Author's response to reviews

Title: Reference Management Software in the Preparation of Systematic Reviews and Meta-analyses: an exploration of usage and usability

Authors:

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Author's response to reviews: see over
October 1, 2013
Re: MS: 6606523771050384

Dear Dr Scherer:

Please find attached our revised manuscript submission entitled “Reference Management Software in the Preparation of Systematic Reviews and Meta-analyses: an exploration of usage and usability”.

We thank you for giving us the opportunity to revise and resubmit the paper in response of reviewer comments that you provided to us in your recent correspondence. We have addressed each of the comments of both yourself and the referees, and have made corresponding changes to the paper. Below, we provided itemized responses to each of the comments provided. Changes made to the revised manuscript have been highlighted in yellow.

We thank you and the reviewers for your helpful critique of our paper. We see that it has improved through these revisions. We look forward to hearing back from you.

Sincerely,

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Associate Editor’s Comments:

Comment:
"The area covered in this paper has not been reported to date. Evidence supporting the use of reference management systems is lacking and the authors provide some evidence of use. However, the scope of the study is somewhat limited in that only the "core clinical journals" indexed in ACP were the target for the sample. A justification for this sample should be included - i.e., why not search PubMed for a sample to obtain a wider variety of disciplines?"

Authors’ Response:
Your comment regarding our sampling frame is an important one, and we agree that we need to explain this (and discuss this) more fully in the paper. Our decision to study systematic review articles featured in ACP Journal Club relates partially to the clinical importance and visibility of these featured articles. We wanted our study to focus on articles that the scientific community has judged to be important. In doing so, we recognize that our sampling frame, drawing from ACP Journal Club, may have identified a subset of articles that have a better quality of reporting than the norm. Indeed, studies included in ACP Journal Club must meet standard quality criteria. In the case of systematic reviews, these criteria include a clear statement of the intent of the research, and a description of the methods used to identify and select/deselect studies for inclusion in the review. Journals indexed in PubMED establish their own quality standards, not all of which are the same. By restricting our study to systematic reviews published in ACP Journal Club, we do acknowledge that we may have identified reviews with a better-than-average rigour and quality in the domains of both execution and reporting.

The Methods section of manuscript (Methods, page 6, paragraph 3) has been revised to include the following statement:

Our decision to study systematic review articles featured in ACP Journal Club relates partially to the clinical importance and visibility of these featured articles. We wanted our study to focus on articles that the scientific community has judged to be important. Systematic reviews indexed in ACP Journal Club must meet standard quality criteria including a clear statement of research, and a description of the methods used to identify and select studies for inclusion in the review. By restricting our data collection to studies indexed in ACP Journal Club, we recognize that we have been sampling reviews with better-than-average reporting.

This limitation has also been acknowledged in the Discussion section (Discussion, page 12, paragraph 1) as follows:
Secondly, as mentioned previously, we limited our study sample to clinical reviews published in ACP Journal Club. This sampling frame may have resulted in the identification of published systematic reviews that have a better-than-average quality of reporting.
Comment:
Secondly, the authors argue that use of a reference manager may "impact the number of studies identified and selected for inclusion in a systematic review." While it may impact accuracy, it is not clear how it would impact the number of studies.

Authors’ Response:
We agree that this sentence requires clarification. The sentence (Background page 5, paragraph 2) “Thus, an author’s decision to use, or not use, this software may impact the number of studies identified and selected for inclusion in a systematic review” has been replaced with

“Thus, an author’s decision to use, or not use, this software may impact on the accurate reporting of the number of studies reviewed for inclusion and exclusion in a systematic review”.

Comment:
Also, the authors assume that all readers are familiar with the various reference managers - an explanation of the strengths and weaknesses of the various software available would be helpful - including those not necessarily identified in the survey.”

Authors’ Response:
Agreed. Although it is not feasible in the context of this paper to adequately review all reference management products, we have amended our manuscript to compare and contrast some of the better known tools. The following text (Background page 4, paragraph 3):

While early programs were limited in function, and designed to be loaded onto and accessed from discrete single-station computers, many programs developed in the last decade are web-enabled, include social networking functions, and support the sharing of reference databases among researchers[3,5].

has been replaced with:

Numerous reference management programs are currently available. Although all programs facilitate the capture, organization, and elimination of duplicate records from electronic database searching, they vary with respect to cost, overall functionality, and networking capabilities. Products such as EndNote, Papers, and RefWorks are licensed or sold outright, while others (eg: Mendeley and Zotero), are available at little or no cost to the user. While some, such as EndNote and Reference Manager, run on single-station computers, many others, including RefWorks, Mendeley and Zotero, are web-based. Single-station software usage is generally not affected by website time-lags, down times, or record limits, all of which may impinge on the usability of web-based products. That said, the benefits of these web-based programs include the ability to store reference databases on secure servers, and access databases from multiple computers or other electronic devices. Web-based programs also provide users with
enhanced networking functions that readily support the sharing of records among researchers[3,5].

