Reviewer’s report

Title: The burden of laboratory-confirmed pertussis in low- and middle-income countries since the inception of the Expanded Programme on Immunisation (EPI) in 1974: a systematic review and meta-analysis

Version: 0 Date: 12 Mar 2020

Reviewer's report:

This is a systematic literature review of pertussis from 1974 and provides valuable information and provides important gaps in the literature.

There are many limitations to the individual studies including lack of vaccine coverage, many studies not having age breakdown etc. However these are discussed in the discussion.

MAJOR COMMENTS

It should be clearly stated in Table 2 which are studies that have been performed during outbreaks and the meta-analyses and other descriptive summaries should be stratified by endemic/epidemic studies.

Line 123: It is not clear what the difference between the mortality rate and the pertussis CFR- this needs to be defined in the methods. and clarity then for line 369.

Line 160: what study designs were eligible
Analysis should be reported separately for the different lab methods, noting most studies used PCR, the most sensitive method.

Line 192-193: it not clear what the dotted lines are meant to be if they have no meaning.

Line 208: Was a quality assessment done on the lab methods used regarding sensitivity of the method used?

Line 246: ~50% of the data came from 5 countries - should each study therefore be weighted?
Number fo doses of vaccine would be useful to know if available/reported and add to Table 2.

MINOR COMMENTS

Line 93; missing words at the end of the sentence.
Line 100: state what settings are you referring to.
Table 1 can be moved to Supplementary materials.
Line 140: It is not clear why the search was done over 4 different times.
Line 221-223: please reword this sentence and be more specific ie 'what does "amongst others" mean?
Table 2: add if outbreak setting or not
Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Not applicable

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

No

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I recommend additional statistical review

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

Statement on potential review bias
Please complete a statement on potential review bias, considering the following questions:
1. Did you co-author any publication with an author of this manuscript in the last 5 years?
2. Are you currently or recently affiliated at the same institution as an author of this manuscript?
If you can answer no to all of the above, write 'I declare that I did not publish with these authors in the last 5 years and also meet the affiliation criteria’. If your reply is yes to any, please give details below.

I declare that I did not publish with these authors in the last 5 years and also meet the affiliation criteria

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal