Comparison of the effect of combined physical training (endurance, strength) with and without flaxseed on the levels of estrogen, lipid and body composition of inactive menopausal women

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Abstract

Background & Aim: Increase in cardiovascular disease risk factors in postmenopausal women is because of adverse changes in plasma lipoproteins due to the lack of estrogen. The aim of this study was to investigate the effect of eight weeks of combined training with and without flaxseed consumption on estrogen, lipid level and body composition in sedentary postmenopausal women.

Methods: In this semi-experimental study, 30 sedentary postmenopausal women within the age range of 50 to 60 years old were selected as volunteers and were divided into two groups: Combined training (n=15) and combined training + flaxseed (n=15). The exercise protocol included 8 weeks of aerobic training with the intensity of 60% to 80% of the maximal heart rate and the resistance training with the intensity of 60% to 80% of one-repetition maximum. The second group, in addition to physical training, consumed 25 grams of flaxseed. Data were analyzed by paired-samples t-test and independent-samples t-test at a significance level of p<0.05.

Results: In the combined training group, estrogen and high-density lipoprotein levels were significantly increased, whereas the BMI and triglyceride were decreased (p<0.05). In the combined exercise group with flaxseed consumption, estrogen, and high-density lipoprotein were increased significantly, whereas the BMI and triglyceride (p=0.015) were decreased (p<0.05).

Conclusion: Collectively, combining exercise with and without flaxseed can reduce the complications of menopause by improving the lipid and estrogen levels as well as body composition. It can act as an effective strategy to increase cardiovascular endurance by maximizing the amount of oxygen consumed.

Keywords: Combined training, Estrogen, Lipid level, Postmenopausal women, Flaxseed

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