

عنوان مقاله:

Effect of 8 weeks Aerobic Training and Nigella Supplement on Insulin Resistance, Lipid Profile and Plasma Level of HbA_{1c} in Type 2 Diabetic Rats

محل انتشار:

مجله علمی پژوهشی دانشگاه علوم پزشکی زنجان، دوره 27، شماره 120 (سال: 1397)

تعداد صفحات اصل مقاله: 10

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خلاصه مقاله:

Background and Objective: Metabolic syndrome is defined as a cluster of metabolic disorders, which may lead to type II diabetes and cardiovascular diseases. The aim of this study was to investigate the effect of 8 weeks of aerobic training and Nigella sativa supplements on insulin resistance, lipid profiles, and plasma levels of HbA_{1c} in Type 2 diabetic rats. **Materials and Methods:** 35 male Wistar rats were divided into five groups. Diabetes was induced by intraperitoneal injection of streptozotocin. The training program included 8 weeks of aerobic training on a treadmill. The supplement group consumed N. Sativa supplement at the end of each training session at the dose of 400mg/kg/day. After 8 weeks of aerobic training and N.Sativa consumption, the plasma levels of HbA_{1c}, insulin resistance and lipid profiles were measured. **Results:** The results showed that blood glucose level in all three groups was significantly lower than the baseline ($P=0.0001$). Cholesterol, triglyceride and LDL showed the most significant decrease in aerobic and combination training groups ($P=0.0001$). In HDL index, aerobic and combined exercise groups showed a significant increase ($P=0.0001$). Hemoglobin A_{1c} index and insulin resistance in the combination group showed a significant decrease compared to the other groups ($P=0.0001$). **Conclusion:** The results show that exercise along with N. Sativa supplement is more effective than N. sativa supplement or exercise alone in the status of rats with type 2 diabetes. This kind of combination therapy may also be applicable to diabetic patients.

کلمات کلیدی:

Diabetes, Aerobic Training, Nigella, Insulin resistance

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