Reviewer's report

Title: Beneficial Newborn Care Practices in Rural Eastern Uganda: a Cross-sectional Study.

Version: 6 Date: 12 May 2015

Reviewer: zelee hill

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Major revision
1. Several of the references are not appropriate for the data they are presenting and are not the most up to date. For impact data present data from the many systematic reviews. The authors need to re-review the background literature and insert more relevant references. For example the 2014 Lancet series would be a good start.

2. The methods need expanding to include information on sampling – probability sample, cluster design, stratified by districts? Paper or electronic data collection? etc. They also need to include response rates. Without the sample design it is not possible to comment on whether the data should have been weighted or adjusted for clustering.

3. The methods need to include how the explanatory variables were selected for inclusion in the survey and for inclusion in the analysis.

4. The data collection procedures and measures section includes a lot of repetition – this should be eliminated and rather a more detailed description of the variables should be included, for example what is a clean instrument - new? Boiled? Washed with soap?.

5. The measures section should be divided into outcome measures and explanatory variables.

6. It is unclear if the survey collected knowledge of ENC (e.g. a question asking about practices good for health) or whether they just asked about awareness of the practice (e.g. a question asking about whether they know what was used to cut the cord). This is confusing and should be rephrased. As knowledge is not included in the analysis I assume it actually refers to asking women about practices done?

7. It is unclear why when building the SES index they did not consider all variables i.e. land and animal ownership. There should be a clear rational for excluding these.

8. Could the authors clarify what they mean by ‘improve reporting’ in line 154 page 8? Related to this, in the tables it looks like they merged low and middle groups not low and lowest.

9. The analysis needs to be reviewed by a statistician. For example on page 8 line 170 it is not clear to me that they did use a LR test. In table 3 they do not
present statistics for variables as a whole but for each dummy variable. Also I think the term correlates is wrong- I think they mean covariates. Cronbach's alpha should be done on the final index not on the variables before the PCA.

10. The authors have a cut off of <0.1 for inclusion in the multivariable- unclear why marital status is included and why delivery mode is excluded.

11. I think the authors could format the tables so the prevalence, unadjusted and adjusted odds were all presented in the same table. At the moment they present unadjusted odds twice.

12. I am confused by the power calculation, is this to detect a single OR or to compare two ORs.

13. Page 10, paragraph 2, some of the variables listed have positive and some negative associations with care practices, these should be separated out so the reader understands the direction of the effect.

14. Information on trimester of ANC is inconsistent with the data in table 3. The results of the adjusted analysis on page 11 are also not consistent with the table.

15. There is a high prevalence of facility births, the first paragraph of the discussion assumes that it is the mother that does the care practices. For facility birth immediate newborn care (including thermal care and weighing) are likely to be done by the health staff. This should be acknowledged.

16. Limitations should include if there could be residual confounding explaining any of the associations.

Minor revisions

1. The title does not adequately reflect that they are looking at factors associated with care practices, this should be revised.

2. In the Abstract line 32 it should read ‘including’ rather than ‘i.e.’ – the list they give is not exhaustive.

3. In the abstract they say that the survey was for people who delivered in the last 2 years but in the methods on page 5 they say in the last one year.

4. The article needs to be proof read. E.g. Cord is spelt ‘chord’ throughout, and the authors refer to their analysis looking at the uptake of any beneficial care practice when they mean uptake of all practices.

5. Authors need to be consistent with the number of decimal places they present results to.

6. The authors need to be consistent and accurate with their terminology. E.g. At times the authors say health facility attendance and at other times ANC attendance; sometimes number of children ever born and other times parity; sometimes fuel material for lighting and cooking and sometimes lighting source and fuel materials and sometimes exclusive breastfeeding and other times no food supplements. There are subtle differences between these. It makes reading the tables difficult when the language is different.

7. On page 7 line 116 they say that data were collected on maternal socio-demographic factors, but then include in the list non SES factors and
non-woman related data such as husband education. This also occurs later in the paper.

8. Page 6 line 125- better to call these household assets than household materials. In the abstract you call them possessions- be consistent.

9. Page 7 lines 139-140 do not belong in this section. The statement is not correct as reference 17 concludes that ‘delayed bathing and putting nothing on the umbilical cord were neither acceptable to parents nor to health providers’.

10. Page 7 line 143 should red ‘none’ not ‘neither’ and line 148 should be Cronbach’s alpha.

11. Page 8 line 159, it is unclear what they are referring to when they talk about trimester- assume this is in relation to time of first ANC visit? Reference 1 does not seem to fit in this paragraph.

12. Page 8 under statistical analyses husband education is listed twice. It would help the reader if the order of the variables in the text matched the order in the tables.

13. Some issues with English language, for example it would be better to say the proportion of mothers who adopted a practice rather than who used a practice.

14. Reference list contains errors such as first names- this needs to be thoroughly reviewed.

**Level of interest:** An article of limited interest

**Quality of written English:** Not suitable for publication unless extensively edited

**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