

Effect of Combination of Apple Juice and Dragon Fruit on LDL Levels of Hypercholesterolemia Wistar Rats

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ABSTRACT

The combination of apple and dragon fruit juice contains flavonoids that have the potential to help reduce LDL cholesterol levels. This study aimed to determine the effect of administering a combination of apple and dragon fruit juice on LDL cholesterol levels in Wistar rats with hypercholesterolemia. This research employed a True Experimental design with a Pretest-Posttest with Control Group Design. A total of 20 Wistar rats were used and divided into three groups: the negative control group (K-), the positive control group (K+), and the treatment group (P). Hypercholesterolemia was induced by administering a mixture of beef fat, used cooking oil, quail egg yolk at 5 ml per 200 grams of body weight, and PTU 0.01% as much as 100 ml for 30 days. The treatment group received an intervention consisting of a combination of apple and dragon fruit juice at a dose of 1.05 ml per rat. The LDL cholesterol levels were measured using the CHOD-PAP method. The data were analyzed using Shapiro-Wilk, One Way ANOVA, Post Hoc, and Paired T-Test. The results showed a significant difference in LDL levels at the pretest ($p = 0.002$) and posttest ($p = 0.000$). In the positive control group (K+), there was no significant difference between LDL levels in the pretest and posttest ($p = 0.161$), while in the treatment group (P), a significant difference was observed between LDL levels before and after the intervention ($p = 0.001$). However, the difference in LDL level changes between the groups before and after the intervention was not statistically significant ($p = 0.303$). Based on these findings, it can be concluded that the administration of the combination of apple and dragon fruit juice did not have a significant effect on reducing LDL cholesterol levels in hypercholesterolemic Wistar rats.

Keywords: *Hypercholesterolemia, LDL Cholesterol, Combination of Apple and Dragon Fruit Juice*