

The effect of Ellagic acid on sleep quality in patients with type 2 diabetes: a randomized double blind clinical trial

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Abstract

Background: Oxidative stress can reduce the quality of sleep in patients with type 2 diabetes. Antioxidants such as polyphenols may increase sleep quality by improving oxidative stress conditions. **Objective:** Considering the antioxidant properties of Ellagic acid (EA), this study was designed to evaluate the effect of EA on sleep quality in diabetic patients. **Methods:** In this study, 44 diabetic patients were recruited. Patients who met the inclusion criteria that were randomly allocated consumed a capsule containing 180 mg of EA per day (n = 22) or placebo (n = 22) for 8 weeks. Anthropometric factors, physical activity, food intake, and Petersburg's Sleep Quality (PSQI) questionnaire were assessed at the beginning and end of the study. Kolmogorov-Smirnov test, paired sample t test and independent sample t test were used to analyze the data. **Results:** At the end of the study, the mean scores of PSQI and sleep subgroups in the intervention group were significantly lower than in the placebo group (p < 0.05). According to intragroup comparisons,

these changes were significant in the intervention group at the end of the study compared to the beginning of the study ($p < 0.05$) and were not significant in the placebo group ($p > 0.05$).

Conclusion: According to these findings, intake of EA may help to improve the sleep quality in patients with type 2 diabetes. These effects may be due to the antioxidant effects of this polyphenol.