Peer Review File

Reviewer Comments

1) I think the evidence hierarchy pyramid should be cited in the second sentence so that readers can see an example of it.

Reply 1: Thank you for the reviewer's precise comment. We have added the reference in the text.
Changes in the text: Page 1/lines 14-15, "Moreover, the idea of setting out medical evidence hierarchically using a pyramid has played an essential role in policy-making (2)."

(2) Magni P, Bier DM, Pecorelli S, et al. Perspective: Improving Nutritional Guidelines for Sustainable Health Policies: Current Status and Perspectives. Adv Nutr. 2017 Jul 14;8(4):532-545.

2)I think where you state that the evidence hierarchy has played an essential role in policy making, you should expand on this. How has it played an essential role? Can you provide some examples?

Reply 2: We are pleased for the reviewer's valuable comment. The evidence-based medicine movement introduced the concept of "pyramid of evidence", which is behind the basis of the levels of evidence for clinical practice. Policymakers also care the evidential hierarchies, and they will gather evidence of effectiveness with reference to a hierarchy of evidence and evidence gathering. Here, we expand our comments on this point.
Changes in the text: Page 1/lines 15-18, "Moreover, the idea of setting out medical evidence hierarchically using a pyramid has played an essential role in policy-making (2). Taking the making of policy in clinical practice as an example, the policymakers need to systematically collect all evidence on a topic, evaluate evidence hierarchy and quality grading, and integrate potential patient benefits, in order to give the strength of recommendation for each treatment option.

3) The first sentence of the second paragraph is a little unclear to me. The reasons behind what? I suggest it should be something like "The reasons behind this lack of high quality reviews include..." if I have understood the meaning correctly.

Reply 3: Yes, as you said, this sentence was meant to summarize the reasons for the decline in the number of high-quality reviews, including the increasing need to synthesize the evidence, the high estimated costs, lacking professional training, expertise, and enough collaborators.
Changes in the text: To clarify your point, we added the following to the main text: "The reasons behind this lack of high-quality SRs likely include the increased demand for information integration in the era of big data, ...".

4) It is interesting to me the discussion around single authors and reasons why this might be the case. The other reason I thought of is student reviews. If a student conducts a review for assessment, then they have to be the sole reviewer due to issues around collusion and plagiarism. Some students go on to seek to publish their review. It may not be possible for all students to find collaborators at this point and seeing that they have conducted the review alone, they may seek to publish as a single author too.

Reply 4: We agree with the reviewer's great comment and have made additions to address the comment.
Changes in the text: Page 3/lines 101-104, "As we know, researchers who have limited resources may have to carry out the SR alone, without incorporating two or more reviewers throughout the steps. A very

common situation is the SRs by students, either as a course assignment or as a dissertation. Students who independently carry out an SR are essential for them to receive credits and degrees, yet looking for collaborators could lead to a collusion issue. The subsequent publication of such SRs is challenging".

5) In Section 3.1, you talk about academics conducting reviews. What about clinicians and other health professionals who often undertake reviews as well, particularly if they are seeking research funding (most funding bodies would expect one to be able to demonstrate that they had a good working knowledge of the evidence base).

Reply 5: We are pleased for the reviewer's valuable comment. We agree the word "academic" may be confined to some extent. And we change it to "academic, clinicians or health professionals".
Changes in the text: Page 3/line 125, "Any academics, clinicians or health professionals conducting an SR should ideally receive SR-specific systematic training and guidance to ensure they have sufficient expertise."

6) In Section 3.2, it is a little confusing talking about two reviewers in relation to the literature search, as this would usually be conducted by one researcher (preferably an Information Professional!). There is a move towards peer-review of search strategies, which would include a second Information Specialist, but this is the ideal, and not mandated at this stage. See the Cochrane Handbook Chapter on Searching and PRISMA-S for reporting search strategies. I also think it is useful at this point to highlight how important it is to involve a librarian or information specialist as part of the review team, and that it does have an effect on the methodological quality of a review. See The effect of librarian involvement on the quality of systematic reviews in dental medicine - PubMed (nih.gov) https://pubmed.ncbi.nlm.nih.gov/34469487/ and Use of Recommended Search Strategies in Systematic Reviews and the Impact of Librarian Involvement: A Cross-Sectional Survey of Recent Authors (nih.gov) https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4418838/?report=reader

