Reviewer’s report

Title: Hierarchies of Evidence Applied to Lifestyle Medicine (HEALM): Introduction of a strength-of-evidence approach based on a methodological systematic review

Version: 0 Date: 23 May 2019

Reviewer: Livia Puljak

Reviewer’s report:

Dear Editor,

Thank you for inviting me to review the manuscript BMRRM-D-19-00183

I would like to suggest the following items for revision:

Abstract

1. The authors should make sure to report the abstract in line with PRISMA-A checklist

2. RCT acronym is redundantly defined twice in the abstract.

3. When you write "A new construct, Hierarchies of Evidence Applied to Lifestyle Medicine (HEALM), was developed to illustrate the feasibility of a tool based on the specific contributions of diverse research methods to understanding lifetime effects of health behaviors." - it is unclear that this was this developed by authors. Passive voice makes it unclear who has developed the HEALM. I would suggest to revise into: We developed a new construct...

4. PROSPERO registration number should be given in brackets

References

5. Please use reference style for this journal; i.e. references in square brackets that are inside the sentence (not after the period as in your case), and not glued to the word. This referencing style looks like the authors simply converted superscript-after-period style without making further formatting changes.

6. The authors write "RCTs are subject to specific biases", but also other types of research are subject to specific biases. Others are not bias-free.

7. The authors are uncritical towards observational research when they write "evidence from observational cohort studies may be substantially more informative". Such evidence may also be much more messy, and of questionable reliability. The authors should devote equal amount of criticism to observational research as well.
8. Please provide registration number in PROSPERO in the manuscript methods.

9. Please provide explanation why were databases searched from 01/01/2013-11/07/2017. In line with ROBIS tool, the authors should explain their search restrictions.

10. Please describe "expert panel" in more details - how many people were in the panel, what is their background, and composition of the panel in supplementary materials.

11. The authors have included systematic reviews and meta-analyses. Basically, the authors have conducted a systematic review of systematic reviews (i.e. overview of systematic reviews) and this should be clearly specified, and also indicated in the title.

The title is currently inaccurately reflecting content of the manuscript. The better title would be:

Strength of evidence tools used in systematic reviews and meta-analyses of lifestyle interventions: overview of systematic reviews and development of Hierarchies of Evidence Applied to Lifestyle Medicine (HEALM) tool

12. Clarify in the text rationale for restricting searches to English language. Are there any eligible systematic reviews in non-English language, anyway?

13. It does not seem appropriate to limit search in two databases for participants 65+ years of age. This does not seem to be in line with the study aim.

14. Please specify definition of a systematic review that you have used. It is written "studies whose designs were clearly not a systematic review or meta-analysis", however, there is a lack of consensus about what is "clearly" a systematic review or meta-analysis. Authors should clearly specify this. Furthermore, this text is in the paragraph where it is written that one investigator single-screened titles, and then included those that were not clearly systematic reviews or meta-analyses. Some systematic reviews and meta-analyses do not indicate study design in the title, so the authors have likely missed relevant studies from such search. This is a major flaw in study design.

15. Clarify meaning of "double-screening" - does this means independent screening by two investigators?

16. Indicate in brackets initials of authors who have done each methodological step.

17. In the text, "To address these issues, the HEALM investigators…" - please explain HEALM acronym. Previously it was explained only in the abstract.

18. The authors wrote "However, it suggests using GRADE(35) for other questions that are feasibly answered with RCTs." - however, GRADE allows for research designs other than RCTs. Are the authors suggesting that GRADE should be used only for RCTs?
19. The authors should support this statement with references and provide numerical evidence for this statement: "results from RCTs are consistently superior may be exaggerated."

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

Not relevant to this manuscript

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

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Please complete a declaration of competing interests, considering the following questions:

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