ABSTRACT

THE GIVING EFFECT OF RED ROSELLA CALYX EXTRACT TOWARDS NITRIC OXIDE (NO), SUPEROXIDE DIMUTASE (SOD), AND MALONDIALDEHYDE (MDA) ON WISTAR RATS GIVEN WASTE COOKING OIL

Waste cooking oil which has been repeatedly used contains bonds of saturated fatty acids and free radicals which are harmful to our health. One method that can be done to minimize the negative impacts from the use of waste cooking oil is by consuming the calyx extract of red roselle. To analyze the effect of giving the calyx extract of red roselle toward the condition of oxidative stress of wistar rats given waste cooking oil by testing the NO, SOD, and MDA in the serum. This study were an experimental-laboratory study, which consists of 24 rats as the sample of this study that are selected randomly and divided into 4 groups: negative control (normal), positive control, treatment groups with the dosage of calyx extract of red roselle as much as 540 mg/kg bw, and as much as 810 mg/kg bw. The data collected were then analyzed using One Way ANOVA and Tukey HSD (α = 0.05) statistical test. There were a significant difference (p = 0.000) at levels of NO, SOD and MDA in serum between the groups. The treatment group with extract dose as much as 810 mg/kg bw and 540 mg/kg bw are significant to positive control group (p=0.000) using all variables of measurement. The levels of NO and SOD show that treatment group of extract dose as much as 540 mg/kg bw were significant with the negative control group (p = 0.000), whereas levels of MDA show insignificant results between treatment groups with extract dose of 810 mg/kg bw (p = 0.988) and 540 mg/kg bw (p = 0.183) with negative control group. The calyx extract of red roselle with the dosage of 810 mg/kg bw and 540 mg/kg bw may decrease levels of NO and increase SOD in serum, as well as lower the level of MDA in serum in Wistar rats which were given waste cooking oil. The most effective dose of the treatment was treatment group with extract dose of 810 mg/kg bw.

Keywords: red roselle, antioxidant, NO, SOD, MDA, waste cooking oil