Reply 1: We totally agree with the reviewer's comments. We check the Cochrane Handbook and delete the "literature search" in line 154. Additionally, we have added more comments about the literature search process as suggested by the reviewer.
Changes in the text: Page 4/lines 161-163, "Researchers need to recognize that some key stages, particularly the study selection, and quality appraisal, are best conducted by at least two reviewers. Even for the literature search that is usually conducted by one researcher (preferably an information professional or a librarian), there is a move towards peer-review of search strategies, which would ideally include a second information specialist, though not mandated at this stage".

7) You touch on it elsewhere, but in Section 3.2 you could reiterate that if collaborators do not meet the ICMJE criteria for authorship, they should at least be acknowledged.

Reply 7: Thank you for the reviewer's valuable comment. We reiterate this point in Section 3.2.
Changes in the text: Page 4/lines 165-167, "Specifically, the International Committee of Medical Journal Editors (ICMJE) has clear eligibility criteria for authorship: those who are not involved in the conception, design, manuscript writing, or final approval of a manuscript should not be included in its author list. Of note, when more than one researcher is involved in an SR but only one meets the authorship criteria, the author should clearly acknowledge the other contributors and their corresponding contributions to the paper".

8) I welcome the advent of automated tools, and as a co-founder of the Systematic Review Toolbox http://systematicreviewtools.com/ I encourage their use in evidence synthesis. However, there are known to be some barriers to tool uptake, particularly if researchers are time and resource constrained. See:
The views of health guideline developers on the use of automation in health evidence synthesis - PubMed

(nih.gov) https://pubmed.ncbi.nlm.nih.gov/33419479/
Usage of automation tools in systematic reviews - Altena - 2019 - Research Synthesis Methods - Wiley Online Library https://onlinelibrary.wiley.com/doi/10.1002/jrsm.1335
Are systematic review and guideline development tools useful? A Guidelines International Network survey of user preferences - PubMed (nih.gov) https://pubmed.ncbi.nlm.nih.gov/32487964/
Systematic review automation tools improve efficiency but lack of knowledge impedes their adoption: a survey - PubMed (nih.gov) https://pubmed.ncbi.nlm.nih.gov/34242757/
It would be good if you could reflect on some of these barriers in the uptake of automation in systematic reviews, and also propose what might be some facilitators for potential authors.

Reply 8: We appreciate the informative comment and have made additions to address the comment. We like the Systematic Review Toolbox, and the taxonomy of review family impresses us a lot. It was added in section 3.2, which we believe will also benefit our readers.

Additionally, the barriers to adoption of automation tools were elaborated in the current version with the given references. We also expand our manuscript to discuss the possible solutions concerning these barriers from the perceptive of tools developers, academic institutions and public platforms, as well as s researchers.

Changes in the text: Page 4/lines 189-207, "However, automated tools are not currently widely adopted, and much of the use is still based on experience delivery by self, colleagues, or peers. Even in studies with decent adoption rates, automated tools are most often used in the screening phase, with less satisfactory adoption in other phases (23). Barriers that researchers reported mainly include difficulties in obtaining licensing, lack of knowledge and steep learning curve, technical issues, lack of support, mismatch to current workflow, values and practices, and insufficient trust in the tool (23,24).

In the future, broader use of automated tools for SRs may need a joint effort by multiple stakeholders: (i) As developers of automated tools, they need to ensure that the tools are as user-friendly as possible, by inviting more researchers to join early in the development process; also, ensure consistency with existing workflows, values, and practices as much as possible; shorten the learning curve by featuring step-by-step educational videos; and, provide a variety of handbooks of technical issues solutions. (ii) As academic institutions and public platforms (e.g., PRISMA website, academic societies, and public health websites), conduct research to generalize and promote the robustness of automated tools throughout the process of SRs. (iii) As researchers, perhaps a mindset needs to be cultivated to balance between the temptation of existing experience and tools that take one out of comfort zone: are there any automated tools that can help me work more effectively when doing this new SR compared to my previous experience?".

