

**PENGARUH PEMBERIAN EKSTRAK DAUN  
ALFALFA (*Medicago sativa*) TERHADAP PROFIL  
LIPID DAN KADAR MALONDIALDEHYDE (MDA)  
TIKUS HIPERKOLESTEROLEMIK**

*THE EFFECT OF ALFALFA (*Medicago Sativa*) LEAF EXTRACT ON LIPID  
PROFILE AND MALONDIALDEHYDE (MDA) LEVEL IN  
HYPERCHOLESTEROLEMIC RATS*



**Tesis  
Untuk memenuhi sebagian persyaratan  
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**PENGARUH PEMBERIAN EKSTRAK DAUN ALFALFA (*Medicago Sativa*) TERHADAP PROFIL LIPID DAN MALONDIALDEHYDE (MDA) TIKUS HIPERKOLESTEROLEMIK**

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**ABSTRACT**

**Background :** Hypercholesterolemic as the indicator of cardiovascular disease is the main cause for morbidity and mortality in the world. The increased of oxidative stress on hypercholesterolemic triggers lipid peroxidation effect directly on the cell membrane damage and it also initiates various diseases. Experimental studies showed that Alfalfa leaf extract had an effective antioxidant activity.

**Objectives :** to determine the effect of Alfalfa leaf extract on serum lipids and malondialdehyde (MDA) level of hypercholesterolemic rats.

**Method :** Pre-posttest randomized control group used twenty eight male Sprague Dawley rats were randomly divided into four groups, hypercholesterolemic without treatment (K+), hypercholesterolemic with extract at dose 20 mg/200 g/d (X<sub>1</sub>), dose 40 mg/200 g/d (X<sub>2</sub>), dose 60 mg/200 g/d (X<sub>3</sub>). Serum lipid was measured by CHOD-PAP and GPO-PAPA method, level of MDA plasma was measured by TBARS method. Hypothesis test was analyzed by One Way Anova continued by Post hoc LSD test.

**Results :** Alfalfa extract significant decrease in serum total cholesterol (p<0.001) and the lowest in group X<sub>3</sub> (114.18 + 3.0 mg/dL). Alfalfa extract significant decrease in serum LDL cholesterol (p<0.001) and the lowest in group X<sub>3</sub> (45,26 + 6.03 mg/dL). Alfalfa extract significant decrease in serum triglycerides (p<0.001) and the lowest in group X<sub>3</sub> (77.33 + 2,69 mg/dL). Alfalfa extract significant increase in serum HDL cholesterol (p<0.001) and the highest in group X<sub>3</sub> (43,21 mg/dL+ 7,80). Alfalfa extract significant decrease in serum MDA (p<0.001) and the lowest in group X<sub>3</sub> (2.07 + 0.009 nmol/ml).

**Conclusion :** The treatment of Alfalfa leaf extract gives an effect of lower total cholesterol, LDL cholesterol, triglycerides, MDA and gives an effect higher HDL cholesterol.

**Keywords:** alfalfa, medicago sativa, lipid profile, total cholesterol, triglycerides, MDA, LDL-C, HDL-C, hypercholesterolemic