

## عنوان مقاله:

The Effect of Six Weeks of High-Intensity CrossFit Training on Serum Asprosin, Body Fat Percentage and Insulin Resistance in Men with Type ۲ Diabetes

## محل انتشار:

فصلنامه علمی پژوهشی طب انتظامی، دوره 12، شماره 1 (سال: 1401)

تعداد صفحات اصل مقاله: 13

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## خلاصه مقاله:

**Aims:** Asprosin is an adipokine with gluconeogenic and metabotropic effects, which is related to type ۲ diabetes. The present study aimed to determine the effect of six weeks of high-intensity CrossFit training (HICFT) on serum asprosin in men with type ۲ diabetes. **Materials and Methods:** In the current semi-experimental research that was conducted in the summer of ۲۰۲۲ on patients who are members of the Dezful Diabetes Association, ۳۰ obese men with type ۲ diabetes living in Dezful city in Iran were selected and randomly divided into two groups of ۱۵ HICFT and control. People in the training group did six weeks of HICFT training with an intensity of ۸۰-۸۵% of the reserve heart rate in three training sessions per week. Blood and anthropometric variables were examined ۴۸ hours before and after the intervention in a fasting state. For statistical analysis, dependent t-tests and analysis of covariance were used in SPSS ۲۶ software. **Findings:** In this study, ۲۲ people (۱۰ people in the HICFT group with an average age of  $43.8 \pm 3.08$  years and ۱۲ people with an average age of  $44.58 \pm 3.09$  years in the control group) remained in the study. The average history of diabetes was  $3.24 \pm 0.45$  years in the experimental group and  $3.23 \pm 0.42$  years in the control group. The results showed that a significant decrease in serum asprosin ( $1.65$  ng/ml), body fat ( $2.45\%$ ), and insulin resistance ( $0.94$  units) was observed in the HICFT group compared to the control ( $p < 0.001$ ). **Conclusion:** According to the results, it can be said that HICFT has a positive role in reducing insulin resistance and blood sugar control in type ۲ diabetes by improving body composition and reducing asprosin secretion. It seems that adjustment of fasting asprosin to body fat percentage is one of the effective mechanisms to reduce insulin resistance in type ۲ diabetes in adaptation to high-intensity exercises.

## کلمات کلیدی:

Type ۲ Diabetes Mellitus, Exercise Training, Asprosin, Body Composition, Insulin Resistance  
دیابت نوع ۲، تمرین ورزشی، آسپرو سین، ترکیب بدن، مقاومت به انسولین

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