THE FORTIFICATION OF COCOA (*Theobroma cacao)* POWDER IN MILK FERMENTED TO REDUCE THE LDL SERUM LEVEL ON HYPERLIPIDEMI RATS

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Food fortification is usually regarded as the deliberate addition of one or more micronutrients to particular foods, so as to increase the intake of these micronutrient(s) in order to correct or prevent a demonstrated deficiency and provide a health benefit. Chocolate can undergo fortification process to add into other food like probiotic yoghurt as fermented product.

The objective of the study was to investigate the fortification of cocoa (Theobroma cacao) powder in fermented milk to reduce the LDL level on hyperlipidemia rats. This research used an experimental method with a Completely Randomized Design. There were five treatments (R0 = control, ration with high fat, R1= high fat diet + 4 ml yoghurt, R2= high fat diet + 0.35 g cocoa, R3= high fat diet + 4 ml yoghurt + cocoa 0.23 g, R4 = high fat diet + 4 ml yoghurt + cocoa 0.35g, R5 = high fat diet + 4 ml yoghurt + cocoa 47g. Each treatment was replicated five times. From the statistical analysis indicated that the effect of the fortification cocoa and probiotic ration, showed significant effect ($P<0.05$) on decreased LDL serum level of the hyperlipidemi rats, although the HDL serum level was not significant ($P>0.05$).

The results of the research are the fortification cocoa and probiotic in all treatments is decline. LDL level: R1= 9.76%, R2= 10.26 %, R3= 15.75 %, R4= 6.9 %, R5= 6.9 %, and also for HDL, there were no significance difference between all treatments. Moreover, rat did not have any change in body weight till the end of treatment.

Keywords : hyperlipidemi rat, probiotic, cocoa, fortification