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# Effects of Vitamin E supplementation on serum zinc levels and markers of oxidative stress in type 2 diabetic patients: a randomized controlled clinical trial

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## Abstract

Disturbances of zinc homeostasis have been associated with several diseases, including diabetes mellitus. The effects of vitamin E supplementation on serum levels of zinc in patients with type 2 diabetes mellitus are not known. Thus, this study was performed to determine the effects of vitamin E supplementation on serum levels of zinc, some markers of oxidative stress, nitrite/nitrate anion, and glycemic parameters in type 2 diabetic patients. Eighty three patients with type 2 diabetes mellitus were assigned to two groups in this double-blind, randomized, controlled clinical trial. Forty two of the subjects received 400 IU/day vitamin E and 41 were given placebo over eight weeks. Fasting blood samples, anthropometric measurements, and dietary intake data were collected at the baseline and at the end of the trial. Based on results, supplementation with vitamin E led to significant increase in serum levels of vitamin E, paraoxonase-1, and total antioxidant status, and decrease in fasting blood sugar compared with placebo ($P<0.05$). A significant increase in serum zinc and decrease in hemoglobin A1c and serum insulin were observed in vitamin E group as compared with baseline values ($P<0.05$). No significant changes occurred in serum nitrite/nitrate in any of the groups ($P>0.05$).

It was concluded that, vitamin E supplementation ameliorated serum levels of zinc, vitamin E, paraoxonase-1, total antioxidant status, and glycemic control in type 2 diabetic patients.

## Biography:

M. Rafraf has completed her PhD in nutrition science at the age of 39 years from Tabriz University of Medical Sciences, Iran. She is working as academic staff at department of community nutrition in Faculty of Nutrition and Food Science of the Tabriz University of Medical Sciences, Iran. She has published more than 22 papers regarding nutritional researches in international journals.

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