Author’s response to reviews

Title: The relationship between depression and sexual health service utilization among men who have sex with men (MSM) in Cote d'Ivoire, West Africa.

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Reviewer #1:

Introduction

1. The introduction section is lacking in mental health data specific to Cote d’Ivoire and that data might help the reader better conceptualize the findings in terms of possible disparities among MSM. If these data aren't available, perhaps you could present statistics from comparable countries in the West African region.

Response: Thank you very much for this comment. Indeed, providing mental health data in general population in context of Cote d'Ivoire will be important. However, there is no reliable data on depression in general population. We included a source which stated 20% among adults who visit psychiatric services.
We do not have data on depression among general population in cote d’Ivorire and neighboring countries, but tried to state the prevalence among specific populations such as university students. We think this will give the reader some perspective.

2. It might be helpful to provide the apriori hypothesis that guided your data analysis and helped framed how you decided which variable would be independent and which would be the dependent variable.

Response: Thanks for this comment. We hypothesized that depression and stigma among MSM will be associated with low sexual health service utilization in Cote d’Ivoire. We decided sexual health service utilization for HIV and other sexually transmitted infections (STIs), was the outcome because that has implication on health outcomes among MSM in terms of HIV infection and other STIs, and we wanted to study the impact of other variables on this outcome.

Methods

3. Please provide more information about procedures around data collection from participants (brief step by step process) or reference paper that may have more detailed information about procedural data collection protocol for the current study. This might help other researchers who might attempt to undertake a similar study in the future.

Response: Thank you for this comment. More procedural data collection was added, and references added where similar data collection in the future can be replicated.

4. Page 4 (Stigma section): Was a standardized scale utilized to measure stigma or did you independently create your own questions to assess experiences of stigma? Please make this clear in your write-up.

Response: Thanks for the comment. A standardized scale was not used in measuring stigma. We have further elaborated on this point to make it clearer.

Results

5. Page 7: Line 14-17: Move "Finally, participants who sought sexual health care services most, 64.0% (830/1297) went to non-governmental facilities, while 13.8 % (179/1297) went to either private or public facilities, but 22.1% (288/1297) had not sought sexual health care services prior" to line 39-40 page 6 after "The prevalence of health care utilization in the last
12 months was 60.5% (787/1301)". Try as much as possible to present results thematically in the same paragraphs.

Response: Thanks very much for this comment. We agree to this comment and have made the necessary changes.

6. Additionally, be sure to re-check the calculation of the proportions presented in the results section. For example, line 11 of page 7 states, "The percentage of MSM engaged in alcohol consumption was 73.5% (1056/1301)" 1056/1301 is actually 81.2% NOT 73.5%. Additionally, stating "with 18.8 % (245/1301) reporting no alcohol consumption" is not necessary as we are mostly concerned with those who reported alcohol consumption and giving the percentage of those who didn't report alcohol use does not contribute any important information.

Response: Thank you very much for noting this error. We have corrected this calculation, and all the calculations have been rechecked to ensure accuracy. We agree to the comment on those not using alcohol does not add further information since the stated percentage will provide more useful information.

Discussion

7. The beginning of the second sentence of the discussion section should be reworded to read more coherently. Starting a sentence with "and" is not good practice.

Response: Thank you. This change has been made.

8. While the discussion section is comprehensive and detailed, it appears to be written with the presumption that sexual health seeking is a high priority in the population surveyed. I believe there should be a few sentences about competing priorities/problems such as lack of economic opportunities/jobs, housing, and other basic amenities that might have higher priority in these group and simultaneously impact their ability to seek out sexual health services.

Response: Thanks for the comments. We agree there are other competing priorities among this group as evidence has been shown in literature. We have included that in discussion with some literature evidence cited.
9. There appears to be a discrepancy in crude and RDS adjusted frequencies presented in the first table for place of residency variable. This might be a typo or error in analysis, in any case, the author should proofread all calculation to ensure accuracy and completeness.

Response: Thank you very much for noting this. This was indeed an error in interchanging numbers, and this has been corrected. All calculations have been re-checked to ensure accuracy.

Reviewer #2

Introduction

1. Line 12 and 13, the authors stated 'In Cote d'Ivoire specifically, HIV prevalence is estimated at 3.7%[17] among all reproductive age adults, but much higher among MSM [17].' Please specify the HIV prevalence among MSM, since they are the focus of this study.

Also at the end of the introduction, please state the utility of this research beyond Cote d'Ivoire. Why should others outside of Cote d'Ivoire be interested in this study

Response: Thank you very much for the comment. We have stated the estimated prevalence of HIV among MSM in Cote D'Ivoire as well as among MSM who engage in commercial sex work.

In regards to utility of this research beyond Cote d'Ivoire, we think once there are free movements of people across countries in West Africa, high prevalence of HIV in one country can easily become a bigger problem in neighboring countries, making stemming control a huge challenge.

Methods:

2. In lines 32-36, the authors indicated eligibility criteria. Where there sub-groups of MSM excluded from this study?

In lines 45-46, the authors described the study instrument. Can they provide references for the source(s) of instruments or questions for stigma and utilization of health services. Psychometrics of the tools and how validity and reliability were ascertained?

Response: Thank you for the comment. There were no sub groups of MSM excluded from this study. We have stated references where questions to stigma could be obtained. Also we stated in
the method section of stigma the questions we asked. The other instruments like PHQ-9 and AUDIT, references are also stated where our readers can get the information.

Utilization of health care services as an outcome was what we decided on because of the question we wanted to answer.

The PHQ-9, AUDIT, have been validated in many studies in sub Saharan African populations, and we provided references. The reliability of our tools in this study was not checked, because multiple studies have used them in African setting with good results.

Statistical analyses

3. Let the authors be explicit about how variables were included/excluded from the two logistic regression models.

Response: Thank you for the comment. We have explained further how the selection of variables were made. We restated the variables used in each models and how we selected the final models.

Results

4. Lines 30 to 31: Why are the authors reporting both summary indices for normally distributed (mean and standard deviation) and skewed distribution (median and interquartile range) for the participants’ age?

Response: Thanks for this comment. We have excluded the reported mean value, and decided to report on the median age. There was a skewed distribution of age.

5. Line 17 to 19. The proportion that reported condom use. Was this qualified further as consistent use or occasional use?

Response: Thank you for this comment. The correction has been made and restated as inconsistent condom use.

6. Replace 30+ with ≥30 if that is what is implied here. Also replace less than 20 with symbol form <20 years.

Response: Thank you. This has been corrected.
Discussion

7. I miss a clear recommendation to policy makers, programmers and communities based on the study findings.

Response: Thank you. We have added the recommendations in the conclusion part. We think the health authority in Cote d’Ivoire should institute policies which will educate health care workers on depression and sexually transmitted disease among MSM.

We have also suggested they should work with private health care facilities which are MSM friendly and where MSM visit more frequently to seek care, as our data suggested.

Tables

8. Table 2- Re-format the table as the last two variables are not in alignment with the rest of the table

Response: Thank you very much. This has been corrected.