Author's response to reviews

Title: Characteristics of randomized controlled trials of yoga: a bibliometric analysis

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Author's response to reviews: see over
Response to the Editor’s and the Reviewer’s comments:

Dear editors, dear reviewers,

Thank you very much indeed for your kind and valuable comments and efforts while reviewing this manuscript. We addressed the comments accordingly. Changes are highlighted in grey.

Reply to the editorial comments:

1. We recommend that you copyedit the paper to improve the style of written English.

HC: Already the original submission had been copyedited by a British native speaker with longstanding research experience to improve the written English. We however have again carefully read through the manuscript in order to detect any additional language issues.

2. Please carefully review and address all of the reviewers’ comments. However, you need not make the changes requested by reviewer 2 in “major compulsory revision 2” regarding outcome measures if they were not part of your data abstraction (as it appears from the text may have been the case). In either event, please respond to the item, even if to tell us that this is not possible. If the outcomes were not abstracted, please cite this as a limitation to your paper.

HC: Thank you very much. Indeed, outcomes were not extracted as part of this analysis. We now state this a limitation.

Please note that due to the relatively long time since the first literature search was conducted, we had updated the search a few months ago. Thereby, several numbers in the manuscript have changed although the overall tenor stays the same.

Reply to referee1:

1. This manuscript addresses a specific and important issue of consolidating knowledge on available randomized controlled trials (RCTs) of Yoga. This work shall be useful for yoga therapists, yoga researchers and clinicians to understand the trend and evidence of yoga research. Author has used simple but appropriate methodology. Author has not included the studies with multimodal interventions (such as MBSR, Transcendental Meditation or comprehensive lifestyle modification) even if the later included yoga. This has appropriately been mentioned in the limitations of the study.

HC: Thank you very much for your kind and helpful comments.

2. Author has used the search term “yoga” for retrieving RCTs, but there are some publications which have used yoga or one of its components as intervention but have not used the specific term “yoga” in the title or abstract. Thus, authors could have expanded their search by using few more terms such as “Yogic”, “Kriya”, “Pranayama”, “Asanas” etc. This could have helped in getting more RCTs. This should be included in the limitations of the study.

HC: Thank you very much for pointing this out. Due to the relatively long time since the first literature search was conducted, we had updated the search a few months ago. In this updated search, we have used additional search terms such as Yogic, Pranayam* and Asana* (where * are wildcards).

3. Author has included all the 274 eligible RCTs in the references (from 24-273). It would have been more useful if reference numbers would have been given for the
statements in bibliometrics and interventions sections, wherever feasible; for e.g., the statement “...major general medicine journal like Lancet, JAMA, Annals of Internal Medicine...” would become more useful with necessary reference numbers.

HC: Thanks a lot for this comment. We had actually planned to give reference numbers for all statements, however due to the extremely large number of references finally refrained from doing so to improve readability. We now include reference number for the statement on major general medicine journals you mentioned.

4. Overall, in the reviewer’s view, this writing is acceptable for publication with minor revisions as suggested above.

HC: Thanks a lot.

Reply to referee 2:

1. This is a descriptive analysis of the RCT-evidence related to yoga as an intervention. It is well written and organized, and is a good summary of the state of the science in this area.

HC: Thank you very much for your valuable comments.

2. This is not a systematic review and should not described as such. I agree that it was done systematically, but that is not sufficient for a systematic review. For example, the Cochrane Collaboration glossary defines a systematic review as follows: A review of a clearly formulated question that uses systematic and explicit methods to identify, select, and critically appraise relevant research, and to collect and analyse data from the studies that are included in the review. Statistical methods may or may not be used to analyse and summarise the results of the included studies.” The current manuscript does not (and did not intend to) critically appraise individual RCTs nor analyse/summarise results of the RCTs. This paper is a descriptive analysis.

HC: As suggested, we have changed all statements that this is a systematic review. We now describe it as a “bibliometric analysis”.

3. What was the nature of primary outcomes for the RCTs? How many are self-report? How many use validated tools? How many are surrogate outcomes (eg, blood pressure) vs. patient-important outcomes (eg, myocardial infarction)?

HC: The assessment of outcome measures was beyond the scope of this analysis. As suggested by the editorial office, we included this as a limitation of the analysis.

4. The authors allude to this, but the paper would be stronger if there was more discussion on how to improve the quality of research in this area. For example, better reporting, better choice of outcomes, longer follow-up or duration of intervention?

HC: As suggested, we expanded the discussion on implications for further research.

5. Searching: You did not use one of the validated search filters (eg, Cochrane) to locate RCTs. Consider whether this is a limitation and comment in the manuscript.

HC: Thank you very much for pointing this out. Due to the relatively long time since the first literature search was conducted, we had updated the search a few months ago. In this updated search, we have used an adaptation of the Cochrane RCT filter.
6. Bibliometrics: The unit of analysis in this section is the number of studies rather than the number of RCTs. It makes more sense to use RCTs.

HC: In the bibliometrics section, we primarily refer to the published articles on yoga. As several RCTs were split up into two or more publications, we considered it useful to assess all publications on a given RCT. Elsewise we would have had to chose a “primary” publication and discard all other publications on the same RCT. This would have been really difficult for those RCTs that did not disclose the existence of multiple publications and would also have led to a loss of data. Therefore, analyzing the bibliometrics only for one publication per RCT proved to be unsuccessful.

7. The results and discussion around multiple publications is good and important. A recommendation to researchers in the area on how/whether to publish multiple publications would be a useful addition to the manuscript.

HC: Thanks a lot for pointing this out. We added this point in the discussion.

8. Include interquartile ranges whenever you give medians. It is more informative than simply giving the “most common” XXX (eg, sample size).

HC: Done as suggested.

9. What was the post-intervention follow-up period? What are the implications for research if most do immediate post-intervention assessments?

HC: The assessment of follow-up periods was beyond the scope of this analysis. We included this as a limitation of the analysis.

10. In the discussion you say that Indian interventions are often longer than western interventions, but you don't give any data to support this assertion. Add the information on the different durations by setting in the results (eg, Indian vs NA and Europe).

HC: This statement was mainly based on the findings of one of our previous systematic reviews. We now make this clear in the discussion. In the present analysis, medians were relatively comparable between India (11.5 weeks) and the USA (10 weeks). However, all four trials with a 1-year intervention period included in this analysis were conducted in India. We added this in the respective section.

11. Can you comment on why there was such a big jump in RCTs between 2011 & 2012? Do you have any reason to believe that this is a trend? Or, was there a policy/funding change for research in this area that may have had an impact?

HC: The reason for this jump actually remained unclear. Using data from the updated literature search, there was a slight decrease in 2013; however numbers were still much higher than a few years ago. We now discuss this in more depth.

12. How many RCTs focused on children only? older adults only?

HC: We added this information in the text.

13. In the discussion you note that 52 studies (approx. 25%) had mostly female participants. Is this important? What implications might it have for generalizability or other issues? Why highlight it?
HC: This was a misunderstanding. The number ‘52’ was the median number of included participants. Most participants overall were female. This was just added as a summary of the participants’ characteristics. However, it might still have implications on generalizability.

14. In the discussion you comment on the current guidelines for designing yoga interventions. A major contribution to the literature would be an assessment of how many of the RCTs in your paper meet the guidelines, as well as an assessment of the major strengths and weaknesses. Consider adding this as a part of a “future directions” paragraph.

HC: Thanks for this suggestion. We have added this important implication.

Once again, we would like to thank the editors and the reviewer for their efforts, encouraging comments and constructive criticism.

Sincerely yours,

Holger Cramer (on behalf of the authors)