Reviewer's report

Title: Cochrane search strategy was optimum method to conduct a psychometric diagnostic test accuracy review in postnatal depression: a comparison of three alternative strategies

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Reviewer: Margaret Sampson

Reviewer's report:

Thank you for the opportunity to review this paper.

The authors have explored whether the search filters designed to detect diagnostic test accuracy studies also detect psychometric tests. They construct a gold standard and then search using three approaches, one with no methodological filter, one using a filter from CDR, and one using a filter by Vincent.

The “gold standard” comprised 6 papers, only one of which was fully relevant. The unfiltered approach found all 6 papers, as did the search with the CDR filter. The Vincent filter missed 1 or 2 of the six, it isn't clear, but did miss the one fully relevant paper.

The authors describe this work as preliminary, and conclude that the Cochrane approach, in which no methodological filters are applied, is the preferred approach when seeking psychometric measures for mental health disorders.

This paper could make a useful contribution to the literature with substantial revisions. The two major aspects I would like to see are a) the organization of how the searches and results are presented and b) the interpretation of the results.

Major compulsory revisions

A) The paper will benefit from some re-organization to improve clarity.

1. The three searches need to be clearly named and should be consistently referred to by those names in the methods, results, figures and appendices.

2. In the methods section, the searches should be describe as all having components related to the question of the review; a component representing the concept of the target condition, here, postnatal depression; a component representing the index test, here, case-finding questions. Two of the three approaches added a methodological filter designed to detect studies of diagnostic test accuracy. Then, the 2 filters should be described. Finally, note that Cochrane advises against adding a methodological filter for DTA studies, and so this approach was also tested.

3. There needs to be a result table that clearly reports each search name, and
the recall (which the authors have described as “retrieval rate”) and precision of each of the searches. Recall and precision are the standard performance parameters by which searches are assessed and compared.

4. The Venn diagram is puzzling. I would expect that the intersection point in the middle would contain the list of studies found by all 3 searches. The intersection of A and B not C would contain the list found by A and B but not by C. The intersection of B and C not A would contain…

5. The searches are difficult to compare with the annotation for .mp. showing for each use (mp=title, original title, abstract…). Ovid added this statement in the search result when the searcher does not specify .mp. but relies on the system defaults. A footnote to the search can define what fields are covered by multiple posting (mp) once. It would be helpful to many readers to put a footnote explaining that .fs. indicates a floating subheading (any that could be defined).

6. The searches should be presented as parallel constructions. For instance, in appendix 1, line 1 is exp Postpartum depression and line 4 is postpartum depress$.mp. In search 3, both are in line 1, but without depress being truncated. This should be standardized across the 3 searches. There is no explanation as to why pnd.mp. and baby blues.mp. are only in search 1. I would prefer to see it in all searches or no searches. It would be much clearer if the subject portion of the search were identical in each of the 3. The method filter should be the final (3rd) concept in both search 2 and search 3.

b) Interpretation of the results

7. My opinion is that the authors’ hypothesis, that filters designed for lab tests may not work well for psychometric tests, is sound. My reasoning is while lab and imaging tests are evaluated primarily by sensitivity and specificity, psychometric tests are evaluated primarily on reliability and validity. The available methodological filters are looking for sensitivity and specificity. It would be worth discussion this point. It may also be worth considering whether psychometric tests are diagnostic or descriptive. Other diagnostic test tend to be dichotomous (patient has the disease or does not, result is normal or not) while psychometric tests tend to be normed.

8. The authors have worked with only one search, and one where the retrieval size is small. In the discussion, they should address the consequences of not using a methodological filter in a question with a bigger evidence base – that is, they should discuss precision. Their work may point to the need to refine the filters to include measure appropriate to psychometric tests.

Discretionary Revisions

9. PND is not a standard abbreviation in the field of systematic reviews, diagnostic studies or information retrieval, therefore as a service to the reader, please use postnatal depression throughout rather than abbreviating it to PND.

10. The authors state as a limitation that only one database was used – as
search filters are database specific, this is not really a limitation and can be deleted.

11. It would a nice touch to mention somewhere in the paper that psychologists were influential in the early work in meta-analysis.

Reviewer’s Information

I have worked as a psychometrist first in psychiatric rehabilitation and later in neuropsychology for one main segment of my career, and as a librarian quite involved with systematic reviews for another main segment. As such, I have found it quite interesting to have the opportunity to review this paper.

Level of interest: An article of outstanding merit and interest in its field

Quality of written English: Acceptable

Statistical review: No, the manuscript does not need to be seen by a statistician.