

**LIPID PROFILES CHANGES IN 12% HIGH CHOLESTEROL DIET INDUCED NONALCOHOLIC TEATOHEPATITIS ANIMAL MODEL FOLLOWING SUPPLEMENTATION OF TUALANG HONEY AND DIET MODIFICATIONS**

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**ABSTRACT**

Non-alcoholic steatohepatitis (NASH) is associated with hypercholesterolaemia and hypertriglyceridaemia. The main recommendation for NASH management is a diet prescription to reduce body weight. Tualang honey (TH) has been suggested to improve lipid profiles and hence, may help combat NASH. This study aimed to investigate the effects of TH supplementation coupled with diet modification on lipid profiles of rats given a 12% high cholesterol diet (HCD). Fifteen Sprague Dawley rats were fed with HCD for 16 weeks. They were then divided into 3 groups. Group A rats were not treated and continued HCD (control). Group B rats were supplemented with TH (3.0g/kg) and continued HCD, while group C was given TH (3.0g/kg) but was changed to a normal diet for 4 weeks. Compared to the control (A), group C showed a significantly reduced total cholesterol ( $2.92 \pm 0.78$  vs  $1.68 \pm 0.16$  mmol/L,  $p < 0.005$ ), and triglycerides ( $3.30 \pm 0.49$  vs  $0.98 \pm 0.36$  mmol/L,  $p < 0.001$ ). Whilst group B only showed a significant reduction in triglyceride ( $3.30 \pm 0.49$  vs  $2.04 \pm 0.80$  mmol/L,  $p < 0.003$ ) but no significant changes in total cholesterol. Diet modification in addition to TH supplementation may further enhance the lipid profile modifications of HCD rats as compared to TH alone.

**Keywords:** NASH, Tualang honey, triglycerides, high cholesterol diet

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