Author's response to reviews

Title: Relationship between recreational drug use and HIV/STIs among Chinese men who have sex with men: mediation through multiple sexual partnerships

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Author's response to reviews: see over
Dear editor,

Thanks for the valuable comments from you and reviewers on our manuscript. We responded to these comments one by one as follows in italics:

Referee #1

Comment 1. This study is conducted in seven large Chinese cities. It is not clear why these seven cities were chosen. Do these cities have the highest HIV prevalence across the country? Or Do they have the highest drug use % across the country? A brief description of the selected cities would be useful.

Responses: In the Study design and participants section, we have added the information about city selection: “These cities represent different geographical locations, social and economic development, proximity to opiate drug use center, and HIV prevalence across China. For example, Kunming City is adjacent to the opiate drug epidemic center in the border regions of Yunnan Province in southwestern China where HIV prevalence is high in the drug users and general population; Zhengzhou is the capital city of Henan Province in central China where a large number of rural farmers contracted HIV through unhygienic plasma collection two decades ago; Shanghai is the largest costal city in eastern China while Beijing is located in northern China, and both have advanced social and economic development.”

Comment 2. Authors pooled the analyses from six cities. However, previous studies have shown that demographic and HIV/STI epidemic vary geographically across China. Particularly, authors included Kunming, which is a city with very high HIV prevalence and drug use rate, compared to other cities. It is not clear whether the demographic and behaviours are different between these six cities, if these the socio-demographic compositions of the samples are different between cities, and these factors influence the behaviours and epidemic, authors should not pool the data together.

Responses: We respectively disagree that the data from six cities should not be pooled. We described the representativeness of the selected cities above, although participants from these cities may not present all MSM in China, as those living in the small cities may have different drug use and sexual behaviors. We have added the discussion on this limitation: “Last, though the six large study cities represent different geographical locations and HIV prevalence in general population, participants from these cities may not represent all Chinese MSM in China, as those who live in small cities and towns may have different drug use and sexual behaviors.”
By the way, the number of events (HIV or STI) in any single city is small, so we have to pool data from all cities to boost sample size and statistical power.

**Comment 3.** The range of MSM have ever used drug (0.1-44%) is very large, it will be helpful if there is any mean or median estimate. In addition, the majority of MSM who also use drug are actually male sex workers (money boys) (Chow EPF PLOS ONE 2012: e48025).

**Responses:** We have added the information of median 2.4% and cited Chow’s paper.

**Comment 4.** It will be useful to provide a percentage of drug use among the general population.

**Responses:** Unfortunately, there is no recent data on drug use in the general population of China. However, we have cited more literatures about drug use among MSM in the Introduction section.

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**Referee #2**

1. **Comment 1.** Minor Essential Revisions
   
   **Abstract:**
   - Page 4, Line 72, please change “put” to “puts”;
   - Page 4, Line 83, please remove “ever”;
   - Page 4, Line 84, please change “in past 6 months” to “in the past 6 months”, please also change similar phrases systematically across the paper;
   - Page 4, Line 96, please change “though” to “through”.

   **Methods:**
   - Page 6, Line 135, please remove “interview”;
   - Page 6, Line 160, please change “drug” to “drugs”;
   - Page 6, Line 162, please change “nil” to “no”;

   **Discussion:**
   - Page 11, Line 230, please add “of” after “0.42%”;
   - Page 11, Line 235, please discuss more about “Rush use”;
   - Page 11, Line 243, please remove “perhaps”;
   - Page 11, Line 245, please change “enhanced risky sex” to “unprotected sex”, please also change this systematically across the paper;
   - Page 12, Line 262, please add “the” before “Chinese”.

   **Response:** We have carefully proofread the manuscript, and addressed grammatical issues.

2. **Comment 2.** Please provide STATA syntax and STATA results with explanation. I would like to have a look.

   **Response:** We have included the data analysis output in the resubmission

In addition, we have changed the title to “Recreational drug use and risks of HIV and sexually transmitted infections among Chinese men who have sex with men: Mediation through multiple sexual partnerships”.
Thank you for your careful reading our responses and the revised manuscript, and for considering publishing this manuscript in your journal.

Sincerely yours,

Hong Shang, M.D., Ph.D.
Title, affiliation, address