteria count in fecal samples before and after FOS supplementation	216
5.3.5(b)	Bifidobacteria count in fecal samples before and after FOS supplementation	217
5.3.5(c)	Enteric pathogen count in fecal samples before and after FOS supplementation	217
5.3.6(a)	Percent subjects having constipation in obese group before and after FOS supplementation	222

5.3.6(b)	Percent subjects having diarrhea in obese group before and after FOS supplementation	222
5.3.6(c)	Percent subjects having flatulence in obese group before and after FOS supplementation	223