THE EFFECT OF BARU (DIPTERIX ALATA VOG.) NUT FLOUR ON HEPATIC AND FECAL LIPID PROFILE AND SUPEROXIDE DISMUTASE ACTIVITY IN HYPERCHOLESTEROLEMIC RATS.

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Introduction: Dyslipidemias consist of metabolic disorders that affect the levels of circulating lipoproteins and can lead to oxidative stress. Baru nut, having a high level of phenolic compounds, can attenuate the damage caused by hypercholesterolemia.

Objective: To evaluate the effect of hypercholesterolemic diet and its association with baru nut flour in animals weight gain, ingestion and excretion, hepatic and fecal lipid profile and SOD activity in the liver.

Materials and methods: Total polyphenols and antioxidant capacity of baru nut flour were determined. 40 female rats Fisher, fifty-day-old, were divided into 4 groups: Control (C) (AIN 93M diet); CB (AIN 93M with 2% baru nut flour); Hypercholesterolemic (H) (AIN 93M with 2% cholesterol and 25% soybean oil); HB (high-fat diet with 2% baru). During 12 weeks, animals received water and food ad libitum. Weight gain, food intake and excretion were followed weekly. Superoxide dismutase (SOD) activity was determined in liver in addition to hepatic and fecal lipid profile. One-way ANOVA followed by Dunn’s post-test was used for data that followed nonparametric distribution. Data that followed a normal distribution were analyzed by two-way ANOVA with Tukey’s post-test. Differences were significant at p<0.05.

Results and discussion: The flour presented a content of 200,88 mg GAE/100g and 25.6 μM TEAC/g. Weight gain and fecal excretion were higher on hypercholesterolemic groups when compared to the controls, instead of their lower food intake. The effect of baru nut was observed in fecal excretion, which the treated groups excreted more than the others. Higher levels of cholesterol and triacylglycerol were observed in hypercholesterolemic groups’ feces. High-fat diet increased the liver weight. In relation to SOD, CB group showed higher activity when compared to the hypercholesterolemic groups.

Conclusion: The flour was not able to change the hepatic and fecal lipid profile alterations mediated by the high-fat diet. Nevertheless, the increase of SOD activity could indicate its antioxidant potential.

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Key Words: Baru, hypercholesterolemia, antioxidant