Effects of defatted dried roselle (Hibiscus sabdariffa L.) seed powder on lipid profiles of hypercholesterolemia rats.

ABSTRACT

BACKGROUND: In vivo investigations were made of the effect of defatted dried roselle seed powder (DRS) on the lipid profiles of rats with induced hypercholesterolemia. The two-batch sample consisted of 23 and 20 Sprague-Dawley male rats randomly divided into four groups and fed with four different diets. The first batch of rats was fed with normal, hypercholesterol, hypercholesterol + 10 g kg-1 (w/w) DRS and hypercholesterol + 20 g kg-1 (w/w) DRS diets. The second batch of rats was fed with normal, hypercholesterol, hypercholesterol + 50 g kg-1 (w/w) DRS and hypercholesterol + 150 g kg-1 (w/w) DRS diets. Treatments were given for a total of 5 weeks. RESULTS: Results indicated that the addition of 10 g kg-1 and 20 g kg-1 of DRS did not significantly lower the plasma total cholesterol (TC) levels. In contrast, 50 g kg-1 and 150 g kg-1 DRS significantly lowered (P < 0.05) the TC and low density lipoprotein cholesterol (LDL-C) levels. CONCLUSION: The addition of 50 g kg-1 and 150 g kg-1 DRS showed potential hypocholesterolemic effects. Furthermore, these findings indicated that protein, lipid and dietary fibre were high in the seed powder.

Keyword: Hypocholesterolemic effects; Low density lipoprotein cholesterol; Roselle seeds; Total cholesterol.