Potential of Honey Against Regeneration of Intestinal Tissue and Spermatogenic Cells of White Rats (*Rattus norvegicus*) Through Expression of Vascular Endothelial Growth Factor (VEGF) Due to Nutritional Deficiency

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ABSTRACT

The aim of this research was investigated Potential of Honey Against Regeneration of Intestinal Tissue and Spermatogenic Cells of White Rats (Rattus norvegicus) Through Expression of Vascular Endothelial Growth Factor (VEGF) Due to Nutritional Deficiency. 24 male white rats (Rattus norvegiccus) with body weights ranging 250-300 grams were used. These animals were devided into four groups and each group contains six white rats. Negative control (K-) is a group of mice with conditions that are not fasting and without honey. Positive control (K +) was a group of mice with fasting conditions and without honey. The treatment group was the group that was given honey therapy at a dose of 30% and 50%. The white rats were sacrificed and then the testes and intestines were taken for preparation. This research has been carried on 76 days. The data were analyzed using ANOVA (Analysis of Variants) then followed by Duncan Multiple Range test with a significance level of 5% from SPSS 18 for Windows because there were differences between treatments. The results showed that there was significant differences ($P<0.05$) between P1 with K- and P2, P2 with K+ and P1. The conclusion of this study is honey has an effect on the regeneration of white rat intestinal tissue, the regeneration of the testicular tissue in white rats which is deficient in nutrition through an increase in the number of spermatogenic cells in the seminiferous tubules and affects the mobilization of endogenous stem cells through the expression of vascular endothelial growth factor (VEGF) due to nutritional deficiencies.

Key words : Honey, nutritional deficiency, Rattus norvegicus, spermatogonic cells, spermatocyte, spermatid, VEGF.