Author's response to reviews

Title: Citation searching: a systematic review case study of multiple risk behaviour interventions

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Author's response to reviews: see over
Cover letter
Referee one

Major:
1. Page 8, last paragraph. There is another possible contribution here. Citation provides context and infers relevance. This can raise the “index of suspicion” that an item might be relevant, even if the title and abstract are uninformative. Thus, it is possible that an item might be recognized as relevant when it appears as a citing or cited reference, although it had been screened out by reviewers in the initial screening of database results. In this light, I would suggest screening the 35 that had been excluded because they had already been identified from database searching – unless they found relevant during that screening (page 15).

There is a chance that the big payoff comes from screening citing references blind to the previous decision – there are hints that this is the main contribution of checking cited reference.

Response
We chose to investigate citation searching because we too had an idea that this approach to searching could perhaps uncover relevant studies like reference checking does. Here the original paper can give context and understanding in a way that looking at a title and abstract never can, especially when there are large sets of results to be scanned at the outset of a project before researchers have a full understanding of the topic and its literature. In our investigation all the 1789 citations records were scanned as though they had been identified by database searching i.e. they were downloaded into endnote bibliographic software then titles and abstracts scanned. If there had been a smaller number (50 or less for example) we could have scanned the titles and abstracts as usual and then, as a second step, have looked at the full text of all of the papers to see whether a closer inspection confirmed our original include/exclude decision or whether there was some further information contained within the body of the paper that led to the papers inclusion.

All other comments are minor discretionary.
2. Page 6 – I think a it is important to evaluate time and cost. You do discuss time, below I suggest addressing cost in the discussion, and add time and cost as a factor here.

Response
Agree we have added some more information and comment about both time and cost

3. Page 9 and 10 – The authors might be able to tighten the introduction by trimming some of the discussion of h-index and, what I assume to be, the oblique reference to Gehanno and the other papers that the his Google Scholar claims have triggered (first paragraph p. 10).

Response
We have removed the references to the h-index – as you say this ensures that the focus of the paper is on citation searching.

4. Page 13 – I would remove the counts for each database – this is a result and is repeated in the result section. Please consider of some of the results of interim steps could be moved to the results section as well.

Response
We have moved the numbers to the results section as suggested.

5. Page 20 – Can you be more specific as to when this single record entered Embase and SCI? Possibly the database publishers could help, working from the record’s accession numbers. This isn’t essential, but January – November is a fairly long span.

As an aside, I looked at abstract for that 41st study as I was interested in the N. It is described as a cluster RCT but seems to have been analyzed as though it were a standard RCT – I confess that haven’t read the whole trial (no need to respond to this observation).

Response
We have added details of when this paper was added to EMBASE [20130805] but this information still isn’t publicly available for SCI. After contacting Thomson Reuters to request the entry date their response was "I am sorry that we currently do not have an option to retrieve the processing date of journals/articles within Web of Science. However, I have reported this as an enhancement to our development team for consideration in a future release.". It would increase transparency in information retrieval research if this data were available.

6. Discussion, p. 21. Some issues that are not particular to Google Scholar are intermingled with GS limitations. I would suggest separating a) limitations inherent in the method; citation tracking is labour intensive and the search becomes a 2 stage process, ( maybe also note if these drawbacks are shared with other methods such as checking cited references and contacting authors) from b) limitations specific to GS (lack of bulk export, sketchy record quality). A strength of Google Scholar is that it is available without cost – WOS and Scopus are both quite pricey.

Response
Thank you for pointing this out – we have now separated out the limitations of Google Scholar from the limitations of citation searching more generally and re-written the paragraph to reflect this. We’ve also mentioned that Google Scholar is free.

7. Coverage vs. retrieval – an issue brought to the fore by the Gehanno work!

You address this only for SCI index – all 40 were in the database, only 12 were identified through searching. I would like to see this for all databases. As well,
this seems to be a new result, introduced in the discussion – please report this in the results section (apologies if I have simply missed it).

Response
This information is presented in the results section in Table 4. Looking back through the paper I see that we didn’t reference Table 4 so this has been corrected

8. Page 22 – recall achieved from combining one db + citation tracking - again, this seems to be a new result, introduced in the discussion.

