Letter in response to: concurrent aerobic plus resistance exercise versus aerobic exercise alone to improve health outcomes in paediatric obesity—a systematic review and meta-analysis

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DEAR EDITOR,

We would like to congratulate the British Journal of Sports Medicine for the publication of the study conducted by García-Hermoso et al1 entitled ‘Concurrent aerobic plus resistance exercise versus aerobic exercise alone to improve health outcomes in paediatric obesity: a systematic review and meta-analysis’. The study investigated the effect of concurrent aerobic plus resistance training versus aerobic exercise alone on anthropometric and metabolic results in obese children and adolescents. The findings are extremely important for science because of their clinical and social relevance.

However, some methodological aspects deserve further discussion and clarification. Minor changes will also be suggested to qualify this study even further.

In the methods section, the Delphi list2 was used to evaluate the methodological quality of the studies that were part of the systematic review. However, this tool was developed to evaluate the methodological quality of randomised clinical trials, and the authors also included non-randomised studies. Thus, it would be better to use another tool to analyse the methodological quality of non-randomised studies, since they may be prone to bias and, thereby, change the findings of systematic reviews.3 The ROBINS-I tool4 would be a good option, as it was developed by the Cochrane Collaboration, specifically designed to evaluate the risk of bias in non-randomised intervention studies.

Given that the meta-analysis is based on aggregate data, and uses non-randomised studies, a further potential limitation should be noted, for example, the ecological fallacy, which consists of a possible distortion of the association between an exposure and an outcome.

In the introduction, the authors cite a systematic review to support the WHO recommendation which, in fact, is not related to the recommendation.5 In the last paragraph of the introduction, the authors affirmed that a meta-analytical approach has not previously been used to examine the effects of concurrent exercise compared with aerobic training alone in the obese paediatric population. Nonetheless, they mention a study that makes a reflexive analysis about the high-intensity interval exercise for public health,6 which, in our point of view, has no relation to the previous statement and, therefore, would not be the most appropriate study to support it.

In summary, these contributions are intended to clarify some points that may interfere with data interpretation, because the inclusion of non-randomised studies with high risk of bias may be potentially dangerous, as they can affect the results of the systematic review regarding the efficacy and safety of the intervention.3 The sole purpose of our comments and suggestions is to improve this important manuscript even further, because we believe that this study will have a direct impact on clinical practices, being a reference for choosing the most appropriate intervention exercise in paediatric obesity.

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