

Propolis supplementation improves glycemic and antioxidant status in patients with type 2 diabetes: A randomized, double-blind, placebo-controlled study

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Abstract

Objectives: The prevalence of type 2 diabetes has risen dramatically in recent years. There are many different safe therapies used for diabetes and also number of natural supplements that can be used to manage diabetes. We assessed the effect of oral propolis supplementation on blood glucose, insulin resistance and antioxidant status in type 2 diabetes.

Methods: We conducted a randomized, double-blinded, placebo-controlled trial for 8-week. Sixty two patients with type 2 diabetes (30-55 years of age) were randomly assigned in two group, propolis (n = 31) and placebo (n = 31). Patients were given doses of 500 mg, three times a day (1500 mg), of propolis or placebo three time a day. The fasting blood sugar (FBS), two-hour postprandial glucose (2-hp), insulin, insulin resistance (IR), hemoglobin A(1)c (HbA(1)c), total antioxidant capacity (TAC) and activity of glutathione peroxidase (GPx) and superoxide dismutase (SOD) were measured at the beginning and end of the study. Statistical analysis was performed using SPSS software.

Results: After two month, FBS, 2-hp, insulin, IR, HbA(1)c was significantly decreased in patients treated with propolis compared with placebo group ($p < 0.05$). Additionally intake of propolis significantly increased the blood levels of TAC and activity of GPx and SOD ($p < 0.05$).

Conclusion: Propolis treatment can be helpful as a diet supplement in patients with type 2 diabetes through improvement in glycemic status, reduction in insulin resistance and amelioration in antioxidant status. This supplement without side effects can increase the effectiveness of prescribing drugs in diabetes.

Keywords

Author Keywords: Propolis; Glycemic status; Insulin resistance; Antioxidant; Type 2 diabetes

KeyWords Plus: INSULIN-RESISTANCE; OXIDATIVE STRESS; RATS; MELLITUS; DISEASE

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