Reviewer's report

Title: Peer-based behavioral health program for drug users in China: A pilot study

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Reviewer: Monica Ruiz

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General Comments
Overall, this manuscript presents interesting data on a pilot project to conduct a peer-based HIV/STI educational intervention among drug users at rehabilitation centers in Guangdong, China. Although this is study only is only pilot-testing the peer-based intervention, the fact that it was able be conducted in rehabilitation centers in China is promising, as drug users in China are in great need of sexual health and harm reduction interventions, both within treatment facilities and back in their community settings. More data about the drug users’ perceived acceptability of such programs (as well as more information about what other sorts of education they would have found useful) would have been appreciated, although it is acknowledged that collection of such data may have been outside the scope of this project.

Discretionary Revisions
1. On pp 10-11, the repeated use of the word “follow-up” is confusing. When the authors mention (p.11) “intervention participants that had follow-up”, are they referring to the first post-intervention assessment that happened while the participants were still in the rehabilitation center, or are they referring to the second post-intervention assessment that occurred when participants were back in the community? Technically, both assessments can be described as “follow-up”, so some clarity about what is intended in this context would be appreciated. Additionally, the authors discuss differences among participants who “followed up early versus late at the second follow up”. What does this even mean? How does one “follow up at the follow up”? Nowhere in the previous sections of the text was any mention made about early versus late follow-up, so this term is extremely confusing. It is recommended that the authors think more carefully about what exactly they are trying to convey in this section and revise the wording accordingly.

Minor Essential Revisions
1. In the Methods section of the Abstract, the initial sentence reads as if the drug users being approached for inclusion in the study had their choice of participating in either the peer-based educational program or the routine educational program, which would then dictate which rehabilitation facility they would enter. It was determined from reading the actual paper that there actually was no ability for participants to select the program in which they wanted to participate. Hence,
the wording of the section in the Abstract is confusing to the reader. This section of the abstract should clearly reflect what actually happened in this study, i.e., that this was a convenience sample of two rehab centers, that the individuals in each center were recruited for participation in the program to which that center had been assigned, etc.

2. In several locations in the paper, the authors note individuals’ refusal to participate in the intervention or routine education programs, either as per leaders or participants. Were any data collected about why people refused participation? Were these individuals different in any way from those who opted to participate?

3. In the Methods section, the brief description of the sample size (p.7) was very confusing. For example, the authors state that “the sample size necessary for this project was calculated to be 205”. Is that 205 participants for the entire study or for each condition? What factors were taken into account in this calculation? Given that no information was provided up to that point about the number of individuals at each of the rehabilitation samples (total possible sample), the number of eligible individuals within the total possible sample, etc., the arbitrarily given number of 205 doesn’t have much meaning. Although more detailed information about the sample was provided in the Results section, it really needs to appear earlier so that the reader has some sense of the sample size before launching into a discussion of the results.

4. On both p.7 and p.9, the authors mention and provide information about the 75 drug users who were not part of the original study but who were included in the control group to make up for the larger loss to follow-up rate in that group. Why were these individuals (who were being detained for a second time) included in the control group sample when being a repeat offender was one of the original exclusion criteria for the study? Additionally, the authors state that these individuals were “from another cohort”. What other cohort? From where? Since they were being detained for a second time at the time of their inclusion into the study, it is presumed that they were in the community in the interval between their first and second periods of detention. Did these individuals have access to or otherwise receive HIV/STI education during that time? If these individuals were included into the control group population after the study team had established the high loss to follow-up rates, when were the baseline and the two post-program assessments conducted? The authors have not provided sufficient information to justify the inclusion of these individuals into the control group cohort. If these individuals are to remain in the control group (and, thus, in the analyses), more explanation is required. It may be worth re-running the analyses without these individuals in the control group to see if their exclusion changes the results.

Major Compulsory Revisions
None noted

General Review questions
1. Is the question posed by the authors well defined?
   - The research questions posed by the authors is well defined.

2. Are the methods appropriate and well described?
   - The methods are appropriate, but could be described more thoroughly. Please see comments provided above in the “suggested minor revisions”.

3. Are the data sound?
   - The data appear to be sound.

4. Does the manuscript adhere to the relevant standards for reporting and data deposition?
   - The manuscript generally adheres to relevant standards for reporting and data deposition.

5. Are the discussion and conclusions well balanced and adequately supported by the data?
   - In general, the discussion and conclusions are adequately supported by the data presented in the manuscript.

6. Are limitations of the work clearly stated?
   - The authors have very clearly discussed the limitations of the work.

7. Do the authors clearly acknowledge any work upon which they are building, both published and unpublished?
   - The authors do acknowledge the studies in the general research literature on which this work builds. This work would be contributing to a larger knowledge base about intervention modalities for drug users in the Chinese context.

8. Do the title and abstract accurately convey what has been found?
   - The title and the abstract are appropriate. Please see comments in “minor essential revisions” regarding suggested improvements to the abstract.

9. Is the writing acceptable?
   - The writing is acceptable. As noted in the “discretionary revisions” section, there are places throughout the text where the writing could be improved for the purpose of clarity and flow.

**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.