Reviewer’s report

Title: High prevalence of HIV, HBsAg and anti-HCV positivity among people who injected drugs: Results of the first bio-behavioral survey using respondent-driven sampling in two urban areas in Mozambique

Version: 0 Date: 02 Oct 2019

Reviewer: Allison McFall

Reviewer's report:

Thank you for the opportunity to review this study. This work aims to determine the seroprevalence of HIV, Hepatitis B and C virus infection among PWID in two cities in Mozambique and to assess other population demographics and risk behaviors. The authors use respondent-driven sampling (RDS) to recruit and enroll PWID. With no prior information on disease burden and risk behaviors among PWID in Mozambique, this paper fills an important gap in knowledge and provides data to guide implementation of prevention/health service needs for the population. Overall, the paper is clearly written with well described methods (though a thorough read thru is needed for small grammatical/spelling mistakes). There are a few minor comments below.

INTRODUCTION

Global HIV prevalence among PWID is stated twice in second paragraph.

METHODS

If no personal identifying information was collected from participants, how was prior participation in the survey assessed?

Last several sentences in the Sample collection and testing section are repeated.

Suggest dropping the first sentence in the Data analysis section on data cleaning, seems unnecessary.

If space allows, could describe what "enhanced data-smoothing" is.

Can the authors clarify what is meant by "Results with denominator of less than 20 are excluded"? Would the sample for the logistic regression model not be all those with an HIV test/self-reported positive?

Since participants with missing values are dropped from the regression model, the authors should include the extent of missingness (e.g., no more than 5% missing for any one characteristic).

RESULTS

line 280-1: "(up to three [coupons] per participant)" - thought this was up to 5 coupons?

line 286-7: Was there no difference in the proportion of active injectors (injected in prior 12 mo) before vs. after the eligibility criteria changed?
Did the authors look at whether the sexual or injection risk behaviors or HIV/HBV/HCV infection varied by sex (male vs. female)? There were few women but is worth looking to see if large differences exist.

Table 5 - Suggest adding model results for sex.

Table 5 - It looks like NO access to clean needles/syringes was associated with lower prevalence of HIV (OR=0.1). This seems counter intuitive. Can the authors describe why they think this is?

Table 5 - Suggest a sensitivity analysis for modeling daily injection in the prior 30 days - dropping those aware of their HIV+ status since this could cause a change in injecting behavior.

DISCUSSION

Line 397 - Think the HBV prevalence estimate from other studies in Maputo among untreated HIV+ adults is missing.

HCV prevalence in Nampula/Nacala seems low for an injecting population (7%), especially when compared to the HIV prevalence. Can the authors comment on why this may be?

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

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