Targeting the Metabolic Syndrome with Exercise: Evidence from the HERITAGE Family Study

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ABSTRACT


Purpose:

To determine the efficacy of exercise training in treating the metabolic syndrome.

Methods:

The sample included 621 black and white participants from the HERITAGE Family Study, identified as sedentary and apparently healthy (no chronic disease or injury). The metabolic syndrome was defined as having three or more risk factors according to the guidelines of the National Cholesterol Education Program, including elevated waist circumference, blood pressure, triglycerides, blood glucose, and low HDL cholesterol. The presence of the metabolic syndrome and component risk factors were determined before and after 20 wk of supervised aerobic exercise training.
Results:

The prevalence of the metabolic syndrome was 16.9% in this sample (105/621) of apparently healthy participants. Of the 105 participants with the metabolic syndrome at baseline, 30.5% (32 participants) were no longer classified as having the metabolic syndrome after the exercise training. Among the 32 participants who improved their metabolic profile, 43% decreased triglycerides, 16% improved HDL cholesterol, 38% decreased blood pressure, 9% improved fasting plasma glucose, and 28% decreased their waist circumference. There were no sex or race differences in the efficacy of exercise in treating the metabolic syndrome: 32.7% of men, 28.0% of women, 29.7% of black, and 30.9% of white participants with the metabolic syndrome were no longer classified as having the syndrome after training.

Conclusion:

Aerobic exercise training in patients with the metabolic syndrome can be useful as a treatment strategy and provides support for a role for physical activity in the prevention of chronic disease.

Key Words: PHYSICAL ACTIVITY; AEROBIC TRAINING; CHOLESTEROL; BLOOD PRESSURE; WAIST CIRCUMFERENCE