Reviewer’s report

Title: Multi-dimensional factors associated with unprotected anal intercourse with regular partners among Chinese men who have sex with men in Hong Kong: a respondent-driven sampling survey

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Reviewer: Limin Mao

Reviewer’s report:

This paper reports a range of factors associated with unprotected anal intercourse (UAI) among gay and other homosexually active men who were in a regular relationship with a male partner in Hong Kong. Instead of conventional time-location sampling (TLS), the authors used respondent driving sampling (RDS) to general more robust population estimates such as the prevalence rates of UAI with a regular male partner, co-occurrence of UAI with regular and other male partners outside of the relationship.

Major Compulsory Revisions

1. The authors claimed that they used RDS and reported weighted/population prevalence rates in the paper. However, the authors did not report important statistics related to key features of a sample reaching equilibrium (i.e., homophily) through RDS. For example, what is the average network size? After how many waves did the sample reach equilibrium? Whether RDSTAT or Netdraw programs were used before exporting to SPSS? If the sample did reach equilibrium, the authors need to further address the limitations of RDS recruitment, although it can be superior to a simple TLS. If the sample did not reach equilibrium, it is not these weighted rates are not un-biased and should be treated as a TLS.

2. The authors did not address the issue of UAI in the context of HIV-negative sero-concordance between regular male partners. That is, if both partners were tested and known as HIV-negative, which is found be a key non-condom-based risk reduction strategy more precisely known as negotiated safety, their risk of HIV infection is not as high as UAI in other contexts. If the authors did not collect such data, this should be addressed in the discussion section as a major limitation of the study design.

3. The authors should comment in the discussion the psychological concept of “impulsivity” as measured in the study and sexual adventurism proposed originally by Seth Kalichman.

Minor Essential Revisions

Results section paragraph 3: last sentence they did not perceived (should be perceive) high risk of contracting HIV via their RP (79.3%). The percentage should be 20.7%.
Discretionary Revisions

The authors should comment on the similarities in prevalence rates of UAI with a regular male partner in a previous paper of Hong Kong MSM in Shenzhen by one of the co-authors (as a parameter in sample size calculation, which is odd as RDS does not need sample size calculation, which requires some explanation itself) and that in this study.

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

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

**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.