

Answer to the reviewers

**Reviewer's code:** 03849140

Thank you for your valuable review.

**Reviewer's code:** 00247204

Thank you for your valuable review and comments.

This is a review article on the health benefits of High-intensity interval training (HIIT). The review provides a comprehensive summary of the HIIT protocols and the relevant benefits and is well placed in the field. The manuscript is of potential interest if the following issues are addressed:

1. Table 1 legend should read as: "variables improved by high-intensity interval training";

I corrected Table 1 legend according to your suggestion.

Also, Table 1 is confusing; don't mix basic science evidence with evidence from clinical/epidemiology studies. use one line per biomarker

I corrected Table 1 according to your suggestion.

2. Are there any data on the effects of HIIT training on outcomes? these should be highlighted in a separate table.

To the best of our knowledge, the long-term clinical outcomes by HIIT training is lacking. However, there are RCTs comparing HIIT with MCT in  $VO_{2peak}$  improvement during short-term (several months) duration in patients with coronary artery disease and chronic heart failure. I added Tables 2 and 3.

3. The beneficial CV effects of HIIT and relevant mechanisms should be highlighted in a summarizing illustration.

Thank you for your valuable comment. We added a summarizing illustration as Figure 2 which shows aerobic and metabolic effects and relevant mechanisms.

4. the manuscript needs to be revised by an expert in English language.

Although we asked a specialist in English language to perform proof read thoroughly in the original submission, but it might not have fulfilled your evaluation. In consideration of your comments, we have had the entire manuscript re-checked by a native English specialist, who has made all necessary changes for grammatical accuracy, improved clarity, and brevity.

The edited words were written in red letters in the main document.