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: 06 Apr 2020

Reviewer's report:

The authors have attempted, using a systematic review/meta analysis where applicable, to define the burden of pertussis (a re-emerging infectious disease) in low and middle-income countries. The attempt to synthesize and produce a summary estimate of pertussis burden in the very heterogeneous population of LMICs is a daunting task. There are a few comments that require the attention of the authors:

1. Please include the search terms for the other electronic databases as a supplementary file and the total hits returned from each database on the PRISMA flow chart.

2. Page 9, lines 223-225: Please cite the studies being referred to here.

3. Page 10, lines 226-227: Please cite the studies being referred to here.

5. PRISMA chart: please give examples of the "other" excluded studies

6. RESULTS: A) What methodologic variations would have led to the very high prevalence of lab-confirmed pertussis in Cooper et al, Astudillo et al and Al-Bargish et al. Would a sensitivity analysis without these studies present a summary estimate with less heterogeneity and therefore a more trustworthy prevalence value? B) The component of HIV’s effect on pertussis prevalence appears to be a slight distraction to the manuscript. Would it not be more appropriate to take this as a separate paper and thereby have the opportunity to deal with more variables associated with HIV in that paper? this may help give more focus to this manuscript. Moreover, the HIV component of the work had studies mainly from South Africa with only one from Uganda and Zambia.

7. It may also be more informative to compare Pertussis prevalence by decades. This may help show more clearly a change in prevalence over decades.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

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

Unable to assess

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

Yes

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 am able to assess the statistics

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

Acceptable

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