

INVESTIGATING *IN VIVO* HYPOLIPIDEMIC, HYPOGLYCEMIC AND ANTIOXIDATIVE CAPACITY OF BANANA (*MUSA SPP.*) BLOSSOM INCORPORATED EXPERIMENTAL DIETS IN WISTAR RATS FED WITH CHOLESTEROL

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Despite the absence of data on dietary fiber content and composition of the banana blossom, it is generally valued as a fiber-rich source and consumed as a vegetable in many Asian countries. Banana blossom has been used in traditional medicine to treat bronchitis, constipation and ulcer problems. The objective of the current study was to investigate the hypolipidemic, hypoglycemic and antioxidative capacity of banana blossom incorporated experimental diets in Wistar rats. Fifteen rats were equally grouped into three as control diet (CD), high cholesterol diet with 5% cholesterol (5%CD) and experimental diet with 5% cholesterol and 21% banana blossom powder (5%CD+21%B). Experimental diets were formulated according to proximate composition of banana blossom (cultivar *Ambul*) and procedure of American Institute of Nutrition (AIN) 93G Semi-Purified Rodents Diet. Rats were fed with experimental diets for four weeks and body weight, feed intake and faecal weight were taken weekly. Blood samples of rats were obtained prior to the experimental exposure and at the end of the experiment for analysis of serum lipids, glucose and glutamate oxaloacetate transaminase using standard colorimetric method. Serum antioxidative capacity was measured according to ferric reducing ability of plasma method. On the fourth week, rats were sacrificed and liver, kidney and kidney fat were also removed and weights were recorded. The feed and fecal matters of rats were analyzed for fat content to determine the apparent digestibility of fat. Caecal content was obtained for microbial enumeration. Significantly lower ($P<0.05$) total cholesterol, non-HDL-cholesterol and glucose levels were observed in rats fed with 5%CD+21%B diet accompanied by higher fecal weight, higher *Lactobacilli* and bifidobacteria populations than those fed with 5% CD diet. Dietary fiber in banana blossom may have affected on the cholesterol metabolism in rats. There was no significant difference in the serum antioxidative activity among treatments. Serum glutamate oxaloacetate transaminase (GOT) activity was significantly ($P<0.05$) higher in the group that was fed with 5% CD than in the groups fed with 5%CD+21%B and CD. Lower serum GOT level in banana blossom fed rats showed the reduction in the oxidative stress induced by high cholesterol diet. Banana blossom incorporated diet favorably modulated the total cholesterol, non-HDL-cholesterol, glucose concentrations and Caecal microflora in Wistar rats.

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