

Effects of a Periodized Combined Training Program on Lipid Profile and Cardiovascular Risk in Sedentary Women Aged 50 to 60 Years in Colombia

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Abstract

Cardiovascular disorders are one of the primary causes of mortality in public health. Sedentary life style and dyslipidemia are some of the key variables that can promote these disorders. This situation worsens in women between 50 and 60 years old, who, due to the hormonal transition typical of climacteric and early postmenopause, are more vulnerable to developing metabolic and cardiovascular disorders. Despite the considerable impact of this issue in Latin America, there are few studies evaluating the effects of community-based supervised exercise programs in this demographic group. The aim of this study is to evaluate the effects of a periodized combined training program on the lipid profile and cardiovascular risk in sedentary women aged 50 to 60 in Colombia. A quantitative methodology was utilized, with a quasi-experimental pretest-posttest design involving a population of 15 sedentary women, without a prior diagnosis of cardiovascular or metabolic diseases, selected through non-probabilistic intentional sampling (mean age: 55.4 ± 3.2 years). All women participating in the study voluntarily signed the informed consent form. The intervention consisted of a supervised

20-week program that integrated aerobic endurance and strength training, implemented three days a week, complemented by two days of unsupervised walking. The implemented program was divided into three stages: adaptation, development, and optimization. The results of these variables allowed for feedback to be used to refine the combined training program during the intervention. Waist circumference and lipid profile consisting of total cholesterol, LDL cholesterol, HDL cholesterol and triglycerides were measured before and after the periodized training. The study data collected were analyzed using descriptive statistics and the Wilcoxon test. The results of the study showed that the total cholesterol level decreased 8.2% after application of the supervised training program, the LDL cholesterol level decreased 11.6%, and the waist circumference decreased 3.8%. HDL cholesterol increased 4.1% and triglycerides were unchanged. The internal load analysis showed that a positive physiological adaptation to the applied loads was present in the intervention process, avoiding adverse cardiovascular consequences. The results of the study suggest that the supervised training program, based on the combination of aerobic endurance and strength in the community setting, is a preventive health strategy; it is low cost and easy to replicate in the Latin American context. This kind of intervention improves metabolic profile and reduces cardiovascular risk in previously sedentary middle-aged women.

Keywords

Combined Training, Lipid Profile, Cardiovascular Risk, Sedentary Women, Preventive Health, Physical Activity, Colombia, Community Intervention