

Original Paper

Effect of combined endurance and strength training on cystatin C, high- sensitivity C-reactive protein level and cardiovascular risk factors in sedentary postmenopausal women

Sarmadiyan M (M.Sc)*¹, Khorshidi D (Ph.D)²

¹M.Sc in Exercise Physiology, Department of Physical Education and Sport Science, Zarandiyeh Branch, Islamic Azad University, Zarandiyeh, Iran. ²Assistant Professor, Department of Physical Education and Sport Sciences, Saveh Branch, Islamic Azad University, Saveh, Iran.

Abstract

Background and Objective: Cardiovascular diseases are the main cause of 50% of death in women after menopause. This study was done to evaluate the effect of combined training on cystatin C, high-sensitivity C-reactive protein and some cardiovascular risk factors in sedentary postmenopausal women.

Methods: In this quasi -experimental study, 24 sedentary postmenopausal women (50-65 years) were non-randomly divided into experimental and control groups. Women in the experimental group were received a combined training program including aerobic exercise (65-75% of MHR) and resistance exercise (55-65% of 1RM), 4 d/wk for 10 weeks. The control group did not participate in any physical activity. Body weight, BMI, BF%, blood pressure, levels of cystatin C, C-reactive protein, triglyceride, HDL-C and LDL-C were measured before and after study.

Results: Exercise training showed no significant effect on serum levels of cystatin C, C-reactive protein and cardiovascular risk factors such as HDL-C, LDL-C, triglyceride and blood pressure in postmenopausal women.

Conclusion: Short-term combined training with moderate intensity has no effect on cystatin C levels and other cardiovascular risk factors in sedentary postmenopausal women.

Keywords: Endurance training, Strength training, Cystatin C, C-reactive protein, woman

* **Corresponding Author:** Sarmadiyan M (M.Sc), E-mail: msarmadiyan2013@gmail.com

Received 4 Feb 2015

Revised 24 Aug 2015

Accepted 16 Sep 2015