Author's response to reviews

Title: Effects of Peer Education Intervention on HIV/AIDS related Sexual Behaviors of Secondary School Students in Addis Ababa, Ethiopia: a Quasi-Experimental Study

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Author's response to reviews:

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Subject: Sending a Manuscript revised as per reviewers’ comments / MS: 4319492591481373 /

Dear Dr Joao P,

This is the revised version of the manuscript entitled “Effects of Peer Education Intervention on Sexual Behaviors of Secondary School Students in Addis Ababa, Ethiopia: a Quasi-Experimental Study”.

We are of the firm conviction that the extended comments by both reviewers are constructive to enhance the quality of the manuscript. Hence, due attention has been given to consider and incorporate the comments in this revised version. The line by line and/or page by page changes made on the previous manuscript as per the peer reviewers’ comments are summarized in the following two tables.

Table 1: Summary of the first reviewer’s comments and their respective responses or changes made in the manuscript
Section of the manuscript on which comments were given
Comments/Questions Responses and changes made in the revised manuscript
1. Abstract Clarity on differences between a quasi-experimental and experimental study in the context of our study was requested. Assignment of Schools to intervention and control group was not by random. Hence, the study is not
experimental study. But within Schools assigned to groups, sections were randomly selected. Randomization and random selection are different terms. The study design and sampling procedure are well described now, to avoid confusions.

Four secondary schools from different sub-cities (two for the intervention and other two for the control group) were selected purposively to address this quasi-experimental study. In addition, for both the intervention and control groups, grade 11 students were purposively selected. It was done in order to maintain homogeneity of socio-demographic characteristics among the groups as much as possible.

Line No.38 “The phrase randomly selected grade 11 students created methodological confusions” Thank you for your observation and constructive suggestion. That is amended as purposely selected grade 11 students

Line No.42 “A multi-variate analysis also used for controlling confounding variables. So, you should mention that” Corrected accordingly

Effect of intervention was not mentioned in abstract section clearly As the effects of peer education intervention, having better knowledge of HIV/AIDS, showing more interest to opt for HIV testing in the near future and using condoms during sexual intercourse were more likely among intervention group students, compared to those in control group.

2. Literature review

General Relevancy of the literature review was asked Thank you for your positive and helpful comments. Consequently, some points of clarities were revised and/or added in the manuscript to enhance better understanding.

Moreover, the literature review has addressed the following pertinent points.
A. Risky sexual behavior among school youth as public health concern
B. HIV/AIDS related Knowledge gap among youth and its association with risky sexual behavior
C. Magnitude of HIV related risky sexual behaviors among youth in Ethiopia
D. Role of peer education to increase HIV/AIDS related knowledge and changing or reducing risky sexual behaviors among different segments of the population.
E. Challenges to clearly understand the effects of peer education owing to controversial findings from various earlier studies
F. Research gap in the Country pertaining to evidence based effects of peer education among school youth.

Methods

Line No.200-201 How long did the peer education facilitators educate their peers after getting the training? The peer education facilitators educated their peers for three months. There were nine to ten students from grade 11 in each peer education group) (Line No.210 &215). The number of sessions conducted by
each group were two times a week after the regular class hours and sometimes using free periods as required. Each session lasted for at least 40 minutes.

How was comprehensive knowledge of HIV/AIDS measured? Comprehensive knowledge of HIV/AIDS was measured using Likert scale. Ten HIV/AIDS related knowledge questions like heard or not about the disease HIV/AIDS, identifying major routes of HIV transmission, identifying main methods of HIV prevention, whether a healthy looking person can be infected with HIV or not, whether AIDS can be cured or not, etc were included in the questionnaire.

During analysis, if the study subject responded for more than five questions among the targeted ten questions correctly, she or he was considered as having comprehensive HIV/AIDS related knowledge. A detail description of the measurements is indicated in the method section of the revised manuscript.

Revise the manuscript for grammatical errors Done as required

Minor Essential revisions

Line No. 28 Delete the word “some “ The word is now replaced with “about”.

Line No.29 Delete “s” from ages Revised accordingly

Line No.35 Delete “in” from in school youth and make it among school youth Comment incorporated.

