Reviewer's report

**Title:** Prevalence of early-onset neonatal infection among newborns of mothers with bacterial infection or colonization: a systematic review and meta-analysis

**Version:** 1  **Date:** 23 July 2014

**Reviewer:** Anna H van't Hoog

**Reviewer's report:**

Major Compulsory Revisions

1. This systematic review and meta-analysis provides an extensive search and analysis of studies related to the burden of vertical transmission of bacterial pathogens. The methods and results are clear and well structured. What I miss however is explanation about the context. The background section is very short. It is not really clear why the review was done as reported. So the reader is left with many questions like:

   - The rationale is reduction of neonatal deaths, but what is known about mortality among neonates with the reported outcomes?
   - Why is the outcome an overall prevalence, with sensitivity analysis around studies with and without or unknown use of antibiotics, rather than a comparison between groups that had vs. did not have antibiotics, or at least an attempt to report prevalence in those subgroups? It seems that the authors are interested in the natural history, i.e. vertical transmission in absence of antibiotic treatment. Generally, if a maternal infection is suspected antibiotics treatment may be common in settings where studies are conducted? This point should come out more clearly, and the current guidelines for antibiotic use discussed, so we understand the context.
   - what are interventions related to high prevalence of the studied outcomes?

2. The above applies to the background section, but also to the discussion and conclusions. If more studies are needed, could the authors discuss in a bit more detail what type of studies (design, outcomes) would be most useful and feasible. Also in relation about the earlier points about the use of antibiotic treatment.

3. Methods/page 8: what is the rationale for rating studies with one domain low risk and another domain unclear risk as low risk of bias? In my understanding low risk implies that one can be reasonably confident that bias did not distort the results, which is not the case if the risk is unclear.

4. Results/Table 1 (page 11): A study could report more than one maternal conditions but was used only once in each meta-analysis. How was decided for which condition such studies were included in a meta-analysis?

5. Results/page 12. Provide a rationale why urinary tract infection exposure was reason for exclusion.
6. In addition to point 1, the association with PROM/PPROM could be more clearly explained in the discussion, as bacterial infection may be a cause, and ROM would be a reason for women to report to a health facility and be included in a study.

7. In the discussion, please provide an indication of possible bias from excluding the studies that were not reported in English and of possible publication bias.

8. The appendix tables 2, 3 and figure 1 are not sufficiently readable. The text in figure 1 is unreadable whatever screen enlargement is applied. The tables extend on additional pages without repeating 1st columns or headers. Try to narrow columns such that at least all columns fit on 1 page.

Minor Essential Revisions

9. Figure 1 misses 1 arrow at the last step.

10. Table 1: a footnote explaining why row totals exceed 100%, and how this relates to the meta-analysis would make the table more stand-alone.

11. Abstract: should stand on it’s own, for a general readership. The way an earlier study by the authors is mentioned is not useful in the abstract.

Discretionary Revisions

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

**Quality of written English:** Acceptable

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.

**Declaration of competing interests:**

I declare that I have no competing interests