Reviewer's report

**Title:** Risk factors, healthcare-seeking and sexual behaviour among patients with genital ulcers in Zambia

**Version: 1 Date:** 24 March 2012

**Reviewer:** Elia John Mmbaga

**Reviewer's report:**

major compulsory revisions

1. It is not clear what the second data set with limited research contribution is included in the paper. The authors explain clearly that the data were not desided to address the research question at hand and surely not even sampled for that reason. The research question addressed could be answered by the DHS data. The testing strategies were different and sample handling not described as they are for another manuscript. These data set should be removed and let to address what it was intended in the other mentioned manuscript.

2. DHS data are very robust and rich, but its handling needs experience and time. The authors needs to invest more on that if they realy want to utilize the data. The numbers of cases are different all over, the denominators are completely different from places to places and no care is taken to ensure appropriate denominators are used depending on the question. The authors give the total number of participant as 7146 female and 6500 male on page 5. These are not reflected in the tables and no explanation is given. Using the same numbers above and prevalence of GUD mention in the begging of results of 3.4% and 2.8% for males and female respectively, the number of males and female with GUD are 221 and 200, respectively. However, table 2 only present 196 for male (25 lost) and 201 for female (1 extra from......??).

The N in table 1 are not giving the sum mentioned and are different in some places.

Denominator for sex related variables such as age at first sex, condom use during last sex ... should be those who have ever had sex. This is not the case. Data need to be examined afresh, denominators identified, all missing specified. I advice a close look at the DHS questionnaire to understand all skip patterns and the questions. Analysis for this data should be repeated.

The authors should use the final zambia DHS report to countercheck their numbers both weightetd and unweightetd N and n. The authors should present their new analysis both weightetd and unweightetd numbers. All percentage should come from weightetd numbers and not from the unweightetd ones.

3. The authors mention on page 6 that konwlede was measured using one question. This is not how knowledge is measure. This could be awareness. This should be named so or more questions from DHS questionnaire identified and a scale constructed.
4. The discussion need to be revised based on the new analysis. It is now clear that bacterial STI's are on the decline and most GUD would be sue to HSV2. HSV2 is actually the major cause of GUD in the world todate. Because HSV2 is not reatable and prevalence accumulate with age, it is supriseing to read that younger population (25-29years) had the highest prevalence of GUD!

5. Sex interact with many disease and behavioural risk and health seekig behaviours vary by sex too. The authors should test for interaction between sex and their main outcome variables and present the results and run separate analyses in the event that th interaction is significiant.

Minor comments

1. Discussion on the reason why widowed/divorced had high infection is a little short. The reason have been explained in many studies to be due to the fact that HIV/AIDS could be the reason they are widowed/divorced. It is the infection tht make them widowed rather than the widoweness making them end with infection.This could added as an additional explanation for thier high infection rates.

2. It will be informative to examine whether the choice of health facility (public or private) vary by rural urban.

3. Do not discuss and consider as explanatory factors variables that have not been measured in the study such as concurrence sexual partnership, frequency of sex .... (See page 9). However, with the new analyses, authors should be able to utilize the reach DHS data to obtain more explanatory variables.

4. Authors should summarise the population structure in the beggining of the results.

5. Make sure the first table give a summary of the participants distribution (structure) to give the reader a sense of the study populatiol before reflecting on the main results.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**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