FULL ABSTRACT

The Role Plain Kefir Probiotics on Glycemic Status and Antioxidants, Immune Response of Hyperglycemia Wistar Rats Streptozotocin Induced (Study in Animal Model).

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The dissertation is written in Indonesian.

This study investigated the effect of plain kefir on glycemic, antioxidants, immune response and pancreatic β cell regeneration of hyperglycemia Wistar Rats induced by Streptozotocin. Kefir supplementation 3.6 cc / day affect significantly on blood glucose, antioxidants, lipid peroxidation, and pancreatic β-cells. Statistical analysis showed reduce of glucose (p<0.001), MDA (p<0.001) level of proinflammatory cytokines (IL1, IL6) (p<0.001), except of controls. Antioxidant showed increase of catalase, GPx (p<0.001) and SOD (p<0.05). Similarly, there was increased of IL10 (p<0.05) and the normal cells pancreatic (p<0.001), except of control. TNF-a reduced no significant (p<0.05), except of control. Anova test showed MDA and IL10 were the most contributed to the pancreatic β-cells regeneration by 91.0% and 9% determined by TNF-a, antioxidants, blood glucose, and body weight. In conclusion, Kefir is significantly reduced of glucose lipid peroxide, level of cytokines (IL1, IL6) and enhanced IL10, antioxidants capacity and normal pancreatic β cell expression. Insulin and kefir descriptively reduced TNF-a level.

Keywords: probiotic, plain kefir, hyperglycemia, β cell regeneration, proinflammatory cytokines