Reviewer's report

Title: High burden of hepatitis B infection in Northern Uganda despite nine years of childhood hepatitis B vaccination: results of a population-based survey.

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Reviewer: Elisabetta Franco

Reviewer's report:

The work raises an interesting point regarding the introduction and policy of vaccination against hepatitis B virus in Uganda, but the content doesn't match the title and the declared objective. In fact, despite nine years of childhood hepatitis B vaccination and the official data, that report 79% coverage, only ten children in the 1-14 years group result vaccinated and 3 of them had have a lifetime exposure. It’s impossible to draw conclusion on this basis.

Major Compulsory Revisions
1. There is a possible presence of bias, because males were not proportionately selected. The authors should better describe the available members’ selection method; specifically, it is not clear why, if a simple random sampling was used, the number of women is so elevated and why children are so underrepresented.
2. The presence of HBsAg in a single sample suggests the presence of infection, but it is impossible to distinguish if the respondents have a chronic or a recent infection. The authors should eliminate the term “chronic” when speaking of HBsAg positivity.
3. It is not clear how and if the authors have acquired an informed consent or assent for children aged 1-7 years.
4. The authors should explain who responded to the questionnaire when children or adolescent were selected.
5. It is not clear how the predictors have been chosen by the authors. Some not significant predictors have been included into the tables, while others that are described as significant in the paper have been excluded.
6. In table 3 the reference population for the crude odds ratio should be always the same (look at gender).

Minor Essential Revisions
1. The absence of table 1 doesn’t allow the evaluation of demographic data described in results.
2. The authors should better describe the topographic division of the Gulu Municipality, because in the Methods they describe Parishes and villages while in the results they refer to the sub-counties, never described before.
3. In Patients and Methods the first time the term “house holds” is used it is
written in a wrong way.

4. In Results, the respondents are 804. It would be better to call the 790 enrolled in the study “participants” and not “respondents”.

5. The literature Nr [12] about the prevalence of receipt of the third dose of HBV vaccination was recently updated. The authors should update their data.

6. The literature Nr [4] should be moved near the sentence “in South Africa” to which it refers.

7. According to the systematic random sampling described, the maximum number of selected subjects should have been 800. The authors should clarify how they reached 804 respondents.

8. In table 2, there is an error on the percentage of male positive for HBsAg (70% instead of 20%) and on the crude odds ratio.

Discretionary revisions

1. In Introduction the literature Nr [3] should be cited only at the end of the sentence “25% in the north east”.

2. In Introduction the sentence “but its contribution to transmission in Uganda is not studied” should be changed in “but its contribution to transmission of infectious disease is not studied”

3. In Patients and Methods more recent data about the population of the Municipality should be used, if available.

4. In “Data management and analysis” the sentence “prevalence of HBV….respectively” should be better explained or eliminated.

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 related to the content of this manuscript'