Comment:
Please adhere to PRISMA reporting guidelines. (PRISMA ? Systematic Reviews http://www.prisma-statement.org/)

Authors’ Response:
We have complied with these guidelines.

Comment:
Tables: Please ensure that the order in which your tables are cited is the same as the order in which they are provided. Every table must be cited in the text, using Arabic numerals. Please do not use ranges when listing tables. Tables must not be subdivided, or contain tables within tables. Please note that we are unable to display vertical lines or text within tables, no display merged cells: please re-layout your table without these elements. Tables should be formatted using the Table tool in your word processor. Please ensure the table title is above the table and the legend is below the table. For more information, see the instructions for authors on the journal website.

Authors’ Response:
Tables have been cited, using Arabic numerals, in the correct order in the text. Table titles (page 16, Table 1 and Table 2) have been placed above the tables. The merging of cells within Table 1 has been removed.

Comment:
Please also ensure that your revised manuscript conforms to the journal style (http://www.biomedcentral.com/info/ifora/medicine_journals ). It is important that your files are correctly formatted.

Authors’ Response:
Table titles (page 16, Table 1 and Table 2) have been placed above the tables. The merging of cells within Table 1 has been removed. Paragraph indenting has been removed.

The Background section in our Abstract has been revised to exclude reference to the ICMJE reporting guidelines document.
Reviewer 1 (Elizabeth Pienaar) Comments:

Comment:
Results. Last sentence of 1st paragraph: write seventy-eight surveys as 78.

Authors’ Response:
Done (Results page 8, paragraph 1)

Comment:
Results 2nd paragraph: Where percentages are given please add it in numbers e.g.
79% of respondents as 79% (62/78)

Authors’ Response:
Done (Results page 8, paragraph 2)

Comment:
Background
2nd last paragraph: The last sentence of this paragraph makes a statement can
lead to strong reactions from review authors. The use of, or not, of software
should not be limiting authors to the number of studies included in a review.

Authors’ Response:
We agree that this sentence requires clarification. The sentence (Background page 5,
paragraph 3) “Thus, an author’s decision to use, or not use, this software may impact
the number of studies identified and selected for inclusion in a systematic review”
has been replaced with

“Thus, an author’s decision to use, or not use, this software may impact on the accurate
reporting of the number of studies reviewed for inclusion and exclusion in a systematic
review”.

Comment:
Methods
Study Identification.
Limiting the studies the authors included to English only may be a limitation.

Authors’ Response:
Agreed. The second to last paragraph in the Discussion section of the manuscript
(Discussion page 12, paragraph 1) acknowledges this limitation:

Thirdly, an analysis of systematic reviews produced in languages other than English,
and other disciplines, such as education or social work, could yield different findings.

Comment:
If the email address of the corresponding author is not available I would suggest
to use Google to try to locate the author, alternatively a simple search for the
author on Medline should also retrieve the address.

Authors’ Response:
The authors searched PubMED, Scopus, Web of Knowledge, Google, and Google Scholar to locate current email addresses for all corresponding authors of studies selected for review. In some cases, we were successful; in others not.

The following text (Methods Page 7, Paragraph 1) was added to the manuscript:

*We searched PubMED, Scopus, Web of Knowledge, Google, and Google Scholar to identify current email addresses for corresponding authors of studies selected for review.*

Comment:
Discussion
4th paragraph: 2nd sentence:” A failure to identify duplicate records captured in database searched may result in an over-reporting of identified studies.” I don’t agree with this – when you include results from studies in a review you need to extract data from those studies and you note the bibliographic details, surely while doing this an author should be able to see that he/she is now listing the same study more than once. I also don’t understand how the use of reference management software to identify duplicate reference can cause relevant studies to be overlooked. These statements needs to either removed or better explained as they will raise comments from review authors.

Authors’ Response:
Agreed. It is easy to identify duplicate records of included studies. It may not be as simple, particularly when one is retrieving thousands of records from each database searched, to identify duplicate records of all abstracts screened, both included and excluded. PRISMA guidelines stress the importance of accurate reporting of both included and excluded studies at all stages of a systematic review. Reference management software does tend to facilitate this process for large-scale reviews. The relevant sentence (Discussion page 11, paragraph 2)

* A failure to identify duplicate records captured in database searches may result in an over-reporting of identified studies.*

has been replaced with:

* A failure to identify duplicate records captured in database searches may result in an over-reporting of irrelevant studies*

In response to the second comment, some reference manager software programs such as Reference Manager and EndNote can be programmed by the user to remove duplicate records as they are being imported into a reference database. An algorithm establishes the parameters by which a duplicate record is identified or not. If the
parameters are not adequately stringent (eg. duplicate titles must be at least 75% identical), articles that are unique yet published by the same author in the same year with virtually the same title (eg: titles that differ only in their subtitles) may be deemed duplicate records and thus removed from a reference database before the researcher has an opportunity to review and assess their relevance.

We feel that the existing sentence requires no further clarification.

