The Effect of Tomato Extract Intervention with The Addition of Olive Oil on Tomato Blanching to Changes in Total Cholesterol Levels Dyslipidemia Rats

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ABSTRACT

Dyslipidemia is a disorder of lipid metabolism, namely increased levels of total cholesterol, Low Density Lipoprotein, triglycerides and decreased levels of High Density Lipoprotein. Non-pharmacological therapy given is tomato juice because it contains antioxidant lycopene which can inhibit HMG-CoA reductase enzyme activity. The purpose of this study was to analyze the effect of tomato extract intervention with adding olive oil on tomato blanching process to changes in total cholesterol levels in Wistar dyslipidemia strain of white rats. This type of research is an experimental research with Pretest-Posttest Design with Control Group. The samples used were 20 Wistar strain white rats, male sex, 2-3 months old, and 150-200 gram body weight. Samples were taken by random sampling and divided into four groups, (K-) standard diet, (K +) high-fat diet, (P1) high-fat diet + tomato extract 0.33 ml/200 gram BB rats, and (P3) high diet fat + tomato extract 0.33 ml/200 gram BB rats by adding 2 ml of olive oil when blanching tomatoes. Total cholesterol levels were analyzed using the CHOD-PAP method. Data were analyzed statistically using the One Way Anova test and Paired t-test. One Way Anova test results before treatment ($p = 0.080$) and after treatment ($p = 0.335$). Paired t-test results showed (K-) $p = 0.108$, (K +) $p = 0.068$, (P1) $p = 0.033$, and (P2) $p = 0.013$. One Way Anova results in the difference in total cholesterol levels ($p = 0.318$). Tomato extract intervention with the addition of olive oil to the tomato blanching process did not significantly affect the change in the total cholesterol level of the rats.

Keywords: Dyslipidemia, Tomato extract, and Total cholesterol level.