Reviewer’s report

Title: A cross-sectional study of knowledge of partner serostatus among Peruvian men who have sex with men and transgender women: implications for HIV prevention

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Reviewer: Hanne Thiede

Reviewer’s report:

This manuscript describes an interesting analysis of the frequency of knowledge of male sex partner HIV serostatus among MSM and TW participants in the Peruvian MSM Sentinel Surveillance Survey. Factors associated with knowledge of HIV serostatus are also explored in multivariate analyses. The authors conclude that only a small proportion of participants know their partners HIV status and that behavioral interventions that emphasize communication about HIV serostatus may add to prevention efforts. The article is well-written but would benefit from a tighter presentation overall, a succinct description of what associations are being explored, and better organization of the results. The stated purpose of the analysis is “to develop an initial understanding of interpersonal communication about serostatus” (Background 2nd paragraph) and the author should keep that as the focus of their paper.

- Major Compulsory Revisions

1. Background 2nd paragraph: The authors note the difference in HIV seroprevalence between MSM (9.6%-22.3%) and TW (perhaps greater than 30%) in Peru. It is possible that MSM and TW differ in their knowledge of their HIV status and in their sexual behavior risks and other important factors. The author should explain and justify in the Methods section why they chose to combine these two groups for analysis.

2. Methods, Participant Selection 1st paragraph: For the benefit of readers who are not familiar with this survey, please add more information about recruitment including venue selection and eligibility, whether potential participants were approached and recruited in a systematic manner, and whether they received an incentive.

3. Abstract Methods, Background 2nd paragraph and Methods Analysis 3rd paragraph: The abstract states: “Multivariate analysis assessed the effect of age, education, sexual identity, number of male partners, alcohol use during intercourse, type of partnership and length of partnership using logistic regression.” The background states: “We assessed factors associated with having
knowledge of partner serostatus and whether or not this knowledge was associated with sexual behavior.” The Methods section states: “We also analyzed the association between knowledge of sex partner’s HIV serostatus and sexual behavior with that partner as well as the association between the partner’s serostatus and sexual behavior with that partner.” These descriptions differ and the authors need to state specifically and clearly what associations they assessed. Results of multivariate analyses should be presented in the same order as described in the Abstract, Background and Methods.

- Minor Essential Revisions

1. Methods, Data collection 1st paragraph: Please clarify the reference period for the sexual behavior variables. As written it sounds like it is the last month.

2. Methods, Data collection 2nd paragraph: Please explain whether or not the survey was anonymous.

3. Methods, Analysis 1st paragraph: Analyses were conducted at both the individual and partnership levels, not just the partnership level.

4. Methods, Analysis 2nd paragraph: Please explain how predictor variables were selected and why the models were not controlled for city.

5. Methods, Analysis 2nd paragraph: In addition to describing the STATA analysis, please specify what analysis was done did (Generalized Estimating Equation (GEE) or mixed model or something else). Please provide more information on how the logistic regression models were constructed and why variables that were not significantly associated with the outcome in bivariate analysis were included in the final models.

6. Results: This section would benefit from some reorganization. It would be easier to understand if the descriptive analyses were presented separately from the multivariate analyses and the multivariate analysis were presented under descriptive headings and in the same order they were mentioned elsewhere in the manuscript.

7. Results, Participant characteristics: It is not clear why receptive anal intercourse is presented here and why a 5 year referent period was used when much more recent referent periods were used for other sexual behaviors?

8. Table 1: Number of male sex partners: Change >10 to 10 or more or #10.

9. All tables: The table titles do not make use of the allowed 15 words. Expand table titles to be more descriptive (type of sample, geographic locations and year (unless the journal requires the current format). Use consistency in description of variables and variable categories. For example “Alcohol use during sex” and “Alcohol use during last sexual encounter” and Education level (Tables 1 and 2). Include a definition of Secondary education and Superior/Technical in a footnote.

10. Table 3: It seems redundant to list all the variables in the model in the
11. Discussion last paragraph: The authors need to discuss representativeness of their sample considering the recruitment method, the limited geographic areas, and that the participants were selected based on their high-risk status. The authors should also discuss the implications of participants with previously diagnosed HIV infection self-reporting as HIV negative or as HIV unknown status.

12. Conclusions last sentence: The last part of the sentence is not clear. Do the authors mean ‘… HIV treatment resulting from identification of previously undiagnosed cases via partner notification? What is meant be “expedited partner treatment” in this context since that is used for other STIs, but not for HIV.

- Discretionary Revisions

1. Table 1: It would be interesting to present all the eligibility variables including STI diagnosis in the last 6 months, and HIV positive partner in the last 6 months.

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

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

**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.