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Letter to the Editor

Effects of high-intensity interval training: Risk of bias by definition

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Dear Editor,

Recently, Dr. Gomes and coworkers published an interesting meta-analysis in the International Journal of Cardiology [1]. I would like to congratulate the authors and commend research that was well conducted and presented advances for the field of study, as it analyzes what are considered isocaloric protocols when comparing high-intensity interval training (HIIT) and moderate-intensity continuous training.

However, I wish to point out that ~31% of studies (4/13) included in the review present characteristics that become impracticable for their inclusion in Gomes et al.'s study [1]. For example, Smart and Steele [2] compared the effects of continuous (30-min continuously) and interval (60-s work interspersed by 60-s rest) exercises. However, an intensity of 70% VO_{2peak} for both groups was used. Iellamo et al. [3] and Iellamo et al. [4] adopted protocols with 4-min intervals at 75–80% HRR interspersed by 3-min at 45–50% HRR. This higher intensity is equivalent to ~75–80% VO_{2max}.

However, HIIT is characterized by repeated short-to-long bouts of high-intensity exercise interspersed with recovery periods, which generally means attaining an intensity >90% VO_{2max} [5] or ≥80% VO_{2max} for special populations. Thus, the cited studies used intensities below the most consistent thresholds suggested for characterization of HIIT. Moreover, two of these studies [2,3] did not use "high-intensity" to describe the protocols but the terms "intermittent exercise training" [2] and "aerobic interval training" [3].

Thus, this fact should be considered when assessing the effects of HIIT for heart failure patients with reduced ejection fraction.

Conflict of interest

The author reports no relationships that could be construed as a conflict of interest.

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