

ABSTRACT

THE INFLUENCE OF GIVING USED COOKING OIL WHICH PURIFIED BY NONI FRUIT (*Morinda citrifolia*) TO THE THICKNESS OF CORONARY ARTERY ON MALE *WISTAR* RAT

By

BILLY ADITYA PRATAMA

Consumption of used cooking oil will caused deposition of fat cells in various organs such as on coronary arteries. This process can be prevented by using noni fruit for purification on used cooking oil. Noni fruit contains antioxidants which can inhibit oxidation and neutralize free radicals. The aim for this research were to find out the effect of used cooking oil administration to the thickness of coronary artery and the effect of giving used cooking oil that already purified by noni fruit to the thickness of coronary artery on male *Wistar* rats.

In this study, 20 male *Wistar* rats were divided randomly into 4 groups and given intervention for 4 weeks. GA (control), GB (given 10mL/gr BB of used cooking oil with 3 hours of frying), GC (given 10mL/gr BB of used cooking oil with 6 hours of frying), GD (given 10mL/gr BB of used cooking oil with 6 hours of frying which already purified by noni fruit). At the end of the study, rats were anesthesias and performed cervical dislocation. After that, heart are taken for hematoxylin eosin staining.

The results showed significant differences ($p < 0,05$) on GA–GB, GA–GC, GB–GC, GB–GD and GC–GD. However, there are no significant differences between GD–GA. The mean thickness of GA: $32,26 \pm 12,24 \mu\text{m}$, GB: $46,50 \pm 10,86 \mu\text{m}$, GC: $60,55 \pm 15,07 \mu\text{m}$ and GD: $33,20 \pm 7,25 \mu\text{m}$. This suggests that giving used cooking oil will caused thickness of the coronary artery and giving used cooking oil that already purified by noni fruit can lowering the thickness of coronary artery.

Keywords : used cooking oil, *Morinda citrifolia*, thickness of the coronary artery, male *Wistar* rats