Author's response to reviews

Title: HIV preventive behavior and associated factors among mining workers in Sali traditional gold mining site Bench Maji zone, Southwest Ethiopia: A cross sectional study.

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Cover letter
Date: July 04, 2014
To, BMC reviews
Title: HIV preventive behavior and associated factors among mining workers in Sali traditional gold mining site Bench Maji zone, Southwest Ethiopia: A cross sectional study
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Author's response to reviews: see over
We are pleased to have an opportunity to make our paper revised and we have greatly appreciated the reviewers’ comments and suggestions were very helpful overall. In revising the paper, we have carefully considered reviewers’ comments and suggestions on our revised submission. As instructed, we have attempted to succinctly explain changes made in reaction to all comments and we hope you agree. After providing a brief overview of ways in which the paper was revised, we reply to each comment in point-by-point fashion as follows:

Referee # 1 : (Willemijn Mathilda Vermeer)

Major Compulsory Revisions
Comment # 1: The language is often incorrect and unclear. The paper needs to be thoroughly checked for language, spelling, and interpretation (make also a choice between UK and US spelling).
Response 1: We have tried to thoroughly check for language, spelling. Then we edited some incorrect and unclear things in our paper.
Comment # 2: I wonder about your outcome measure. Why did you choose for a
combined Outcome measure and how was this translated in the survey items? For instance, wouldn’t barriers or benefits differ between having only one partner or testing for HIV? Or were the items more generic? It would help anyhow if you could provide more information about the measurement instruments (one item per construct as an example for instance).

Response 2: The authors chose the combined outcome measure because it was believed that taking only one component of the HIV preventive behavior would not be generic. So for each of the four preventive behaviors, four items were developed:

A. Have you ever had sexual intercourse? 1. Yes 2. No, then it was recorded into abstaining variable and those who said no for the question were abstaining thus coded as 1 and those who said yes coded as 0.

B. For condom use, there were two questions:
Do you use condom during sexual intercourse? 1. Yes 2. No
If yes, how often do you use condom? 1. Consistently 2. Sometimes 3. Rarely 4. Occasionally. Then the second question recoded as consistent condom use and the category no 1 is coded as 1 (yes) while the others coded 0 (no).

C. The number of your sexual partner? (absolute number). Then it was recoded to one sexual partner and categorized as 1 (for those who have only one sexual partner) and 0 (for those who have more than one sexual partner).

D. Did you undergo HIV testing in the last three months? 1. Yes 2. No
Then the combined HIV preventive behavior was counted from these four categories.
For instance
If an individual is abstaining from sexual intercourse in his lifetime or in the last one year until the time of study period it was counted as preventive.
If an individual is tested for HIV infection in the last three months of the study period and using condom consistently it was counted as preventive (yes 1, if not 0).
If an individual is having only one sexual partner and tested for HIV before their first sexual relation in the last six months it was counted as preventive (it was also defined in line 134-138). The finding of each component presented in line 190-199 and on Table two.

Regarding the items of each construct, we agree with what you are worrying about. That is why we developed four items per each category of HIV preventive behavior per benefit, barrier, and self-efficacy constructs of HBM. For instance, we can take one item from each category of preventive behavior and construct of HBM.

Perceived Benefit (items)
1. Being abstained from sexual intercourse before marriage is the way one can prevent HIV/AIDS (benefit of abstaining). Three items remaining
2. Being faithful to my sexual partner will make our love and future life better (benefit of having one sexual partner). Three items remaining
3. I believe consistent condom use can prevent HIV/AIDS transmission (benefit of consistent condom use). Three items remaining

4. Knowing one's HIV status is important for one's future sexual and health life plan (benefit of HIV testing). Three items remaining

**Perceived barrier (16 items)**

1. Peer influence can prevent me from staying abstained from sex (barrier of abstaining). Three items remaining

2. If I become drunk I may annoyed to have sex with someone who is not my steady sexual partner. (Barrier of having one sexual partner) Three items remaining

