Reviewer's report

Title: Understanding the socio-economic and sexual behavioural correlates of male circumcision across eleven voluntary medical male circumcision priority countries in southeastern Africa

Version: 2
Date: 16 February 2015

Reviewer: Sonali Wayal

Reviewer's report:

• Major Compulsory Revisions

The manuscript examines an important topic of the correlation between male circumcision (MC) and socio-economic and sexual behaviour variables in southeast African countries using DHS 2006-11 data. These countries are priority countries for scaling up voluntary medical MC. I hope the authors find the following suggestions useful to revise the paper:-

1. The authors need to clearly state the aims of this paper before describing the various independent factors, in lines 52 to 58, they explored for association with MC. They need to clearly outline from the start what additional information their paper adds compared to Tram's paper which is published in Plos One.

2. Given the variation in HIV prevalence, risk factors for HIV and underlying socio-cultural factors in the 11 countries included in the analysis, the variation in univariate association of MC with independent factors across countries (except a few variables), and the lack of data on access to health services/MC in traditional settings in countries which can influence MC; the current multivariate analysis presented by the authors combining all countries for regional trends should be reconsidered. Authors should consider presenting separate analyses for each country.

3. This paper does not provide country level data on proportion of men circumcised. The lack of n (number) for dependent and n for independent variables (except overall sample size by country which is included as an appendix table A2 but should be in a key table included in the paper) makes it difficult to understand and interpret the results of analysis, especially the Odds ratios and 95% CI. For example: Table 5: the OR and 95% CI for religion overlap and it is difficult to know but appears that it is likely to be due to large numbers or small numbers in some sub-categories. The authors should present frequency/%s table of key variables included in the analysis and present their % with N for each category. It affects interpretation of why certain associations are significant and others not. Is it due to lack of power etc.

4. The authors should explain in the paper in the methods section why the
chosen independent variables were included in the analysis and clearly define
the variables.
For example, in the discussion, the authors discuss at length the association of
intimate partner violence and HIV risk. However, they need to explain why this
independent variable was included in the analysis for association with MC. Same
for tobacco use or attitude towards wife for example. Why do the authors
consider that tobacco use may be associated with MC? They also need to
explain clearly how the data for these variables were collected and how
categories used in analysis derived.

For ex: were participants asked to self-report whether they were
richest/richer/middle…..or did the authors derive this variable based on
respondents answers? If the latter, how was this done? How was safe sexual
behaviour defined? This is specified in discussion but needs to be mentioned in
methods section.

5. The authors should separate the methods, results and discussion. For
example: the comparison with Trams paper in Results section belongs partly in
methods and

partly in discussion section. The results section should present the results of the
analysis the authors have conducted for this paper. for ex: line 101: ‘ethnicity was
not included..........’ this should be in methods section so readers find all the
information about analysis in one section.

6. Authors need to rethink categorisation of some variables included in the
analysis. For ex: should age be included as continuous variable? Do men
continue having MC

at any age?

7. Overall the paper need clear restructuring and discussion section can be
tightened to unpack the 'so what' of the results from descriptive and multivariate
analysis.

• Minor Essential Revisions

The authors should clearly reference appropriate tables in text to avoid
confusion. For example line 157, it is unclear which table the authors are
referring to.

• Discretionary Revisions:

None

**Level of interest:** An article of importance in its field

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

**Statistical review:** Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

'I declare that I have no competing interests'