

عنوان مقاله:

BENEFITS OF CURCUMIN SUPPLEMENTATION ON ANTIOXIDANT STATUS IN B-THALASSEMIA MAJOR PATIENTS: A DOUBLE-BLIND RANDOMIZED CONTROLLED CLINICAL TRIAL

محل انتشار:

سومین کنگره بین المللی و پانزدهمین کنگره تغذیه ایران (سال: 1397)

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خلاصه مقاله:

Background and Aim: β -Thalassemia major is the most common inherited anemia in the world (1). Regular blood transfusion therapy in these patients leads to iron overload, oxidative stress and tissue damage (1). Based on previous studies curcumin, the active polyphenol in turmeric has significant therapeutic potential such as anti-cancer, iron binding and antioxidant activities (2-4). The objective of this study was to evaluate the efficacy of curcumin supplementation on markers of oxidative stress in patients with β -Thalassemia major. **Methods:** 68 Male and female patients with β -thalassemia major between 18 and 40 years old were eligible for inclusion in this double-blind randomized controlled clinical trial if they were on stable medication with deferoxamine and regular transfusion program. The study exclusion criteria included: changes in drug regimen during the study, taking any nutritional supplements, having a history of hepatitis B, C and HIV infection, pregnancy and lactation. The registration ID of this study in Iranian Registry of Clinical Trials was: IRCT2016053028165N1. The patients were randomly allocated in two groups using a randomized block design via the random allocation software (RAS), with subjects matched in each block by sex and age. Subjects in the curcumin group (n=34) received two 500 mg curcumin capsules daily and patients in the placebo group (n=34) administered 2 placebo capsules daily for 12 weeks. Dietary intakes and biochemical parameters including Hb, serum iron, ferritin, malondialdehyde (MDA), total antioxidant capacity (TAC), catalase and vitamin E were assessed at the beginning and the end of intervention. Statistical analysis was performed using SPSS software (version 17). **Results:** 61 patients completed the trial. No significant differences in biochemical variables, energy, macro and micronutrients were observed between two groups at baseline. The mean dietary intake of vitamin E decreased in curcumin group at the end of the study in comparison with baseline (11.51 ± 7.40 vs 9.84 ± 6.06 mg/day, $p=0.046$). At the end of the study, serum MDA significantly decreased (41.03 ± 14.96 vs 37.12 ± 11.70 $\mu\text{mol/L}$, $p=0.002$) and TAC significantly increased (187.09 ± 82.26 vs 207.96 ± 91.72 $\mu\text{mol/L}$, $p=0.005$) in the curcumin group. A considerable fall in ferritin level was observed in curcumin group during the study period;

nevertheless did not attain statistical significance (1612.54 ± 502.36 vs 1538.09 ± 439.81 ng/ml, $p=0.059$). Based on the analysis of covariance, a significant reduction in MDA was also detected in the curcumin group when compared to ...

کلمات کلیدی:

β -thalassemia major; Curcumin; Antioxidant status; Randomized clinical trial

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