3. I believe I would be uncomfortable to buy condom from shop. (Barrier of consistent condom use). Three items remaining

4. I will get HIV testing only when the tester doesn’t know me personally. (Barrier of HIV testing). Three items remaining

**Self efficacy (16 items)**

1. I am confident that I can stay abstain even if my friends are having sexual intercourse. (Self efficacy of abstaining) Three items remaining

2. I am confident that I can be with one sexual partner throughout my life. (Self efficacy of having one sexual partner) Three items remaining

3. I am confident that I consistently use the condom during my sexual relationship. (Self efficacy of consistent condom use) Three items remaining

4. I am confident to undergo HIV testing whenever needed. (Self efficacy of HIV testing). Three items remaining

For each of perceived susceptibility and perceived severity six items were used. For all constructs items response were elicited using five-point likert scale: strongly disagree (1), disagree (2), neither agree nor disagree (3), agree (4), strongly agree (5). The sum of each item remaining after checking the internal reliability of each constructs using Cronbach’s alpha. For instance the sixteen items of perceived barrier were checked for reliability and four items were dropped from construct with #=0.75. Then the sum of the remaining 12 items was used as construct of barrier.

**Comment # 3:** Would it be possible to run your analyses on subgroups? For instance, participants with one sexual partner (testing whether they were tested before ceasing condom use) and participants with multiple partners (condom use, regular testing)?

**Response 3:** Yes, of course it is possible. We run it and checked it. But as I have elaborate in previous answer it would not be generic to take single subgroup as an outcome variable HIV preventive behavior alone and since we are using HBM as conceptual framework we thought the combined outcome would be better. We hope the answer for previous question would be helpful here too.

**Comment # 4:** In line with the previous comment. In your Discussion you state
multiple times that an explanation for the findings (and differences in findings compared to other studies) might be the combined outcome measure (line 242/243 and line 258/259. This is something that you could easily check in your data and describe in your paper.

Response 4: We have checked and three construct of health belief model and some modifying factors showed association with condom use, abstinence and having only one sexual partner and the same with other studies. But in other studies their outcome was only on one category of preventive behavior (on condom use or one sexual partner or abstinence or HIV testing) where as in our case the primary objective was to assess all HIV preventive behavior as our outcome variable that is why we stated like this. Anyways it is edit for what has been stated in line 256-258.

Minor essential revisions

Abstract

Comment # 1: Please specify what is meant by HIV preventive behaviours and associated factors (line34)

Response #1: Line 34 edited as to assess the magnitude of HIV preventive behaviors and associated perceptions among gold miners in Sali traditional gold mining site.

Comment # 2: The sentence The cut-off value..( line 40/41) can be removed.

Response # 2: Line 40/41 is removed

Comment # 3: Please explain the direction of the association (line 47/48)

Response # 3: it is edited and the direction of association was explained (line 45-49)

Introduction

Comment # 4: It is unclear to me what you mean in lines 99-109. Is all this information necessary?

Response # 4: It is just to explain how much this population group plays their role for the country despite of no attention given to them and to explore context of working environment. However, it is edited in line 103-115 to provide miners background, local conditions and the context of their work. If any additional comments I am ready to accept

Method

Comment # 5: Line 140: how was the questionnaire pre-tested?

Response # 5: it was pre tested on 21 (5% of the sample size) individuals who have the same socio demographic characteristics and from the same working environment at other traditional mining site which is 50 kilo meter far from the study area. They were selected by using the same sample technique with actual study unit. Modification of some questions was made especially on some unclear questionnaire and spelling of the Amharic version.

Comment # 5: Could you provide more information about the instrument you used? Ans whether the items were directed at the individual or combined
behaviour?

Response # 5: The items were directed at the individual level. For more details it is already presented on previous answers on major compulsory reviews on comment # 2.

Comment # 6: Line151: what was the cue to preventive action? And how was this measured?

