Reviewer’s report

Title: Long-term health-related and economic consequences of short-term outcomes in evaluation of perinatal interventions

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Reviewer: Elina Hemminki

Reviewer’s report:

The paper describes a study protocol containing two parts: 1) a literature review, 2) building a prediction model for long term effects. The topic, long-term effects of perinatal interventions (and their current neglect) is very important. However:

1. The reason to publish this protocol is not clear. A reason I can think of could be to get suggestions from the readers of original studies for the first part. But this is not suggested. The rationale for the second part is even more unclear.

2. The background includes previous literature only on the first part. No previous literature on modeling and its possible benefits and difficulties (in general or perinatal period particularly) is given.

3. Abstract is not very informative, especially the section on Methods needs more facts.

4. The type of studies reviewed is not clearly stated. In abstract, the term “obstetric studies” is used. In objectives the term “interventions” is used. In Methods, “studies on interventions” is used, and only later the term RCT is given. If only trials are reviewed, that should be given early on.

5. The examples before the “objectives of the study” are interesting. But they would be even more so, if the authors explained whether the original conclusions of the value of the intervention changed after long-term effects became known.

6. The authors do not explain why they start to look for studies on long term effects from the trials (on short term effects) from Cochrane library, searching for further studies from these trials. Why not (in addition) to search directly trials on long-term effects? There may be trials going directly to long term effects, or publishing both at the same time. Furthermore, it may be difficult to trace later papers if they are searched by the names (?) of the original authors. Different authors may be involved.

7. The short term outcomes (the predictive value of which for long-term outcomes will be modeled?) includes very different types of phenomenon, e.g. cesarean delivery and periventricular leukomalacia. The rationale of selecting the short-term outcomes is not given.

8. “Systematic review” in Methods: only trials “aimed to improve neonatal outcome” are included. Why this restriction? A perinatal intervention may have been evaluated e.g. by labor progress, and only later its long term infant effects are studied.
9. “Systematic review” in Methods: to what does “these selected articles” refer to? Are the original Cochrane review papers read and analyzed or the new papers on long-term effects?

10. The time tense in Methods section varies and it is not always clear whether some of the work has already been made.

11. Description of the part 2 (modeling) is difficult to comment. Partly because it is not my field, partly because it is only superficially described. Several questions on the planned methodology remains. For example, what was POPS study design, what were the response rates in different follow-ups? The studies to be used in the validation should also be described more in detail. See also comment 2.

12. POPS included only very pre-term infants. Can results from them be extrapolated to more term newborn? This should be commented.

13. I did not understand how the second result in Discussion is achieved in the current study.

14. At places, the meaning of the sentences is difficult to understand. The English should be checked for clarity. For example the section “Systematic review” in Methods is difficult to understand.

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'