Abstract

Backrand and aim: Diabetes is one of the most common metabolic diseases. Oxidative stress and inflammation lead to its pathogenesis and complications. Due to the antioxidant and anti-inflammatory properties of propolis, this clinical trial was conducted to evaluate the effects of propolis supplementation on the metabolism of glucose and lipids, liver enzymes, the antioxidant index and inflammatory status in diabetic patients.

Material and Methods: In this study patients with type 2 diabetes were randomly assigned to propolis group (n = 30) and placebo group (n = 30). The first group received a capsule propolis (500 mg) 3 times a day. The second group received the same therapy but a placebo capsule instead of propolis. Glucose-related indicators, lipid profiles, liver enzymes, antioxidant indexes and inflammatory status were evaluated.

Results: The results showed a significant decrease in fasting plasma glucose, two-hour postprandial glucose, glycosylated hemoglobin (%), insulin resistance, total cholesterol, LDL cholesterol, triglyceride levels also Tumor necrosis factor alpha, C-reactive protein levels in propolis treated patients compared with placebo. In this study, high density lipoprotein cholesterol levels, total antioxidant capacity, glutathione peroxidase and superoxide dismutase in the propolis group was significantly increased. Also the level of liver enzymes (AST and ALT) was not significantly increased.

Conclusion: Propolis treatment in type II diabetic patients has a beneficial effect on improving blood glucose control, lipid profiles, and inflammatory status and antioxidant indexes.
Keywords: Diabetes, Propolis, Glucose Metabolism, Lipid Profile, Inflammatory Status, Antioxidant Indices.