Oat Bran Associated with Nutritional Counseling in Treating Obesity and Other Risk Factors for Cardiovascular Disease

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Abstract : Introduction: Obesity is among the main risk factors for cardiovascular disease (CVD). Genesis is multifactorial, including genetic, hormonal and environmental factors disorders, among which inadequate feeding pattern, for which nutritional counseling strategies have proven effective. The consumption of beta-glucans (soluble fibers that reportedly promote satiety) present in oat bran can be an effective strategy for preventing and treating obesity. Other benefits have been observed with oat bran consumption, such as reduction of hypercholesterolemia and hyperglycemia, two other risk factors for CVD. Objectives: To analyze the effect of oat bran consumption associated with nutritional counseling in reducing body mass index (BMI), blood cholesterol, glucose profile, waist and neck circumference in obese individuals, and to evaluate the change in eating pattern. Methods: clinical trial, randomized, double-blind, placebo-controlled, lasting 90 days with adults of both genders, with BMI ≥30kg/m2. The study was approved by the Ethics in Research involving human beings in a public institute of cardiology, in Rio de Janeiro, Brazil. Individuals were invited to participate and accepted formally by signing the Terms of Consent. Participants were randomized into oat bran group (gOB) or placebo group (gPCB) and received, respectively: morning prepared consisting of 40g oat bran, 30g of skimmed milk powder and 1g sweetener sucralose; refined flour 40g rice, 30g of milk powder and 1g sweetener sucralose. The Ten Steps to Healthy Eating, of Brazilian Ministry of Health were used to support the nutritional counseling. Variables analyzed: gender; age; BMI, waist circumference (WC) neck circumference (NC); systolic blood pressure (SBP); diastolic blood pressure (DBP); food consumption, total cholesterol (TC), LDL-cholesterol (LDL-c), HDL-cholesterol (HDL-c), non-HDL cholesterol (nHDLc), triglycerides (TG), fasting glucose (FG), fasting insulin (FI) and HOMA-IR. Dietary intake was assessed by 24-hour dietary recall. The Diet Quality Index revised for the Brazilian population (IQD-R) assessed quality of feeding pattern. Statistical analyzes were performed using SPSS version 21, considering statistically significant p-value less than 0.05. Results: A total of 38 participants were included, age = 50 ± 7,6years, 63% women. 19 subjects were placed in gOB and 19 in gPCB. After intervention, statistically significant reductions were observed in the following parameters: in gOB: IQD-R, TC, LDL-c, nHDL-c, FI, SBP, DBP, BMI, WC, NC; in gPCB: IQD-R, LDL-c, SBP, DBP, BMI, WC, NC. No statistically significant differences were observed in the results between groups. Conclusion: Our results reinforce nutritional counseling as important strategy for prevention and treatment of obesity and suggest that inclusion of oat bran in daily diet can bring additional benefits controlling risk factors for CVD. More studies are needed to establish all benefits of oat bran to human health as well as the ideal daily dose for consumption.

Keywords : oat bran, cardiovascular disease, nutritional counseling, obesity
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