Reviewer’s report

Title: Comparing sexual risks and patterns of alcohol and drug use between injection drug users (IDUs) and non-IDUs who report sexual partnerships with IDUs in St Petersburg, Russia

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Reviewer: Patrizia Carrieri

Reviewer’s report:

The authors investigate an important public health issue – the role of alcohol consumption on sexual risk behaviors in IDUs and non IDUs partners of IDUs.

This topic is particularly relevant in the area where the study is conducted because HIV prevalence in drug users is very high and polysubstance use (including elevated alcohol consumption) is frequent in this population but also in bridging groups such as non-IDU partners of drug users.

In addition, the political context does not authorize access to medically assisted treatment for opioid dependent individuals, so optimizing interventions for sexual risk reduction is a priority in IDUs as well as in bridging populations.

The study is cross sectional, the paper is well-written and very clear, the methodology and the statistical methods are appropriate, well-described and detailed; the outcome variable is based on self-reports.

I only have minor comments for the authors:

1. Missing data are frequent in self-reports but they are not mentioned at all in the text. How did the author manage the presence of missing data? The backward procedure they used for building the model can be problematic depending on the number of missing data in the variables entered in the model. In case of many missing data the backward model can be based on a very reduced number of observations. The authors should detail this issue especially when they run the model on the smallest group.

2. Maybe a different expression than “having sex while intoxicated” can be used (i.e. “having sex after alcohol use” or another expression)

3. Is it possible that alcohol use underreporting can be higher in IDUs and affect ORs estimates?

I wonder whether IDUs tend to underreport more than non IDU for social desirability bias linked to higher perceived stigma. The authors should better detail this risk in the discussion. This may explain why there is such a difference in ORs in IDUs vs. non-IDUs. This is not too much coherent considering that the variable “having sex while intoxicated” for non IDUs can incorporate alcohol use before sex whatever the partner (IDU or not). The author should better address this in the discussion.

4. The tables report 95% confidence intervals for ORs that contain 1 with
significance levels <0.05.

Of course this may happen depending on which type of P value is reported (i.e. criteria used for keeping the variables in the model). Please better clarify these points as it may sounds unusual for the standard reader.

5. To make the ORs comparable in IDUs and non-IDUs the two models should contain the same set of variables, otherwise it is no possible to draw comparisons.

6. I also wonder whether behaviors may change according to gender. Women may have more problems in negotiating condom use and correlates of unsafe sex may be different. This can be tested in the IDU group (because there is enough power) and in any case it needs to be discussed.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests