



## Comment on: “Low Cardiorespiratory Fitness Post-COVID-19: A Narrative Review”

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Dear Editor,

I read with great interest the review by Schwendinger et al. [1], which contributes valuable findings about cardiorespiratory fitness in post-COVID-19 patients. I also read the comments provided by Gomes-Neto et al. [2] and the reply of Schwendinger et al. [3]. Certainly, a meta-analysis will help researchers and clinicians understand the magnitude of the difference in cardiorespiratory fitness in patients post-COVID-19 and provide directions for future research. However, as Schwendinger et al. [1] adopted a narrative review with a ‘systematic approach’, and not a purely systematic review, some principles and guidelines for conducting systematic reviews with meta-analysis [4] were violated, reducing the transparency and reliability of the study. The purpose of this letter is to clarify some misconceptions made by the authors of the study when they opted to conduct a meta-analysis of a narrative review article.

Due to the nature of the study, the authors presented their results in a narrative form. However, as this is a narrative review, with the addition of a meta-analysis, it is possible to question the methodology for conducting the study [5]. Below are some important aspects that should have been considered prior to conducting a meta-analysis.

The authors did not declare that the review was conducted following the Preferred Reporting Items for Systematic Review and Meta-analysis (PRISMA) guidelines [4],

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and the study protocol was not previously registered in a database (e.g., PROSPERO or Open Science Framework). Additionally, it was not disclosed whether the search was conducted by at least two independent reviewers, compromising transparency regarding the selection of studies. The last search record was in January 2022, so we do not know if any relevant study has been published that could be added to the present review. A flowchart was not presented to help readers understand how the studies were selected according to eligibility criteria; this was only narrated in the ‘Methods’ section. Finally, the authors did not present any methodological quality analyses and/or analyze risk of bias of the studies (e.g., Downs and Black checklist, Physiotherapy Evidence Database scale [PEDro scale]), reducing the interpretation of how each study was judged [6]. The absence of all these aspects compromises the robust interpretation that one has of a meta-analysis [7, 8].

It is important to highlight that the review followed the a priori proposal, and the study was well outlined by the authors. After a question was asked about whether a meta-analysis would have provided more valuable information [2], the authors utilized this methodology in their reply to enrich their findings [3]. However, the literature does not recommend conducting meta-analyses of narrative reviews, as the purpose of this type of study is to explore the development of specific ideas to advance conceptual structures, and not to extract, standardize and weight the evidence in a statistical analysis [5, 8]. Therefore, conducting a meta-analysis without providing the rigorous and appropriate methodology of a systematic review can compromise the study’s reliability and introduce biases that are less usual in systematic reviews [7].

As a consequence, some care must be taken with the interpretation of the meta-analysis. The reliability of the statistical analysis provided by Schwendinger et al. [3] can be questioned because the type of review conducted does not support this analysis with the necessary accuracy. In conclusion, it is important to reinforce that a systematic review with meta-analysis can guide decision making due to the

scrutiny of the available evidence, and this would have been more appropriate in the current context.

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## Declarations

**Competing interests** The author declares that they have no competing interests.

**Ethics approval and consent to participate** Not applicable.

**Consent for Publication** Not applicable.

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