

عنوان مقاله:

Effects of High Intensity Interval Training and Curcumin Supplement on Antioxidant Enzyme in Heart Tissue of Diabetic Rats

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خلاصه مقاله:

Objective: Exercise and herbs can possess synergistic effects to control diabetes side-effects. The purpose of the present study was to investigate the effects of high intensity interval training (HIIT) and curcumin supplement on activity levels of superoxide dismutase (SOD) and catalase of heart tissue in diabetic rats. Materials and Methods: Thirty-two male Wistar rats were randomly divided in to four groups of curcumin, training-placebo, training-curcumin and control. The subjects were trained to do HIIT on treadmill and in the fashion of increasing manner. Diabetes was induced via injection of 50 (ml/Kg rat weight) STZ. Fifty (ml/kg rat weight) curcumin was nourished to the animals of the curcumin groups, by using the gavage technique during eight weeks (five days a week). The rats were anesthetized via intraperitoneal injection of ketamine, 24 hrs after the intervention. Then heart tissues were separated from bodies of the rats to examine changes in SOD and catalase enzymes. Results: Activity levels of SOD and CAT enzymes of the three groups of curcumin, training-placebo, and training-curcumin increased significantly more than control group. But no significant difference was observed between those first three groups ($P \leq 0.05$). Discussion: The results of the present study indicated that either HIIT or taking curcumin supplement could solely contribute significant enhancement to activity levels of antioxidant enzymes within heart tissues of diabetic mice. Though, those two interventions would not strengthen the influences of each other.

کلمات کلیدی:

Superoxide dismutase, Catalase, Curcumin, High intensity interval training, Heart, Diabetes mellitus

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