

Original Paper

Comparison of the effect of 8 weeks of aerobic and combined training on serum levels of leptin and glucose in type 2 diabetic men

Tadibi V (Ph.D)^{*1}, Behpour N (Ph.D)², Rahimi MA (Ph.D)³, Rashidi S (M.A)⁴
Delbari ME (M.A)⁴, Usefipour P (M.A)⁴, Bayat Z (M.A)⁴

¹Associate Professor of Exercise Physiology, Faculty of Physical Education, Razi University, Kermanshah, Iran.

²Assistant Professor of Exercise Physiology, Faculty of Physical Education, Razi University, Kermanshah, Iran.

³Associate Professor of Endocrinology, Medical School, Kermanshah University of Medical Sciences, Kermanshah, Iran.

⁴M.A in Exercise Physiology, Faculty of Physical Education, Razi University, Kermanshah, Iran.

Abstract

Background and Objective: Leptin has a key role in obesity and type 2 of diabetes. This study was done to compare the effects of eight weeks aerobic and combined training on serum levels of leptin and glucose in type 2 diabetic men.

Method: This clinical trial study was performed on 24 men with type 2 diabetes whom referred to Taleghani Hospital in Kermanshah, West of Iran during June to August 2012. The patients were randomly divided into 3 groups including aerobic training, combined training (aerobic and resistance training) and control groups. Training protocols included three 1-hour sessions per week for eight weeks. Subjects in the control group did not participate in any physical activities. Serum levels of leptin and glucose were measured 48 hours before and 48 hours after intervention as fasting values in pre-and post-tests.

Results: There was no significant difference between groups at pre-test for serum levels of leptin and glucose. After intervention, serum level of glucose in the aerobic group and serum level of glucose and leptin in the combined group were significantly reduced in compared to the controls ($P < 0.05$).

Conclusion: Aerobic and combined training with beneficial effects on the sera glucose level are recommended for patients with type 2 diabetes. However, combined training, regarding reducing leptin level seems to be more useful for these subjects.

Keywords: Diabetes mellitus, Aerobic training, Combined training, Glucose, Leptin

* **Corresponding Author:** Tadibi V (Ph.D), E-mail: vahidtadibi@razi.ac.ir

Received 7 May 2013

Revised 27 Aug 2014

Accepted 13 Sep 2014