Dyslipidemia and metabolic syndrome have grown exponentially over the recent years, including in children, mainly due to the low quality of food and the high level of a sedentary lifestyle.1,2 These two diseases are important risk factors for the development of cardiovascular diseases.3 Reduction of low-density lipoprotein (LDL), as well as total cholesterol (TC) and the TC to high-density lipoprotein ratio (HDL – TC/HDL) are the main forms of cardiometabolic prevention.4 The use of statins is considered a standard pharmacological alternatives that are also effective, one of which is physical exercise.

There is evidence on the importance of regular physical training as a form of primary or secondary prevention in the development or worsening of cardiometabolic diseases.5 However, there is no consensus on the effect of combining statins with physical training, two powerful tools that, when used together, can improve the lipid profile.6 However, there are non-pharmacological alternatives that are also effective, one of which is physical exercise.

Regarding the water training program, participants of the WA and WR groups attended 2 induction sessions before the beginning of follow-up. Besides, exercise intensity was increased after 5 weeks of intervention. The exercise sessions lasted 45 minutes, including 8 minutes of warm-up, 30 minutes of exercise and 7 minutes of cool-down. For the WA group, interval training was adopted with an intensity of 90% to 100% of the heart rate corresponding to the anaerobic threshold (HR AT). The WR group performed the exercises adopting a maximum execution speed, and maintained a fixed duration of 1 minute and 20 seconds for each exercise, while the CG performed a non-periodized program of immersion relaxation exercises in order to maintain the HART same number of weekly sessions as the other groups. The second merit of the study was to control exercise intensity by HR AT, in addition to periodizing physical training, planning an increased intensity during follow-up.

Below are the main findings of the study: in summary, statin use associated with exercise training improves LDL, TC and TC/HDL. How much? Participants medicated for LDL: -5.58 to 25.18 mg.dl-1; TC: -3.41 to 25.89 mg.dl-1; TC/HDL: -0.37 to 0.61 mg.dl-1, with significant p compared to non-medicated participants. This reduction is only statistically significant for the WR group. In general, the use of statins associated with strength water training seems to be the most effective strategy in reducing the lipid parameters evaluated in the study.

Acknowledgements

To Coordenação de Aperfeiçoamento de Pessoal de Nível Superior (CAPES) for granting the doctoral scholarship and to the Health Sciences Program: Cardiology and Cardiovascular Sciences from Universidade Federal do Rio Grande do Sul for the job opportunity.


