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Effect of High-Protein high-fibre supplement on Glycaemic and lipid control in overweight and obese Indian adults with type 2 diabetes mellitus: A 24-week, randomized, controlled trial

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Foods rich in protein, dietary fiber and low in glycaemic index could potentially improve glycaemic control and help in management of type 2 diabetes (T2DM). Improvement in lipid profile is also seen because of diet rich in Mono Unsaturated Fatty Acid (MUFA), high fiber and high protein. In this study, the effect of high-protein high-fibre (HPPHF) nutritional supplement in addition to standard medical care for glycaemic control was evaluated. Overall, 100 overweight/obese participants with T2DM (aged 30-65 years) were randomized (1:1) to either intervention group [standard care of T2DM+25 g HPPHF nutritional supplement (twice daily), n=50] or a control group (standard care of T2DM, n=50). Change from baseline in 24-hour glycaemic response at weeks 12 and 24 were assessed. In intervention group; the mean (SE) daily incremental area under curve (IAUC) from baseline to week 24 was significantly lower 23.0 mg-15min/dL (57.2) compared to control group 168.0 mg-15min/dL (39.0), $p=0.008$. The intervention group showed significant reduction in glycosylated haemoglobin (HbA1c) -0.3% (SE-0.3), $p=0.03$ and fasting blood sugar (FBS) level -16 mg/dL (SE-12), $p=0.01$ at the end of week 24 compared to control group. Statistically significant improvement was observed in HDL levels (3.2 mg/dL versus 1.7 mg/dL) from baseline to Week 24 in the intervention group compared to control group ($p < 0.05$). Twice-daily consumption of HPPHF nutritional supplement (25g each) significantly improved glycaemic control, reduced the average 24-hour glycaemic response and postprandial glucose spikes. The supplement also was able to demonstrate positive impact on HDL cholesterol in diabetic subjects. Inclusion of HPPHF supplement would be a useful effective aid to glycaemic control and overall lipid parameters in overweight/obese participants with T2DM.

Clinical Trial Registration Number: CTRI/2018/04/012979

Keywords: high-protein, high-fibre, glycaemic control, lifestyle, dietary intervention, obesity, type 2 diabetes, nutritional supplement

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Biography:

Vinita Satyavrat is a medical doctor with her postgraduation in clinical pharmacology from India and nutritional medicine from UK. She is a highly passionate, agile and adapting, values driven individual clearly focused on driving futuristic thinking based on changing needs of consumer, patient and industry. She has held various positions in the pharma and nutraceutical industry over past 20 years in the field of nutrition, nutraceuticals and pharma space. She currently heads the R&D, Medical & Regulatory for Dr. Reddy's Laboratories for India and international markets. She is responsible for creating the complete pipeline of differentiated innovative products with global science and local needs alongwith technology innovation with the responsibility of creating the complete new product process aligned with individual country needs integrated with incountry models. Prior to her current assignment, she headed the global function of Clinical Development and Medical Affairs for GSK Consumer Health for the Nutrition Category. She has held several other senior leadership roles in Abbott Nutrition, Wockhardt & Unichem laboratories managing the research and medical functions. She has several national and international publications in the field of nutrition and pharma to her credit. She has worked in several spaces in nutrition including mother and child nutrition, metabolic disorders and hospital nutrition. She was also a key member who worked on Scheduled Essential Drugs List for the tertiary care centres & DOTS programme in tuberculosis in India as a part of the WHO collaborative programme for 3 years during her postgraduation.