Author's response to reviews

Title: Towards an understanding of barriers to condom use in rural Benin using the Health Belief Model: A cross sectional survey.

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To: Editor, BMC Public Health
Dear Editor, BMC Public Health

I am writing to submit revisions on the manuscript untitled Towards an Understanding of Barriers to Condom use in Rural Benin using the Health Belief Model: A cross sectional survey following the reviewers comments. Please find below point by point answers to reviewers' comments:

Reviewer N1 (C Koopman)

Major revisions Point 1: A few sentences should be added to the introduction describing the Health Belief Model, its use and components

Reply: This concern was also raised by the second reviewer with the suggestion to include this section in the methods. We have included a few sentences on the Health Belief Model at the end of the introduction (two last sentences in introduction section).

Major revisions Point 2: It is important to add some information in the methods section about the nature of the questions used for the survey and their source, the validity and reliability of the questionnaire and the construct of the HBM.

Reply: We have added a table in annexes to describe the nature of the questions used. The question on evidence about validity or reliability of the WHO / GPA questionnaire has been addressed in the limitations of the study. Please refer to results section and sub section on "Logistic regression using the theoretical health belief model" for the construct of the components of the Health Belief Model.
Major revisions Point 3: It would help to either include an appendix with survey items with the constructs identified for the substantive items, or to describe the items in the methods text or the tables

Reply: An appendix (Annexes on survey items) has been annexed to the revised version on survey items

Minor revisions Point 1: The nature of the barrier that was examined in this study should be more clearly identified as such in the abstract.

Reply: For the purpose of the analysis, this question was dichotomized in "no reported problem using condom" and "any reported problem using condom" with no further specificity on the type of problem reported. We therefore added this precision in the abstract of the revised version (2e line, conclusion of abstract).

Minor revisions Point 2: In the data analysis section, the specific variables that were analyzed should be listed.

Reply: We have listed them in the revised manuscript (last sentence, data analysis section).

Discretionary revisions Point 1: It would be better to write out a number when it begins a sentence.

Reply: We agree and have made corrections where appropriate.

Discretionary revisions Point 2: It would be useful if the authors would conjecture a bit more explicitly about the possible implications of this study for preventing HIV infection.
Reviewer N 2 (Philippe Van de Perre)

Major revisions Point 1: The theoretical Health Belief Model should be described in the methods' section.

Reply: This concern has been addressed in the first point of Reviewer 1 and few sentences have been added in the introduction to fill this gap.

Major revisions Point 2: Do not understand the sample size calculation based on an ability to detect a difference of 10% in condom use since the study objective is to identify factors associated with absence of condom use.

Reply: There were some indications from previous studies that the percent of condom use was low in most West African countries, but the authors first plan to verify this trend. It indeed would not be useful and pertinent to study correlates of lack of condom use if the condom use rate was fairly high. The sample size calculation should therefore consider condom use as it is the case in this manuscript.

Major revisions Point 3: It should be interesting to consider extreme scenarios, by hypothesing the 16 non responders to have all responded in opposite directions in order to validate correlates and statistical associations.

Reply: These scenarios have been considered (results not shown) and there were no statistical significant difference on figures of declared condom use by including the 16 forms excluded from the analysis and by hypothesing that all respondents have answered no to the question on condom's use. In fact, the figures are respectively 59.6% and 62.1% when excluding and including the sixteen forms with hypothesis of all the sixteen participants responding "No". The computed confidence interval around 59.6 percent is [53% - 66%]. Thus the difference between 59.6% and 62.1% appears not to be statistically significant.

Reply: The second and third sentences of the conclusion section have been modified for this purpose.
Major revisions Point 4: How were the 270 individuals selected? Consecutive random encounters in the 10 villages? Or in health settings?

Reply: Paragraph 2 of the methods section indicates how the 270 individuals were selected and this was also mentioned by the first reviewer as one of the strengths of this study. In fact, we use a systematic random sampling strategy using the 10 villages of Toffo as strata, and an average of 25 individuals per stratum. Participants are random encounters in the catchments areas of the study.

Major revisions Point 5: How were descriptions of practices and perceptions validated or ascertained? Inconsistency in declarations and its impact on study conclusion should be discussed extensively.

Reply: Validation or ascertainment of survey questions are current challenges for behavioural scientists. Tentative approaches have used proxies such as STI status or HIV serologic status to ascertain risky sexual behaviour but the validation of survey responses is still a quandary and this study doesn't aim to provide an answer to this general concern.

Major revisions Point 6: The central question that should be discussed in this study is how KAP studies may impact on prevention programmes or be used as tools to measure sexual behaviour changes.

Reply: This question has somewhat been raised by the first reviewer and has been addressed by specifically indicating how this particular study could impact on prevention programmes in Benin (refer to discretionary revisions point 2 of the first reviewer).

Major revisions Point 7: Where the two referenced studies conducted in Kenya and Ghana using the HBM? If yes, the study should not be claimed as being the first to use the HBM. Or is it the first to be launched in Benin?

Reply: Indeed it is the first to be launched in Benin using the Health Belief Model and we have made it more explicitly in the revised version of the manuscript (first sentence of discussion section)
Minor revisions: Some typos should be corrected.

Reply: All mentioned typos have been corrected, "times" after 1.9 (page 5, first paragraph, 2e line). However, the suggested corrections to replace "cues" by "clues" on page 9, second paragraph, line 5 is not correct and we should indeed maintain cues to action which refer to indication for actions instead of clues as suggested by the reviewer.

Discretionary revisions: None

I thank you very much for your time and consideration to this revised manuscript and I'm looking forward in hearing from you any time soon.

Sincerely Yours,

Sennen Hounton, MD. MPH