Reviewer's report

Title: Assessments of attrition bias in Cochrane systematic reviews are highly inconsistent and thus hindering trial comparability

Version: 0 Date: 28 Aug 2018

Reviewer: Matt Vassar

Reviewer's report:

Babic et al. examined risk of attrition bias judgments made by systematic reviewers of Cochrane systematic reviews. I appreciate the opportunity to review this paper. The authors have investigated an important research question, and I offer the following comments to improve the manuscript.

The authors should frame this study within the context of the development of Cochrane's RoB 2.0, which is scheduled for release at the 2018 Cochrane Colloquium. The updated tool addresses limitations of the current one, including updated instructions for authors, renaming the bias categories, bias judgments at the outcome (rather than trial) level, among others. It would seem that this update should be discussed in the current manuscript, especially if the updated version addresses the limitation cited by the authors as the impetus for conducting this study.

The manuscript would benefit from changes to its structure. I found it difficult to follow in its current form. There are a lot of categories and subcategories in the results sections. That structure could lend itself to clarity or confusion, depending on how well the reader is able follow this structure. Moving or removing the paragraph that starts with "In the first category a third of supporting explanations were unclear (32%)" would increase clarity. Defining terms (e.g., "unclear supporting explanations" and "single judgement") would also increase clarity.

The introduction could be improved by eliminating the paragraph which discusses all domains included in the Cochrane risk of bias tool. If this information is necessary for readers, it could be placed in a table. I suggest replacing this paragraph with one that provides a robust discussion on attrition bias. Such a discussion would properly motivate the need for this study. In particular, I would suggest discussing what attrition bias is and how it can affect clinical trials, clinical outcomes, and/or systematic reviews. Specific clinical examples are also welcome here.

The authors justify the need for this study by stating that the instructions for this bias domain are unclear; however, the authors do not provide evidence to support this claim. Results from a survey study of Cochrane reviewers or a study showing poor interrater reliability for the attrition bias domain would provide a more credible justification for this assertion. Otherwise, I
recommend that the authors more explicitly state the directions for this domain and explain why
the instructions are problematic.

Please include the initials of all authors that screened articles for inclusion or extracted data. This
information was included for the author (AB) that extracted data from a random sample of 10%
of the included studies and for the author (LP) that resolved discrepancies, but not for the authors
that screened studies for inclusion or the author that extracted data from all studies.

Please address how systematic errors in data extraction were addressed. In the manuscript, the
authors mention that one author extracted data from all included studies while a second author
extracted data from a random sample of 10% of the included studies. It is unclear what steps
were taken if disagreements were found in the 10% of data extracted by both authors. Interrater
reliability estimates would provide evidence for the accuracy of the extracted data. In general, I
would like to see the authors address the methodological safeguards used to ensure that the
extracted data are accurate.

In the Data Extraction section the authors state that they, "reported only analysis of attrition bias
for included CSRs with a single judgment, regardless of the number of supporting explanations
that were provided for that judgment". Please provide a definition for "a single judgement" as
this phrase is unclear. Does this mean a single judgement for an entire systematic review or a
single judgement from each author in a systematic review?

In the Data Extraction section the authors mention that parts 1, 2, and 3 of the secondary analysis
investigated characteristics of risk of bias and attrition bias. I suggest that the authors consider
either listing specific characteristics of risk of bias and attrition bias that are being investigated or
provide a better explanation of what the word characteristics signifies in this context.

I would like to see the authors place the results into a table. For example, along the left side of
the table, each row could represent one category (and associated subcategories) and there could
be columns for Low, Unclear, and High risk of bias (n/N, %). This would make it easier to view
the results in aggregate and allow for more clarity in the interpretation of the results. It would
also free up words in the results to discuss more items beyond the description of proportions and
percentages.
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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

Unable to assess

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.

I am able to assess the statistics

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I declare no financial conflicts of interest. I am acquaintances with the senior author of this paper, Livia Puljak. I do not feel that this matter has affected my judgment regarding the manuscript.

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