Reviewer's report

Title: Critical appraisal of AMSTAR: challenges, limitations, and potential solutions from the perspective of an assessor

Version: 4  
Date: 6 May 2015

Reviewer: Dawid Pieper

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Major Compulsory Revisions

1.96 and 1.102/3 It is important to note that AMSTAR, although developed to evaluate the methodological quality of SRs, has only been developed and validated by the developers on SRs of RCTs. This should be made clear at the end of the para.

1.22 It is mentioned in the text that the items will be presented in italics but I can’t find them in the manuscript. It is important for the readers to have the items and their guiding notes in the manuscript.

1.149 I agree that this note is misleading. However, I would appreciate it to have a guidance note whether checking someone’s work (also known as double-check) is sufficient as this is a different procedure when compared to two independent persons. I guess this was what the AMSTAR team might have had in their mind.

1.188 An increase in sensitivity is not necessarily warranted by searching two sources as it will always depend on which sources are sought (e.g. one big database might be more able to increase sensitivity than two small databases). I suggest to delete "and sensitivity" or to rephrase.

1.214-219 it is not clear to me whether the author suggest to define a minimum number of characteristics or to define characteristics that must be included.

1.334 I am struggling with the term "efficiency of SR quality assessment". What is meant by that? This might be more related to validity.

I suggest to add a discussion para about the trade-off between more and clearer guidance (as mainly suggested by the author) at the one side and the opportunity of more subjective judgements on the other side. Both side have their pros and cons. For example, setting minimum thresholds will let many people simply count instead of think about the issue under study. Making the tool simple as much as simple makes it applicable to many researchers, including even those with very limited expertise in SE, but this might come at the cost of validity. However, this is not an only AMSTAR-related problem, but applies to all critical appraisal tools.

Minor Essential Revisions

It should read "in a SR" instead of "in an SR" throughout the manuscript.
l.319 insert "the" before "note"

Discretionary Revisions

l.99 "reporting on the use" is not the same as "using" something. Consider rephrasing

l.167 consider to add that authors of Cochrane reviews are not routinely expected to perform handsearches. This might be a potential explanation why this was not considered in the note. However, it’s worth discussing it.

l.231-247 The point of the author could be presented in a clearer way. One possibility would be to state that AMSTAR whether there was any quality assessment, while the author has the opinion that it should read whether the authors assessed the quality of the primary studies with an adequate tool. In the current AMSTAR version it is not clear from the item and its guidance how to score a SR of case-control studies when the authors used the Cochrane risk of bias tool for critical appraisal, for example.

The manuscript would benefit much by including examples known by the author where he experienced the problems well described in the paper. The manuscripts reads very theoretically (although personally I know that it’s not) and readers might be interested in some examples from the practice.

It might also be interesting for the reader to know that the AMSTAR developers are going to develop an AMSTAR version for non-randomized studies. This information can be found on the AMSTAR website

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

I declare that I have no competing interests