Reviewer's report

Title: Prevalence and Risk Factors for Non-use of Antenatal Care Visits in South Sudan: Evidence from South Sudan Household Survey, 2010

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Reviewer: Innocent Semali

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Reviewers comments to manuscript titled:
Prevalence and Risk Factors for Non-use of Antenatal Care Visits in South Sudan: Evidence from South Sudan Household Survey, 2010

Authors: Ngatho S Mugo et al.

The following are comments to each of the important sections of the manuscript as follows:

A. Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. Is the question posed by the authors well defined?

An attempt to pose the research question starts on line “83” that says “In South Sudan, many underlying socio-economic and environmental factors influence the use of ANC by pregnant women”. But line “85” another sentence says “Although factors affecting ANC utilization have been examined in other settings to date there has not been any study in South Sudan”. While this paragraph is expected to posit the research problem there is use of conflicting messages.

This section runs short of articulating a conceptual framework that will guide the data collection and analysis. Thus one cannot get an intuition of the study variables at this stage and thus leaves the reader guessing widely. The study could also benefit from a section describing the health system of South Sudan and related contexts.

2. Are the methods appropriate and well described?

Though the data is sound it is an analysis of secondary data that could be in public domain, it is not clear whether permission or notification to use the data was done. Furthermore in other areas i.e sample size calculations; it is also not clear whether what is reported is what the author did OR it was the authors of the main study. There are statements like “based on other surveys” this requires a citation of those surveys but it is not provided. This section will better if there is place Maternal and Child Health services in South Sudan are presented.

The sample size and study population sections lack logical flow for example line “127” a sentence start “Among 11,568 of eligible woman 9,069 were interviewed and the response rate was 78.4%.” this sentences should be the starting sentence with logical flows to the actual sample to be analyzed. There is lack of
clarity whether the none-use analysis is based on any ANC attendance or the WHO modification on minimum of four visits, hence definition of non-ANC visit is needed and show evidence it has been used in the analysis.

Are the data sound?
Data is sound

3. Do the figures appear to be genuine, i.e. without evidence of manipulation?
There one figure presented which appears to be genuine.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
Results should also focus on non-use of ANC. In line 215 a sentence start “Pregnant women from the Central, Western Equatoria, Western Baher el Ghazal and Upper Nile states were more likely to utilize the recommended number of four ANC visits compared to their counterparts from the rest of the states.” The sentence and many other in the results chapter should quantify the results rather than simple more likely, it should also tell the reader the statistical significance of the results. Also a result whose data is not shown is as good as no results. Otherwise the tables and figures are clear and genuine.

The results saying that geographical areas were significantly associated with non-use should state the comparison place and not as stated “states were more likely not to utilize ANC services compared to other states of South Sudan”. In other words it should adhere to relevant standards for reporting and data deposition

5. Are the discussion and conclusions well balanced and adequately supported by the data?
Discussions should focus on the important results of the study in the contexts of the existing knowledge or what is already known while providing a synthesis. Otherwise one should explain the meaning of the findings and why they are of importance to the system. It should also refrain from inflating the speculations which might push the story beyond limits resulting to conclusions not supported by the results.

6. Are limitations of the work clearly stated?
The authors should also acknowledge limitations posed by the analysis of secondary data.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
Authors acknowledge clearly work done by others and citation in the texts are appropriately done.

8. Do the title and abstract accurately convey what has been found?
The abstract is structured into; background, methods, results and conclusions. The abstract and the title reflect what is presented in the main text. However the main texts presentation should focus on non-use of ANC.
9. Is the writing acceptable?
It will acceptable when above suggestions are addressed.

B. Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)
The introduction should start from general contexts to more specific contents in a logical flow. For example in the first paragraph authors give a general statement about the problem this study will contribute, show its magnitude globally, in Africa and South Sudan. It should then be narrowed down to more specific problem while demonstrating the scope, focus and in the contexts of time and place.

A number of sentences lack logical and relevant flow for example in line “75” there is a sentence starting “Therefore, ANC is one of the most effective methods to improve pregnancy outcomes in less-developed countries, including South Sudan”. It is a conclusion deriving authority from the preceding sentences but none of preceding sentences presents the expected information to allow the conclusion. Such sentences are several, including disjointed flow of ideas and need to be revisited.

C. Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)
None

Final disposal:
It can be considered for publication after addressing the comments.

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:
I declare that I have no competing interests.