

Letter to the Editor

Response to: Comment on “Effect of Exercise Intervention on Flow-Mediated Dilation in Overweight and Obese Adults: Meta-Analysis”

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We read with great interest the Letter to the Editor by Mohammad Alwardat [1] on our article [2]. We have addressed each of his concerns as below.

Dr. Alwardat raised the question of using PEDro and recommended using the Grading of Recommendations Assessment, Development and Evaluation (GRADE) approach. We appreciate the opportunity to entertain all other valid options to assess bias risk or methodological quality in individual studies in addition to PEDro, such as Cochrane's Collaboration of risk of bias [3], Newcastle-Ottawa Scale [4], and Down and Black checklist [5]. We also value the potential use of the GRADE system that Dr. Alwardat recommended, yet the GRADE system is used for grading the quality of “body of evidence” rather than the study level [6]. It also does not provide a quantitative rating of bias risk. We elected to display the PEDro scores of the articles in our data as we believe it will facilitate the reader's understanding of the relative level of quality of evidence contained therein, which the GRADE system was not able to provide. In addition, Dr. Alwardat mentioned that in his opinion PEDro values of 6 were relatively low for our type of study; however, the reference he cited [7] examined risk of bias methods specifically when using PEDro cutoff scores, which we did not use in our study. Furthermore, studies with PEDro scores of 6 or higher are widely ascribed terms such as to be of “good”, “fair”, or “moderate” [8–10], and thus our choice of language to describe our results is justified. As an additional

clarification, we would like to inform readers that our median PEDro scores for included studies are 8 with an interquartile range (IQR) of 3. Over 76% of the included studies have the PEDro score of 6 or higher.

Another comment referred to our inclusion criteria. It was suggested that our inclusion criteria were ambiguous and did not follow the PICO (P: participants, I: intervention, C: comparison, O: outcomes) format; however, it is outlined clearly in our paper in the Methods section. Indeed, the commenter's own written response claims the study is lacking defined “outcome measures” while quoting in the same paragraph a section of our paper which includes a description of exactly such an included outcome measure: “studies included the value of relative flow-mediated dilation...”. It was also suggested that our study lacked “comparison” groups, but this is again inaccurate; comparisons such as exercise duration, modality, and intensity (among others) can be clearly seen in the figure and tables and in our moderator analysis results.

The final observation pertains to the use of MeSH (Medical Subject Headings) in addition to keywords in the search of related articles when constructing a meta-analysis. We appreciate the opportunity to clarify the details of our methodology and understand that searching using both free text and MeSH is an important aspect of meta-analysis methodology; failing to do so would risk missing relevant articles. We did perform such a search, using both keywords and MeSH as appropriate, when obtaining relevant articles for

our study using PubMed. We did not feel this particular detail of our methodology bore special delineation in our Methods section, and thus it was not specifically mentioned that we had done so. We thank Dr. Alwardat for the chance to provide this detail to our readers.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this article.

References

- [1] M. Alwardat, "Comment on "Effect of exercise intervention on flow-mediated dilation in overweight and obese adults: meta-analysis";" *International Journal of Vascular Medicine*, vol. 2018, Article ID 5082903, 2 pages, 2018.
- [2] Y. Son, K. Kim, S. Jeon et al., "Effect of exercise intervention on flow-mediated dilation in overweight and obese adults: meta-analysis," *International Journal of Vascular Medicine*, vol. 2017, Article ID 7532702, 11 pages, 2017.
- [3] The Cochrane Collaboration, "Cochrane Handbook for Systematic Reviews of Interventions," 2011, http://handbook-5-1.cochrane.org/chapter_8/8_assessing_risk_of_bias_in_included_studies.htm.
- [4] A. Stang, "Critical evaluation of the Newcastle-Ottawa scale for the assessment of the quality of nonrandomized studies in meta-analyses," *European Journal of Epidemiology*, vol. 25, no. 9, pp. 603–605, 2010.
- [5] S. H. Downs and N. Black, "The feasibility of creating a checklist for the assessment of the methodological quality both of randomised and non-randomised studies of health care interventions," *Journal of Epidemiology and Community Health*, vol. 52, no. 6, pp. 377–384, 1998.
- [6] G. H. Guyatt, A. D. Oxman, G. Vist et al., "GRADE guidelines: 4. Rating the quality of evidence—study limitations (risk of bias)," *Journal of Clinical Epidemiology*, vol. 64, no. 4, pp. 407–415, 2011.
- [7] S. Armijo-Olivo, B. R. Da Costa, G. G. Cummings et al., "PEDro or Cochrane to assess the quality of clinical trials? A meta-epidemiological study," *PLoS ONE*, vol. 10, no. 7, Article ID e0132634, 2015.
- [8] N. C. Foley, R. W. Teasell, S. K. Bhogal, and M. R. Speechley, "Stroke rehabilitation evidence-based review: methodology," *Topics in Stroke Rehabilitation*, vol. 10, no. 1, pp. 1–7, 2003.
- [9] F. C. da Silva, R. D. R. Iop, L. C. de Oliveira et al., "Effects of physical exercise programs on cognitive function in Parkinson's disease patients: a systematic review of randomized controlled trials of the last 10 years," *PLoS ONE*, vol. 13, Article ID e0193113, 2018.
- [10] H. J. R. Van Duijnhoven, A. Heeren, M. A. M. Peters et al., "Effects of exercise therapy on balance capacity in chronic stroke: systematic review and meta-analysis," *Stroke*, vol. 47, no. 10, pp. 2603–2610, 2016.