ABSTRACT

EFFECT OF PROBIOTIC AND VITAMIN B_6 ON BLOOD INTERFERON GAMMA (IFN-γ) LEVELS

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Probiotic have been widely used as food suplement. Lactic Acid Bacteria (LAB) such as *Lactobacillus* and *Bifidobacterium* are important component of microflora and have been widely used as probiotic product. Vitamin B_6 is essential in nucleic acid and protein biosynthesis, its effect on immune function is logical because antibodies and cytokines are built up from amino acids and vitamin B_6 is required as the coenzyme in their metabolism. Therefore, a combination of probiotic and vitamin B_6 was expected to have sinergism activities in the immune system, LAB through mucosal immune system and vitamin through metabolism pathway. This research aimed to analyse effect combination of probiotics (*B.bifidum* and *L.acidophillus*) and Vitamin B_6 on plasma IFN-γ levels in mice (*Mus musculus*). Mice were used for this research divided into 6 groups i.e : (1) placebo, (2) *L.acidophillus*, (3) *B.bifidum*, (4) *B.bifidum* and *L.acidophillus*, (5) vitamin B_6, (6) *B.bifidum* , *L.acidophillus* and vitamin B_6. Mice were given a daily oral dose of probiotic milk (10^6-10^8 cfu) and the effect of immune responses were assessed after 7-day feeding. Plasma IFN-γ levels was measured with the ELISA method. Data were analyzed statistically using a One-Way ANOVA with Tukey HSD test. The result showed no significant differences ($P > 0,05$) between treatment and placebo groups. The levels of IFN- γ observed were: *B.bifidum* 37.56 ± 3.789 ρg/mL; vitamin B_6 34.39 ± 4.775 ρg/mL; *L.acidophilus* 31.13 ± 2.367 ρg/mL; *B.bifidum* dan *L.acidophilus* 26.72 ± 3.533 ρg/mL; *B.bifidum* dan *L.acidophilus*+ vitamin B_6 26.53 ± 3.905 ρg/mL and placebo 25.75 ± 1.033 ρg/mL. Furthermore, combination of probiotic and vitamin B_6 had no effect on the increase of plasma IFN- γ level.

Keywords : probiotic, vitamin B_6 , immune system, IFN-γ.