

Effect of Mixture of Flaxseed and Pumpkin Seeds Powder on Hypercholesterolemia

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Abstract : Flax and pumpkin seeds are a rich source of unsaturated fatty acids, antioxidants and fiber, known to have anti-atherogenic properties. Hypercholesterolemia is a state characterized by the elevated level of cholesterol in the blood. This research was designed to study the effect of flax and pumpkin seeds powder mixture on hypercholesterolemia and body weight. Rat's species were selected as human representative. Thirty male albino rats were divided into three groups: a control group, a CD-chol group (control diet+cholesterol) fed with 1.5% cholesterol and FP-chol group (flaxseed and pumpkin seed powder+cholesterol) fed with 1.5% cholesterol. Flax and pumpkin seed powder mixed at proportion of (5/1) (omega-3 and omega-6). Blood samples were collected to examine lipid profile and body weight was also measured. Thus the data was subjected to analysis of variance. In CD-chol group, body weight, total cholesterol TC, triacylglycerides TG in plasma, plasma LDL-C, ratio significantly increased with a decrease in plasma HDL (good cholesterol). In FP-chol group lipid parameters and body weights were decreased significantly with an increase in HDL and decrease in LDL (bad cholesterol). The mean values of body weight, total cholesterol, triglycerides, low density lipoprotein and high density lipoproteins in FP-chol group were 240.66 ± 11.35 g, 59.60 ± 2.20 mg/dl, 50.20 ± 1.79 mg/dl, 36.20 ± 1.62 mg/dl, 36.40 ± 2.20 mg/dl, respectively. Flaxseed and pumpkin seeds powder mixture showed reduction in body weight, serum cholesterol, low density lipoprotein and triglycerides. While significant increase was shown in high density lipoproteins when given to hypercholesterolemic rats. Our results suggested that flax and pumpkin seed mixture has hypocholesterolemic effects which were probably mediated by polyunsaturated fatty acids (omega-3 and omega-6) present in seed mixture.

Keywords : hypercholesterolemia, omega 3 and omega 6 fatty acids, cardiovascular diseases

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