(23)   Clark J, McFarlane C, Cleo G, et al. The Impact of Systematic Review Automation Tools on Methodological Quality and Time Taken to Complete Systematic Review Tasks: Case Study. JMIR Med Educ 2021;7(2):e24418.
(24)   van Altena AJ, Spijker R, Olabarriaga SD. Usage of automation tools in systematic reviews. Res Synth Methods 2019;10(1):72-82.

9)I have reservations about the usability of the flow-chart in Figure 1, although I welcome the idea.
a) I don't understand the first question: "does the article incorporate a systematic review"? What do you mean by article? The article that the author intends to write? I think the "overview of reviews" or "review of reviews" or "umbrella reviews" is dependent on the evidence base available, and there may be various reasons for choosing this review type, particularly where there is a wealth of evidence and systematic reviews are well-established in the topic area. It also allows researchers to present evidence on multiple interventions which will save time for decision makers, as they will not have to look at a systematic review for each individual intervention.
b) If the answer to the question about a systematic and comprehensive literature search is "no", I'm not sure where one goes next in the flowchart? In my opinion all review types should have a systematic search that is as comprehensive as possible for its purpose and within any time constraints (such as in the rapid review). Even in what we would call a "traditional literature review" or "narrative review", I would expect to see a systematically conducted and reported search these days.

c) With the time limit question, in my experience most reviews would have some kind of time limit (whether from the funders or a self-imposed time limit perhaps relating to an objective one is required to meet) so I think this question is misleading. I think a rapid review would have a condensed period of time to work on it (typically 6 months or less in my experience).

f) I do not find the flowchart clear to navigate, in terms of the "yes" and "no" answers and where I should go next.

Reply 9: Sorry for not being clear. We agree with you that the words (e.g., "systematic search", "time limit") to distinguish types of reviews may confuse readers. We decide to delete Figure 1 and refine Table 1 by drawing on the classification of Sutton et al. and Bougioukas et al.

Changes in the text: See page 2/ lines 74-77, "Bougioukas et al. (10) recently categorize overviews of reviews in health care into seven types based on methodological approach. Although the classification by Bougioukas et al. is on overviews of reviews, it has great value for us to classify a broader range of reviews" and Table 1.

(10) Bougioukas KI, Pamporis K, Vounzoulaki E, Karagiannis T, Haidich AB. Types and associated methodologies of overviews of reviews in health care: a methodological study with published examples. J Clin Epidemiol. 2023;153:13-25.

d) I'm not sure about the "minimal text" question. Is this about presenting evidence more graphically? In which case I would expect mapping review or evidence map to be the review type here.

Reply 9d: We thank the reviewer for the suggestion. The "minimal text" means that the length of the mini review is minimal compared to traditional reviews, such as narrative review. We consider mini review wouldn't provide a graphic summary of the evidence. In addition, mapping review and evidence map are not listed since they're not considered as the most frequently published types.

Changes in the text: None

e) I am not familiar with the review type "mini review". A search on PubMed reveals it is a review name used, but the few I have looked at do not look particularly systematic. Is this more akin to the "traditional literature review"? I think some clarification is required here. Could you include a table of review definitions as well?

Reply 9e: Yes, we prefer classifying mini review as the type of traditional reviews. We have deleted Figure 1 and refined Table 1 to avoid confusing the reader.

Changes in the text: See Table 1.

g) In determining review types and possible resources required, you may find the following tools useful to refer to:

Right Review (knowledgetranslation.net) https://rightreview.knowledgetranslation.net/

Delphi consensus reached to produce a decision tool for SelecTing Approaches for Rapid Reviews (STARR) - Journal of Clinical Epidemiology (jclinepi.com) https://www.jclinepi.com/article/S0895-4356(18)31098-9/fulltext

PredicTER - Predicting Time requirements for Evidence Reviews https://predicter.github.io/

Reply 9g: We thank the reviewer for the valuable comment. The above-mentioned tools are useful. But given there are too many tools available to guide each review type and people have different preferences for using tools, it can be difficult to include all of them. Therefore, we have only described the characteristics of the most common types of reviews in Table 1 to inform readers.

Changes in the text: Changes in the text: See Table 1.