

## عنوان مقاله:

The Effects of Circuit Resistance Training on Inflammatory Status, Insulin Resistance and Body Composition in Overweight Adolescent Boys

## محل انتشار:

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## خلاصه مقاله:

**Objective:** The overweight-related health problems among adolescents are obvious. Resistance training is recognized as a safe and efficacious exercise modality to have health-promoting effects in overweight adolescents. This study aimed to assess the efficacy of circuit resistance training (CRT) in improving inflammatory status, insulin resistance and body composition in overweight male adolescents. **Materials and Methods:** Twenty overweight adolescent boys (aged:  $18.5 (\pm 1)$ , weight:  $81.1 (\pm 4.5)$ , body mass index:  $27.7 (\pm 0.7)$ ) completed this study. The participants were randomly and equally divided into two groups of control (CG;  $n=10$ ) and circuit resistance training (CRT;  $n=10$ ). The CG did their daily routine activities and the CRT group performed its training protocol 3 days a week for 6 weeks. Body composition components and serum variables were measured a day before and after the study. Insulin resistance index was measured by HOMA-IR. **Results:** The subjects in the CG showed significantly increased changes compared with pre-training values. Moreover, significant changes were found for the changes of BW ( $P$ -value=  $0.005$ ), BMI ( $P$ -value=  $0.001$ ) and BF% ( $P$ -value=  $0.003$ ) between groups. **Conclusion:** This study suggested that although six weeks of CRT failed to induce meaningful anti-inflammatory cytokine responses, and to improve body composition and HOMA-IR in overweight adolescent boys, but had protective effects on inflammatory status, HOMA-IR and body composition and prevented them from being deteriorated.

## کلمات کلیدی:

Circuit resistance training, Obesity, Anti-inflammatory cytokine response, Insulin resistance, body composition

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