The Effect of Red Fruit Oil (Pandanus conoideus oil) Toward Total Cholesterol Content of Rat (Rattus norvegicus strain wistar) with Aterogenic Diet

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ABSTRACT

Cardiovascular Disease (CVD) serves as the main cause of death in the world. The controllable main risk factor in Coronary Heart Disease (CHD) is LDL cholesterol content, triglycerida, and HDL cholesterol content in blood. This risk factor is used as standard indicator of heart disease occurrence, such as total blood cholesterol content, LDL content, HDL, triglycerida, body mass index and blood pressure. Many researches indicate that there was correlation between total blood cholesterol content and atherosclerosis. The attempt to control coronary heart disease is by using antioxidant. Antioxidant can obstruct oxidation process and neutralize free radical to prevent various degenerative disease. Red fruit (Pandanus conoideus lam.) is one of the fruits containing antioxidant, namely β-carotene (700 ppm) and alphatocopherol (500 ppm), meanwhile red fruit oil – Minyak Buah Merah (MBM) contains β-carotene 694 ppm and alphatocopherol 495,5 ppm. This study was intended to find out the effect of red fruit oil (Pandanus conoideus oil) toward total cholesterol content of rat (Rattus norvegicus strain wistar) with Aterogenic diet.

This study was an experimental study. The design applied was complete randomized design with 3 repetitions and 8 treatment levels, namely P₀ (diet standard), P₁ (Aterogenic diet), P₂ (S + MBM 0,12 ml/day), P₃ (S + MBM 0,24 ml/day), P₄ (S + MBM 0,36 ml/day), P₅ (A + MBM 0,12 ml/day), P₆ (A + MBM 0,24 ml/day), P₇ (A + MBM 0,36 ml/day). The parameter was total cholesterol content. The process and data analysis applied Oneway Anova statistical test and followed with DMRT (Duncan Multiple Range Test).

The result of Oneway Anova statistical test in confidence level 99% indicated that there was variance of significant total cholesterol content (p=0,000) among every treatment levels. The effect of using red fruit oil (Pandanus conoideus oil) toward total cholesterol content of rat (Rattus norvegicus strain wistar) with aterogenic diet effective in 0,12 ml/day.

The conclusion inferred from this study indicated that using red fruit oil (Pandanus conoideus oil) has significant effect toward reduction of total cholesterol content of rat (Rattus norvegicus strain wistar) with aterogenic diet.

Key Words : Red fruit oil, total cholesterol content, aterogenic diet.