

Project Title: Tackling metabolic syndrome by developing functional food
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Metabolic syndrome is a collection of heart disease risk factors that increase chance of developing heart disease, stroke and diabetes. Plant foods contain biologically active ingredients which have helpful in tackling metabolic syndrome: soy play preventive and therapeutic roles in cardiovascular disease (CVD), flaxseed oil contains the most (57%) of the omega-3 fatty acid, α -linolenic acid and helpful in lowering LDL and blood glucose, oat and barley have beta glucan which is used to lower total and LDL cholesterol and blood glucose. The aim of the study was to use indigenous plant materials rich in functional ingredients to combat the metabolic syndrome. The extracted phytochemicals from indigenous resources possess antioxidant activity, hypocholesterolemic and hypoglycemic properties as tested in both animal model studies during Year-I and human subjects during Year-II. Furthermore these phytochemicals were found to be safe based on results of liver functioning enzymes and blood proteins during Year-I and Year-II. The phytochemicals did not affect the acceptability of products by the consumers as assessed through sensory evaluation and consumer acceptability. Based on results it is recommended that to have health benefits of these phytochemical (soy isoflavone, beta glucan and lignan) these may be added in foods of our daily diet in their purified form or their source (soy bean, barley, flaxseed and oat) to combat the problems of hypercholesterolemic and hyperglycemic which ultimately lead to metabolic syndrome in population.