Reviewer's report

Title: HIV Risk and Associations of HIV Infection among men who have sex with men in Peri-Urban Cape Town, South Africa

Version: 3 Date: 19 July 2011

Reviewer: Rachel Jewkes

Reviewer's report:

Thank you for inviting me to re-review this paper. I have put a considerable amount of time into reviewing this paper and I am frankly not very satisfied with many of the responses given by the authors in the last rebuttal letter. I have suggested a number of things that would strengthen the paper and I would like to see these done. There remain some outstanding problems and these should be corrected before the paper is published.

1. Use of “data not shown” – this is reserved for data not presented in tables or text – it should be removed from the HIV prevalence paragraph and human rights violations paragraph where it appears when data is shown
2. The sentence on the age-race “trend” for HIV prevalence being more pronounced for those older/younger than the average age is very unclear
3. Race in the paper – race is a very important variable associated with HIV prevalence in South Africa and it is discussed with respect to recruitment venue and not mentioned thereafter. Was it a variable adjusted for in the HIV prevalence models? This should be done if it hasn’t been
4. Statistical analysis – this does not describe the modelling for the analysis on bisexuality
5. Could the wording of “no reported unprotected anal intercourse” be changed to make it positive e.g. “protecting all anal intercourse”
6. Multivariable model of factors associated with HIV – the candidate variables are presented in the results but not the model’s findings – these should be included.
7. Discussion the last sentence of the first paragraph is untrue and has not been substantiated in this paper or other research. It states that [HIV] risk is “universally concentrated among these men across generalised epidemics of sub-Saharan Africa”. I am sure the authors don’t mean to claim that men who have sex only with women don’t have HIV in SSA but this is what the sentence current says.

The following points have not been adequate addressed in the revisions:

“I would suggest including the statistic of 0% consistent condom and water based lubricant use in the abstract” – the explanation for not having done this simple request is inadequate
First sentence of para 4 – this isn’t very scientific – what is ‘multiple times higher’? – there is a bit of mixing of citations of prevalences from different age groups etc – the <10% is for the general population over age 2 and its not comparable with any of the prevalences cited that are not from this age group

I think this introduction shows the problem with the notion of ‘prevalence’ when used in this type of research. There isn’t one study cited where a true population prevalence has been derived. All of the samples are volunteer, snowball, over-represent Whites or have some other design feature which makes it impossible to properly compare the proportion HIV+ between them. The way this is done is very unsatisfactory and I want to suggest that the authors revise the introduction again. I would like to suggest that the first address the issue of proportion HIV+ in different MSM study samples and devote one para to this showing the range and commenting that because of the methodological issues between studies these are essentially non-comparable and are NOT population prevalences. Then I would suggest devoting a paragraph to what has been found associated with HIV in these studies.

Please note that the discussion around reference [6] needs to be differently handled as it’s the association between MSM and HIV – this statistic isn’t available from other studies as they are just “about MSM”

Questionnaire – there is not enough information about what was actually asked and where the questions come from. E.g. did you ask about “transactional sex” if so do you have any idea what men made of the question? Its important for interpretation of findings to know that they were standard measures, we cannot just assume that because the questions have been asked in many countries that they are good questions and valid.

--- I want to know how the question was asked

The multivariable model [of bisexuality] is inappropriate here as what it models is ‘factors associated with being bisexual’ – it’s a putatively causal model. If you want to know whether condoms or disclose or HIV etc are associated with bisexuality after adjusting for the social and demographic variables you need to build models of bisexual practices that have the one risk behaviour (or HIV) of interest and the social demographic variables.

You must do this separately for each risk behaviour/HIV.

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

**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'