

## **Improving the lipid profile in hypercholesterolemia-induced rabbit by supplementation of germinated brown rice.**

### **ABSTRACT**

It is imperative that there be a diet designed specifically to improve lipid profile in order to impede the progress of atherosclerosis. Because rice is a staple food in Asia, it will be chosen as the diet of interest. This study sets out to discover whether consumption of different processed rice diets may result in a change of the lipid profile. The experiment was done on male New Zealand white rabbits after 10 weeks of treatment with diet containing 0.5% cholesterol. The experimental diets include white rice (WR), brown rice (BR), and germinated brown rice (GBR). Among them, rabbits fed a GBR diet demonstrated significantly lower levels of total cholesterol (TC), low-density lipoprotein (LDL), LDL/HDL, and atherogenic index (AI) and a higher level of high-density lipoprotein (HDL). Results from atherosclerotic plaque assessment further support the findings. The level of malondialdehyde (MDA), which acts as an indicator for oxidative stress, was also reduced by GBR diet. The positive change in lipid profile in the rabbits fed GBR appeared to correspond with the higher amounts of  $\gamma$ -oryzanol, tocopherol, and monounsaturated fatty acid (MUFA) content.

**Keyword:** Atherogenic index; Germinated brown rice; Hypercholesterolemia; Lipid profile; MDA.