عنوان مقاله:

Antidiabetic effects of Eryngium billardieri hydrosol in the treatment of type ۲ diabetic patients: A double-blind randomized clinical trial

محل انتشار:

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خلاصه مقاله:

Objective: Medicinal plants with fewer side effects and low cost than synthetic medicines are increasingly advised to treat diseases. The present study aimed to identify Eryngium billardieri compounds and evaluate the plant's effects on hyperglycemic and hyperlipidemia indices, and liver, and kidney function.Materials and Methods: Following identification of Eryngium billardieri using GC/MS method, ۷۲ participants were randomly divided into two groups (n=۳۶ per group), receiving oral hypoglycemic medication (metformin) with or without ۵۰ ml hydrosol twice a day for three months as intervention and placebo control, respectively. Body mass index (BMI), systolic and diastolic blood pressure, fasting blood sugar (FBS), glycosylated hemoglobin (HbA۱c), total cholesterol, triglyceride, HDL-C, and LDL-C levels were measured at the beginning and end of the experiment. Also, aspartate transaminase, alanine transaminase, blood urea nitrogen, and creatinine levels were measured to assess adverse effects on liver and kidney functions. Results: The main components were terpenes with ۴۶.۶۹% of the total ingredients of E. billardieri essential oil. Other prominent compounds identified included octanoic acid (۱۲.۱۴ %) and isoxazole (۶.۷۲ %). Intergroup changes in blood parameters showed that E. billardieri hydrosol for three months could significantly reduce HbA۱C and blood cholesterol levels but did not affect other measured parameters. Also, there were no adverse effects on kidney or liver function. Conclusion: The present findings showed that the consumption of ۵۰ ml of E. billardieri hydrosol as a complementary treatment in diabetic patients reduced HbA۱C and cholesterol levels without adverse effects on the liver or kidneys functions.

کلمات کلیدی:

Antidiabetic activity, Blood lipid profile, Glycemic Index, Glycosylated hemoglobin, Medicinal plant