Response # 6: Cue to action- it is recently added construct of Health Belief Model. It is defined as readiness of individual to take action to certain behavior. In our case cue to preventive action was defined as readiness of individual to take action to prevent HIV/AIDS transmission. It was measured same to other constructs of HBM. The items response were elicited using five-point likert scale: strongly disagree (1),” “disagree (2),” “neither agree nor disagree (3),” “agree (4),” “strongly agree (5). For instance 1 item for abstaining (My friends were discussing with me to abstain from sex). And there are three items for individual components of HIV preventive behavior.

Comment # 7: Statistical analyses: why did you chose to dichotomise your predictors instead of including them on interval level in your analyses?

Response # 7: We developed four items per each category (four categories) of HIV preventive behavior. For construct benefit, barrier and self efficacy and for each of perceived susceptibility and perceived severity six items were developed. It is only possible to use at interval level for analyses when we use individual (single) items of these constructs. But individual items would not be standard to measure perception or construct of HBM. So, after checking the internal reliability of each constructs using crombach’s alpha, the remaining items were summed up as I have elaborated in comment # 2. It is obvious that the variable will become continuous after summing up them. Then we run the predictors as continuous but none of constructs of HBM were associated with HIV preventive behavior. Thus we decided to make dichotomise variable for all constructs as it is possible to do so.

Discussion

Comment # 8: The limitation about the social desirability bias certainly is worth mentioning. Did you do anything to reduce the likelihood of this bias? Were participants ascertained that their answers were private or that they would not be judged based on their answers? Anything else?

Response # 8: Yes, prior to the interview all participants ascertained that:-

The information they provide would be kept confidential, only used for research purpose and not exposed to third party for any other reason.

Names and other personal information which can violate their confidentiality was not be taken or recorded.

They would not be judged based on their answer.

Though, they were ascertained with all these things still some individual might not believe on it and lead to this bias. It is not what really happening. It is just our wonder.
REVIER # 2: John Scott

Major compulsory revisions

Comment # 1: The language/writing requires major revisions. At present it is so poor as to Create impede a full understanding of aspects or the paper
Response # 1: We have tried to thoroughly check for language, spelling and we have edited some incorrect and unclear things in our paper.

Comment # 2: There are many gaps in the paper: notably, some reference to the literature on STIs, HIV and mining is required. While it is appreciated the paper cannot cover everything, there is surprisingly no reference to masculinity in the paper.
Response # 2: We have edited and added some literature on STI, HIV and mining as commented (line 78-86). And also it is found in reference number 4-6. The issue of masculinity is also addressed here too.

Comment # 3: The paper repeatedly implies that being promiscuous and/or having multiple Sexual partners constitutes risk in terms of HIV. This is problematic, as risk is low if safe sex is exercised in all encounters. Further, the idea of 'risk' population with respect to HIV has been heavily critiqued, but this and limitations of constructions of risk groups are not acknowledged in the paper.
Response # 3: Of course it is problematic if we say only being promiscuous and/or having multiple sexual partners constitute risk in terms of HIV. But we are not saying this, we have tried to review different literature and found the prevalence of HIV among this population is high. Beside this literature shows consistent condom use and having one sexual partner among mining worker was low and their visiting of commercial sex worker was high. That is why we are saying it risk in terms of HIV. We have edited this in line number 78-86 and you can find the literature using reference no 4-7, 12 and 13.

Regarding the limitation of construction of risk group it is addressed in line 76-77.

Comment # 4: Some information on who the miners are partnering would be useful: are they same sex partners? Sex workers? Long term partners? Migrant workers? Local residents etc.
Response # 4: As addressed in line 84/85 they partner with commercial sex workers. And also in our finding around half (47.8 %) of mining workers were engaged in sex with commercial sex workers as presented in line 194/195 and in Table 2.

Discretionary revisions

Comment # 1: Some additional information on the background of the miners, the context of their work and local conditions where they work would be helpful to the reader.
Response # 1: Additional information is provided as presented (line 103-115).

Sincerely,
Hordofa Gutema (Bsc, MPH)