Author’s response to reviews

Title: The global effect of maternal education on complete childhood vaccination: a systematic review and meta-analysis

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Author’s response to reviews:

Dear Editorial Team,

Thank you for your comments on our manuscript, ‘The Global effect of maternal education on complete childhood vaccination: a systematic review and meta-analysis’. We are pleased to resubmit the updated manuscript with the following changes made in response to the reviewers.

Editor comments to author:

The main comment from both yourself and the reviewers centred around the classification of some of the papers. You highlighted that in the methods section papers which had defined variables such as illiterate/literate and educated/not educated had the highest level as ‘secondary/higher’.

>>> We would like to apologise for this error in the manuscript. The meta-analysis was done with the educated variables in these studies being classified as none/primary. This has been corrected in the manuscript on lines 105-106. This information has also been changed on lines 263-265.

Minor comments from the Editor:

1. Please clarify the second sentence of the abstract
The second sentence of the abstract has been reworded, lines 24-26.

2. For the Forest plots please be explicit about the outcome categories in the axes and headings

Figures 2 to 6 have been relabelled and more information added into the figure legends, please let us know if this is not clear.

Reviewer 1 – Saliu Balogun’s comments:

Main comments:

The main concern was similar to the one raised by yourself – the way in which the variables have been defined has been clarified above. We have also referenced Smith-Greenway in lines 280-285.

Reviewer 1 also expressed an interest in “a separate meta-analysis considering only the papers that examined the relationship between complete immunisation in children with literate vs illiterate mothers”.

We have added in Figure 3 and referenced this new data in lines 106-110. Lines 189-193 highlight the results from this sub-analysis. The new analysis is also discussed in lines 240-241.

“Enrich the discussion by speculating the reason(s) for the relationship between maternal education and complete childhood vaccination”

Lines 271-273, the implications of the review have been reworded to highlight that our research is in keeping with other papers. Lines 274 to 286, this is in response to comments made which suggested enriching the discussion, made by both reviewers.

Minor comments:

1. “In the meta-analysis maternal education variable was categorised into "none/primary" and "secondary/higher". However, the authors conclude that "Overall, analysis showed that the odds of full childhood vaccination were 2.3 times greater in children whose mother received secondary or higher education when compared to children whose mother had no education." Whereas the reference group was none/primary school education, please clarify.”

Line 184, this has been re-worded so that it reads as mothers with no or primary level education.
2. “Some of the sentences could be made clearer. For instance, "The data set was divided into two groups, \( \leq 2000 \) or \( >2000 \) (p. 5, line 115)" based on the year the study was conducted?"

>>> Lines 118-120 have also been re-worded to clarify how the studies were divided. Line 69, we have changed the wording to highlight that papers up until 2016 were screened.

Reviewer 2 – Thomas Karikari’s comments:

Reviewer 2’s only comment was “expand the Discussion session to include measures that may be adopted to improve maternal education which should inevitably enhance child vaccination uptake, particularly in areas where the included studies were conducted”.

>>> We feel that this has been addressed by adding to the discussion (lines 274-286) using the comments and suggestions made by Reviewer 1.

Other edits:

Author 2 – Sarah Gerver, her details have been updated to reflect her position at the time the data was analysed for this manuscript (Lines 7-9).

The references have changed due to the addition of the papers suggested by Reviewer 1. These changes have been reflected across the manuscript, Table 1 and Table 2.

Thank you again for your feedback, please let us know if your comments have not been addressed appropriately. We look forward to hearing your decision on our manuscript.

The authors declare that there are no conflicts of interest. All authors have approved the manuscript for submission. We confirm that the content of the manuscript has not been published, or submitted for publication elsewhere.

Kind regards,

The authors