Response
This information is presented in the results section in Table 4

9. Any insights as to why OVIDSP is so sparse? The help features says “OvidSP’s Find Citing Articles feature lets you connect quickly to a display of articles in Journals@Ovid that cite the article of a record from your OvidSP session.”
- Does this mean that it is only reporting citations in Wolters Kluwer journals? If that is the case, you should likely mention that.

Response
The coverage provided by OVIDSP is much smaller than that offered by SCI and Scopus. As you say, it’s restricted to journals that are included in the journals@OVID database. When I requested the number of journals from Wolters Kluwer their reply was “We have over 3000 journals on Ovid, are there any in particular that your interested in and we can quote you.” I have added this information about coverage to the paper

10. Limitations – You have only one novel record identified from this method. You do acknowledge that this is a case study, and that results may not generalize, but think about whether this is likely to be a chance finding? The initial search was done in January, this article was published in July. In a year without a US Gov’t services shutdown and an end-of-year reprocessing shutdown of unprecedented length, might this have been found more easily in a routine update of the MEDLINE search toward the end of the review?

Response
The additional record wasn’t available in the OVIDSP MEDLINE database so wouldn’t have been identified by the usual update searches carried out towards the end of the project. Though if we had used EMBASE for the update we would have identified it
11. My overall impression of these results is that, given competent database searching and an update of the search toward the end of the review, citation tracking does not appear to contribute much. I find the value of finding a 41st study earlier than you would have otherwise to be quite small. I would be pleased to see a bolder conclusion – what should systematic reviewers do?

Response

Thank you for this comment – it’s encouraged us to look at it from a different perspective and to adopt your suggestion for the conclusion.
Referee 2
No major compulsory revisions

Minor Essential Revisions
1. In the abstract, please include the definition of ‘citation searching’ that would
   distinguish it from reference list searching. Your definition is good, but it is not
given until the 3rd paragraph of the main body.
Response
Following your suggestion we’ve added a short definition of citation searching to the abstract

2. Also regarding the definition: I have heard terms – “pearl growing”, “snowball
technique”, and “forward citation tracking” to describe what you term “citation
searching”. Is there a distinction or are these all synonyms?
Response
We’ve added a few sentences (and a new reference) to the body of the paper about these
methods

3. On page 9 please define “h-index”
Response
Following the suggestion of the other peer reviewer we’ve now deleted the sentences that refer to
the h-index so this is no longer applies

4. In the Results: please comment on approximately how much time citation
searching took for each of the 4 citation resources including downloading,
de-duplicating and screening of the citation searching results.
Response
We’ve added some details about the time taken to perform the citation searching and associated
tasks

5. In the Discussion please consider the time factor when commenting on the
value, feasibility and potential of this approach, given that studies would have
been found in an updated traditional search anyway. Would it have made a
difference if this were an update search of the review? i.e. would this have the
potential to save time?
Response
We’ve added some comments about the length of time taken
Discretionary Revisions

6. In the background section: please include 2 additional systematic review guides that recommend citation searching:
   Campbell Collaboration guidance http://www.campbellcollaboration.org/resources/research/new_information_retrieval_guide.php

Response
We’ve added details of these 2 publications

7. I disagree that this topic and the complex nature of the intervention of this scoping review is a limitation. In fact, it is an appropriate choice of case. Complex, multidisciplinary interventions are exactly the situations that authors would consider citation searching. A question for future research would be whether citation searching can reduce the overall number of databases searched in such a review.

Response
We agree I think about the complex nature of the intervention being suitable for citation searching…. we chose to try using citation searching for this scoping review rather than for a review of a clinical topic as we thought that it was exactly the kind of wide ranging topic that cuts across disciplines and where it can be difficult to construct efficient search strategies. The case study review was particularly complex though – looking at not just at a wide range of risk behaviours but also looking at clusters of risk behaviours for specific populations. We would like to re-run the investigation (if we have the opportunity) but using a review that, for example, focused on complex interventions on just one a single risk behaviour to see whether it has the potential to reduce the number of databases searched.