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EDITORIAL COMMENT

Heartfelt exercise: Physical exercise gets the cardiovascular system into shape

Sistema cardiovascular em forma com exercício físico

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The combination of a sedentary lifestyle and a Western-type (high-calorie) diet is the most important factor contributing to excess body weight, metabolic impairment, and increased risk of developing cardiovascular disease (CVD).[1] An estimated 17.9 million people died from CVD worldwide in 2016, representing 31% of all deaths.[2] Of these, 85% are due to myocardial infarction and stroke. Moreover, epidemiological and clinical studies have shown an association between maternal malnutrition (under- and overnutrition, including Western-type diets) and the development of cardiovascular and metabolic dysfunction.[3]

The Western-style diet is characterized by highly processed and refined foods and high intakes of sugar, salt, and fat and protein from red meat.[4]

Exercise and diet were important components of ancient medical theory. For example, Hippocrates (c. 460-370 BC) noted that ''eating alone will not keep a man well; he must also take exercise.''[5] Epidemiological studies in large cohorts support the notion that physical fitness is associated with reduced cardiovascular mortality and hospitalization due to CVD. During the last 20 years even the idea that patients should remain inactive after a myocardial infarction has dramatically changed, and nowadays patients are mobilized and included in exercise training programs very shortly after the event.[6] Exercise-based cardiac rehabilitation is accordingly given a class IA recommendation for patients with coronary artery disease and heart failure. Aerobic (continuous and/or interval training), resistance or respiratory muscle training are usually prescribed, depending on patient assessment and needs.[7]

Combined resistance-endurance training has been shown to be more effective than aerobic endurance training in improving CV fitness.[8] Moreover, resistance training alone has also been shown to improve cardiovascular health by reducing resting blood pressure, improving lipoprotein-lipid profiles and/or dyslipidemia, decreasing triglycerides, increasing high-density lipoprotein cholesterol, and improving cardiovascular response to exercise.[9]

The paper by Santana-Filho et al. published in this issue of the *Journal*[10] is thus timely and addresses a hot topic regarding the impact of physical exercise, specifically resistance training, on cardiovascular and metabolic parameters.

Conflicts of interest

The author has no conflicts of interest to declare.

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