Reviewer's report

Title: HIV, Hepatitis B and C among People who Inject Drugs: High prevalence of HIV and Hepatitis C RNA positive infections observed in Delhi, India

Version: 2 Date: 13 January 2015

Reviewer: Taoufik Bakkali

Reviewer's report:

MAJOR COMPULSORY REVISIONS:

The logic in some of the conclusions from the data analysis is completed reversed and wrongly presented, which may lead to dangerous recommendations and considerations for programs focusing on prevention of HIV and HCV mono or co-infections: these conclusions that need compulsory revisions are the following:

- That accessing needle-syringe-program (NSP) services is an independent predictor for HIV-HCV co-infection
- That having comprehensive HIV knowledge is associated with a higher risk of HIV mono-infection, and HIV-HCV co-infection
- That any sex with a female partner, including unsafe sex was associated with lower risk

A more nuanced analysis is required to check on the associations of the three above mentioned factors with the other well recognized risk factors such as frequency and duration of injection.

Firstly, there should be an analysis on the profile of those who are reached by the NSP interventions. Most likely, considering need for selection justified target, cost or easy reach, Priority is given to those who are known in the area for a long duration and high frequency of injecting practice. This strong association would definitely show up in the regression analysis, but the main factor of risk remains the duration and frequency of injection - which most likely pre-determines the probability of being covered under the intervention. Since this is a prevalence analysis (and not incidence) it is also possible that the infection may have happened before access to NSP.

Secondly: The same logic also applies to the fact of having greater comprehensive knowledge of HIV. I assume that a multivariate analysis will show strong association between being part of NSP and having greater knowledge, which would add to the analysis in the paragraph above. If it is not the case, serious questions can be reached about the quality and non effectiveness of NSP interventions in Delhi until a formal impact and effectiveness study is implemented. In addition, it is possible that for HIV positive PWIDs, the additional outreach by PLHIV networks for care and linkages to treatment may have
improved that knowledge even if the infection happened before the individual accessed prevention interventions. Comprehensive knowledge is proven in all literature to be a good enabler that reduces risk of infection.

Thirdly, there is a need to analyze the possible association between sexual activity and levels/frequency of drug intake, especially considering that 63% reported to be sexually inactive for the last 3 months, this would help understand the result showing that sexual activity means lower risk of infection. Among drug users, these behaviors are not independent. It is known that high drug intake is associated to low libido leading to sexual inactivity. It is also well known that for PWID, the risk/probability of infection from drug injection is much higher than that form sexual activity. The logic is that high drug intake implies low or no sexual activity but leads to high risk of infection. At the same time, lower drug intake leaves room for some sexual activity (safe or unsafe) and means relatively lower risk of infection.

DISCRETIONARY REVISIONS:

In order to help the reader understand the vulnerability issues, it would be useful to develop the following aspects:

- It would be useful to clarify if the population council has implemented any intervention (NSP/prevention programme) in the context of this study, what proportion of the study population had prior access to the existing national interventions and for how long.

- What proportion of those accessing NSP still continue to engage in risky injection behavior.

- In results section, it is mentioned that HIV knowledge is low, provide value.

- In the discussion, there is reference to HSS HIV prevalence, indicating that the study is finding higher level of prevalence than HSS, it would held to provide a brief discussion on the difference between the samples in terms of size (obvious) and geographical areas covered (HSS sites vs Study sites) - are they matching, overlapping, distinct?

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.