Reviewer’s report

Title: O’Connor et al. systematic review regarding animal feeding operations and public health: critical flaws may compromise conclusions

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Reviewer: David Moher

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The comment by Nachman and colleagues is a critique of a recent publication in the journal (O’Connor et al - full citation here). The authors point to problems in how O’Connor and colleagues searched the literature, the potential exclusion of certain papers, the use of ROBIN-I tool to assess the risk of bias in the included studies, and the interpretation of the results. In totality, the authors suggest that better conduct might have lead O’Connor and colleagues to different conclusions as some of the authors concluded in a 2015 publication (reference 38).

The paper is thorough and reasonably well balanced in parts although I'm not sure this balance is maintained throughout and think it could be improved.

From the 98 lines of text I read I did not see any mention as to whether any part of O’Connor and colleagues systematic review was well conceived and conducted. For example, they registered their review (PROSPERO), and published a protocol. Are these reasonable best practices for systematic reviewers? If so, the authors should take some time and add a paragraph précising some positive attributes of the O’Conner review.

The authors point to O’Connor and colleague's 'misadventure' using the ROBINS-I tool. A glaring problem with the critique is the authors offer no alternative. Should O’Connor et al not used any tool or a different tool? I'm not sure whether the authors are correct in their criticism of using ROBINS-I, "A direct application to environmental health studies, where the exposure in involuntary and ongoing, is inappropriate". For example, exposure to long-term interventions is possible (and common) for many medical/health conditions (Cancers, mental health). In terms of involuntary, would second hand smoke not meet this criterion? The authors go on to state "The use of the ROBIN-I tool in this context will inherently bias the conclusions....". Is this a conceptual argument or is there evidence to support the claim? Perhaps something more balanced would be preferable.

The way the paper is written the authors seem to suggest that use of a different tool would provide different results/conclusions as to the impact on public health as the authors did (reference 38). This is how I have interpreted the text. O’Connor et al did mention reference 38 and also noted another publication whose results were not in 'agreement' with theirs in the discussion section of the paper. So I think they have been reasonably balanced in contextualizing their results with other divergent results.
While I appreciate reference 38, is it reasonable to compare a systematic review (O'Connor) with a non-systematic review (how I have categorized reference 38)?

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