Reviewer's report

Title: The Interaction between HIV Testing Social Norms and Self-Efficacy on HIV testing among Chinese Men Who Have Sex with Men: Results from an Online Cross-Sectional Study

Version: 0 Date: 27 Aug 2018

Reviewer: Yu Liu

Reviewer's report:

Overall, this is a well-written manuscript that researched on an important HIV care cascade component—HIV testing, and its intrinsic and extrinsic determinants—HIV testing self-efficacy and sensitivity to social norms. However, I have a few major methodological concerns that are outlined below for the authors to revise/justify:

Major

1. How is the HIV testing self-efficacy (HTSE) derived, and where is it adapted from? Have the internal and external consistency been tested and what is the Cronbach's alpha value? It is problematic without this important information and the validity of the scale will be questionable. If that is the case, perhaps, a latent class analysis framework would be more appropriate. The same question also applies to the social norms. If there is a reference, please cite to justify the application among Chinese MSM.

2. It is surprising that the authors did not describe HIV testing definition and categorization in the Methods. Please supplement this part in details.

3. HIV testing frequency data should be presented in the table 1.

4. Does the linear assumption hold for both HTSE and social norm with regard to the log odds of the HIV testing? If yes, please state; if not, perhaps cubic spline or categorical assessment would be appropriate.

5. It is unclear how the multivariable model was built - the selection of confounders and covariate adjustment, and the rational behind the scene. Please elaborate.
Minor:

1. The use of logistic regression with odds ratio to report will inflate the estimate, because the prevalence of all HIV testing outcomes were all above 10% cutoff point. Prevalence ratio from a Poisson regression with a log-binomial function would be the best to use. This is a comment. Authors may or may not take this.

2. Please be consistent with the use of "HIV testing self-efficacy" and "self-efficacy" throughout the paper.

3. Please change "rate" to either "prevalence" or "proportion", as cross-sectionals study does not produce "rate".

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published
Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal