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Foxtail millet therapeutic food in the management of diabetes and dyslipidamea

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Repeople worldwide have increased markedly over the last 50 years in parallel with obesity. According to WHO 346 million people worldwide have diabetes compared to 285 million people with the disease during 2010 and around 30 million in 1985. WHO projects that diabetes deaths will double between 2005 and 2030. Management of type 2 diabetes focuses on lifestyle interventions, lowering other cardiovascular risk factors, and maintaining blood glucose levels in the normal range. The dietary strategies aim at improving both diabetes control and cardiovascular risk factors is the use of low–glycemic index diets. We examined the effects of intake of foxtail millet therapeutic food on plasma levels of lipid, glucose of in 300 patients with type 2 diabetes mellitus for 90 days. Diet contained moderate amounts of fiber similar to as recommended by the American Diabetes Association (ADA). The diet is being prepared in a research laboratory of NAIP of UAS Dharwad This therapeutic diet was combination of whole grain of foxtail millet (*Setaria italica*), split black gram (*Vigna mungo*) and spice mix in specific ratio, thus had glycemic index of 49.64 per cent.

Daily intake of 80 gm of foxtail millet diabetic diet by diabetic patients lowered the HbA1c (19.14%), fasting glucose (13.5%), and homocysteine (0.85%) concentrations and increased the insulin (1-9%) in their blood. Reduction was also noticed in the plasma lipid parameters viz, total cholesterol concentrations by 13.25 percent, triglyceride concentrations by 13.51 percent, and very-low-density lipoprotein cholesterol concentrations by 4.5 percent in the patients with type 2 diabetes. Whereas increase was noticed in the concentration of high density lipoprotein cholesterol by 17.39 percent. Considerable level of positive change in glyco-lipemic parameters may be attributed to presence of fibre content in foxtail millet which is slowly digested and absorbed in the intestine. Further specific combination of five spices used in the diet mix exhibit hypoglycemic and hypocholestrolemic effects when consumed with the diet. Thus, it can be concluded that foxtail millet has a potential for a protective role in the management of diabetes and dyslipidamea.

Biography

Mallikarjun Kamatar is a Principal Scientist in UAS Dharwad Karnataka, India. He has vast research experience in crops like sorghum, millets, cotton, tobacco, pest and disease resistance breeding and nutrition. He is a Principal Investigator of the project on Enrichment and popularization of potential food grains for neutraceutical benefits. This abstract is outcome of this project.

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Determination of PCR-RFLP profiles of Indian fish species using agilent DNA fish id kit and agilent 2100 bioanalyzer

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Polymerase chain reaction-restriction fragment length polymorphism (PCR-RFLP) fragment size analysis was used to generate DNA profile of eleven Indian fish species using the Agilent 2000 Bioanalyzer. Using Agilent fish DNA extraction kit and PCR-RFLP kit, a 464 base pair fragment of cytochrome b target sequence, found in all vertebrate fish, was amplified from fish DNA, and digested with three restriction enzymes, DdeI, HaeIII and NlaIII. Fragments obtained were resolved on the Bioanalyzer using a DNA 1000 assay, for analysis of fragment sizes and comparison with authentic species profiles. Fragment size data of Indian fish species were added to the Agilent Reference database in RFLP Decoder software, and a new user-created database was generated.

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