(Discussion page 11, paragraph 2):
Similarly, an over-reliance on reference management software to identify and remove duplicate records from a reference database may cause relevant studies to be overlooked.

Reviewer 2 (Vittoria Lutje) Comments

Comment:
The manuscript also reports on the survey’s responders’ preferred software (Endnote), and on other comments on the usability of the various software. This last part of the results (users’ preferences) appears somehow unrelated to the main research question, i.e. to determine the use and its reporting of bibliographic management software.

Authors’ Response:
In the last paragraph of the Background section of this manuscript (Background page 5, paragraph 3) and in the Abstract, we have replaced:

The purpose of this study was to determine the extent to which authors are using reference management software to produce systematic reviews. We also sought to identify which programs are used most frequently, and to assess the degree to which software usage is documented in published studies

with

The purpose of this study was to determine the extent to which authors are using reference management software to produce systematic reviews; identify which programs are used most frequently and rate their ease of use; and assess the degree to which software usage is documented in published studies.

This change was also implemented in the Background section of the Abstract.

Comment:
There is no apparent link between the type of software used, reasons for switching or its perceived difficulty of use, and the fact that reviews’ authors are not reporting using bibliographic software.
Authors' Response:
We observed no link between choice of reference management software and perceived functionality or usability. Nor was choice of software associated with the degree to which usage was reported or not reported. Our interest in gathering this information did not stem from a wish to determine whether or not such a link exists, but rather to explore trends in reference management software usage, usability, and reporting.

We have revised our manuscript to include the following text (Discussion page 10 paragraph 1):
Further, there appears to be no apparent relationship between choice of reference management software and perceived functionality or usability. Nor was software choice associated with the degree to which usage was reported or not reported in published studies.

Comment:
Another point to make is that more and more systematic reviews, especially complex ones with large numbers of references, are using types of software (EPPI reviewer, EROS) that combine reference management with study assessment for inclusion/exclusion and its reporting, and statistical analysis capacity. Also, web-based, open-source software such as Mendeley is becoming widely used.

Authors' Response:
In question 2 of our survey (Methods Data Collection page 7, paragraph 3) we asked participants to state which reference management program they used. We did not restrict their response to specific programs. We had expected to see much wider variety in terms of types of programs being used. This was not the case. Programs such as EPPI reviewer are significantly more expensive than standard reference management software. This may be why none of our respondents reported using this software to manage their references.

Comment:
The study suffers from some limitations and the authors appear well aware of them, mainly that the systematic reviews included in the analysis were only in the field of clinical medicine, and other disciplines such as social sciences could have given different results, and that there is no evidence to suggest that using reference management software has an impact on the quality of a systematic review. Also, there are no recognized differences between using, say, Reference Manager, Endnote or Procite.

Authors' Response:
Agreed. All reference management programs perform the same basic functions. The differences are in cost, ease of access or use, and sharing/networking functions. Although the purpose of this study was not to explore similarities and differences in reference management software programs we acknowledge that this is a potential study limitation. As such, the following paragraph (Discussion page 12, paragraph 2)
Our study has caveats and limitations. Although we were able to achieve a strong response rate of 70% from our email survey, a telephone survey could have yielded a higher response rate. Furthermore, researchers who declined to participate in our study may have different perspectives on reference management software usage than those who participated. Secondly, we limited our study sample to clinical reviews published in English. An analysis of systematic reviews produced in other languages and other disciplines, such as education or social work, could yield different findings.

Comment:
I would like to see the study expanded to include a more complete analysis of systematic reviews in other disciplines and a more extensive list of software.

Authors' Response:
This issue of analyzing systematic reviews in other disciplines is acknowledged as a study limitation in the Discussion section of our manuscript (Discussion page 12, paragraph 2).

Although by no means complete, the Background section (Background page 4, paragraph 3) of the manuscript has been revised to include a more detailed discussion of the main features of software programs in common usage.

The following text:
While early programs were limited in function, and designed to be loaded onto and accessed from discrete single-station computers, many programs developed in the last decade are web-enabled, include social networking functions, and support the sharing of reference databases among researchers[3,5].

has been replaced with:
Numerous reference management programs are currently available. Although all programs facilitate the capture, organization, and elimination of duplicate records from electronic database searching, they vary with respect to cost, overall functionality, and networking capabilities. Products such as EndNote, Papers, and RefWorks are licensed or sold outright, while others (eg: Mendeley and Zotero), are available at little or no cost to the user. While some, such as EndNote and Reference Manager, run on single-station computers, many others, including RefWorks, Mendeley and Zotero, are web-based. Single-station software usage is generally not affected by website time-lags, down times, or record limits, all of which may impinge on the usability of web-based products. That said, the benefits of these web-based programs include the ability to store reference databases on secure servers, and access databases from multiple computers or other electronic devices. Web-based programs also provide users with enhanced networking functions that readily support the sharing of records among researchers[3,5].

We again thank the Associate Editor and the two reviewers for their thoughtful comments.