

## **Nutritional Effect of Consumption of Domestic and Commercially Available Coconut Milk Preparations in Wistar Rats**

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The use of both domestic coconut milk (CM) preparations and commercially available CM preparations in cooking has become popular. The present study involves evaluating *In vivo* effect of domestic CM prepared by blending (BCM), commercially available powdered CM (PCM) and liquid CM (LCM) on serum lipid profiles and serum antioxidant capacity using Wistar rats. Seven weeks old male Wistar rats were randomly assigned into treatment groups. Control group was fed with a semisynthetic diet recommended by WHO. Second, third and fourth groups were fed with semi synthetic diet which contains 12 mL BCM, PCM or LCM per kg of feed respectively. Blood was drawn on day before feeding experimental diets (Day 0), 30 days, 90 days, 120 days and 150 days after feeding experimental diets. Serum total cholesterol (TC), high density lipoprotein (HDL) and triglycerides (TG) were analyzed using a test kit. Low density lipoprotein (LDL) was determined using Friedewald equation. Antioxidant activity of serum was determined by ABTS assay and DPPH radical scavenging assay. TC levels of all groups were significantly ( $p < 0.05$ ) increased after 150 days of feeding compared to their day 0 levels. TC levels (mg/dL) of rats fed with BCM ( $80 \pm 4$ ), PCM ( $80 \pm 5$ ) and LCM ( $81 \pm 3$ ) were similar to control group ( $77 \pm 7$ ). However, rats fed with LCM showed a statistically significant ( $p < 0.05$ ) increase in TC compared to control group. Although, TG levels of CM diet groups indicated significant ( $p < 0.05$ ) increase on day 150 compared to their day 0 levels, these levels were similar to that of control group. Both HDL and LDL levels of CM diet groups remained same compared to control group at day 150. All CM diet groups showed a significantly ( $p < 0.05$ ) increased activity on day 150 compared to their day 0 levels. CM fat contains nearly 90 % saturated fat. However, majority of the saturated fat in CM fats composed of short and medium chain fatty acids, which are beneficial to health. As such, adding CM to diet did not affect average levels of serum TC, LDL and TG of Wistar rats suggesting that none of the CM preparations under investigation contribute to detrimental changes in lipid profiles. All CM preparations, on the other hand, appear to increase serum antioxidant activity which may contribute in retarding oxidative damage to biomolecules. Financial assistance from National Research Council (12-012) and University Research Grant (RP/03/02/06/05/2015) are acknowledged.

**Keywords:** Antioxidant activity, Coconut milk, Lipid profile, Serum, Wistar rats

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