Impact of Red Dragon Fruit Juice and Ambon Banana Supplementation on Triglyceride Levels in Dyslipidemic Male Wistar Rats (Rattus norvegicus)

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ABSTRACT

Dyslipidemia is characterized by alterations in the levels of lipid fractions in the blood. These disturbances lead to elevated triglyceride levels. One approach to reducing triglyceride levels involves the consumption of functional beverages enriched with antioxidants, such as flavonoids and vitamin C. Several drink ingredients rich in antioxidants and high in flavonoids include dragon fruit and ambon bananas. This study aimed to assess the impact of red dragon fruit juice and Ambon banana administration on triglyceride levels in male Wistar strain rats (Rattus norvegicus) induced with dyslipidemia. This research is classified as pure experimental research (true experimental). The research design employed was a pretest-posttest with a control group. The subjects consisted of 23 male Wistar strain rats, aged 2–3 months, with body weights ranging from 100 to 200 grams and normal triglyceride levels of 26-145 mg/dL. The rats were systematically assigned to three experimental groups: Group K- received a standard Comfeed AD II diet at a dosage of 15 grams per day, accompanied by access to drinking water. Group K+ was administered a high-fat diet in conjunction with the standard feed at 15 grams per head per day, supplemented with 1.08 ml of PTU per head per day, and provided with drinking water. Group P was subjected to a high-fat diet combined with standard feed at 15 grams per head per day, 1.08 ml of PTU per head per day, and additionally received 13.2 ml of red dragon fruit juice and banana ambon, along with drinking water, over a period of 14 days. The results indicated that there was no significant difference in triglyceride levels between groups prior to treatment (p = 0.194, p > 0.005). Similarly, no significant difference was observed in triglyceride levels between groups following the intervention (p = 0.096). Additionally, there were no significant differences in triglyceride levels before and after the intervention within the negative control group (K-) (p = 0.683), the positive control group (K+) (p=0.561), and the treatment group (P) (p=0.467). Furthermore, the change in triglyceride levels before and after the intervention did not show a significant difference (p = 0.260) (p > 0.005).

Keywords: Ambon Banana, Dyslipidemia, Fruit Juice, Red Dragon, Triglycerides.