

The effect of vitamin E supplementation on lipid profiles and adiponectin levels in obese adolescents: a randomized controlled trial

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Abstrak

Background: low-grade chronic inflammation in obese individuals contributes to the development of lipid abnormality and insulin resistance. Vitamin E has antioxidant and insulin-sensitizing properties, mediated by adiponectin. In this study, we aimed to evaluate the effect of vitamin E supplementation on lipid profiles and adiponectin levels in obese adolescents.

Methods: this was a randomized, double-blind, controlled study. Obese adolescents aged 14-18 years, with no history of taking anti-obesity or antioxidant drugs, were recruited and randomized into two groups: vitamin E and placebo. The dose of vitamin E was 400 IU/day. Intervention was administered for two months. Lipid profiles and adiponectin levels were measured at baseline and after intervention. Primary outcomes were analyzed using the per-protocol analysis principle. Statistical analysis was performed using the independent t-test or the Mann-Whitney U test.

Results: a total of 66 subjects completed the intervention study, 34 in the vitamin E group and 32 in the placebo group. Lipid profiles and adiponectin levels at 2 months after intervention did not differ significantly between the two groups. Changes from the baseline level were also not significantly different between the two groups and were inconsistent from one subject to another.

Conclusion: in obese adolescents, vitamin E supplementation of 400 IU/day for 2 months does not significantly affect lipid profiles and adiponectin levels.