Line No 44 What does intervention group more

Empowered mean or show? In our context, it means those students in the intervention group were found to have a better knowledge of HIV/AIDS and also showed more willingness to decide for HCT uptake during post intervention period compared with students in the control group.

Line No.58 What does a reasonable resource mean? How do we know that it is reasonable? In this context, reasonable amounts of resources refer to the planning of a Peer education intervention with clear and detailed specific activities and allocating appropriate amounts of resources(money, materials, time, and manpower) before its implementation which can make it more effective

Background

Line No.72 Systematic review research done from various sub-Saharan African countries.. was suggested The statement is rephrased now.

Line No.80 A cross sectional study in Ethiopia on youth...”Delete the word cross sectional Corrected as “A study done in Ethiopia on youth...”

Line No. 84 -86 Rewrite it Done accordingly

Line No.121: It says the findings of a study ...”which study” was asked for clarity Corrected as “A study on peer education”

Methods and Materials

Line No.171 Why did you select only 30 schools among more than 100 schools; why only four schools were purposely selected and why randomization in this kind of study? Thank you for your concern and comments.
Determination of the number of schools was based on the calculated sample size and resources available. The current study was part of a big study with various objectives with different phases of sampling. In phase I, 103 schools were selected. Then, 30 schools for the second phase. For the current study, four schools were adequate enough to have good control of the intervention. As it was a quasi-experimental study, increasing the number of schools may result in lost to follow up of students and have undesirable effect on the quality of the data. The number of schools included was adequate to provide the required number of students for the study.

Line No.180 “Why 15% contingency and from where did you take such a proportion?” 15% contingency was added for possible refusal among students to participate in the study and also to maximize the sample size as much as possible for more validity of its findings. This has been based on experience from previous similar studies.

How did you select 280 students from two secondary schools and other 280 for your control group? As the required number of students from each purposely selected four schools was 140, among 15-20 sections of Grade 11 in each school, 3-4 sections were randomly selected proportionately to their student population. Then, from each section, 30-40 students who qualify the inclusion criteria were enrolled in the study.

Line 190: Data collection and quality control Who did the translation in both instruments? The translation of the questionnaire from English to Amharic Language and then back to English was done by two individuals who have expert knowledge in both languages.

Line No.194 who are these two senior health professionals? They are a health officer and a BSC nurse with the long work experiences and are also instructors at different private Health colleges in Addis Ababa, Ethiopia.

Line No.197 Did you have data collectors for this self administered questionnaire? Yes, there were data collection facilitators not data collectors as it was a self-administered questionnaire.

How many days training for peer education facilitators? Two days training was given. Line No. 197-210

How was the effectiveness of the mentors measured? First of all those peer education facilitators were selected from each group by their respective members freely and voluntarily. In addition, the witnesses of students in each section regarding the active class participation and communication skill of each of the nominated peer education facilitator were very much emphasized.

Numbers of sessions and the type of intervention not clear. As stated above, each group had two sessions on selected HIV/AIDS related topics every week; each session lasted for about 40 minutes (either at the end of regular class hours or used free periods accordingly).

Line No.223 Why only verbal consent? As it was mentioned above, this study
was part of large scale PhD study with the sample size of over 4000. Therefore, asking for written consent from each of the participant might not be cost effective in the context of a very significant budget shortage though doing so is believed to be important. Therefore, the option was to provide students from each selected section with clear and precise information on the objectives and contents of the study, their right to participate or not and also the right to discontinue whenever they want to do so before giving their respective oral consents.

Any refusal from the study subjects to respond for the questionnaire Yes, for instance during the end line data collection period, nearly 7% of the students in control group either didn’t respond or partially responded to all or part of the questionnaire.

Data Analysis What is the most appropriate method of data analysis if there are two outcome variables in a study? If the outcome variables are binomial, we can use multivariable logistic regression for each of the outcome variable to predict the value from several measured or binomial variables as it was done in this study.

Line No 231 Rewrite to make it more clear Done accordingly

Results

Line No.253 Rewrite the sentence for better clarity Done accordingly

Line No.259-262 Rewrite the sentence for better clarity Done accordingly

Line No.266-271 Write in such a way that the results of two groups were comparable. As shown from Line No.265-284, the contents of these paragraphs depict the findings of an end line and the base line surveys of both the intervention and control groups. They were aimed at showing the differences among those in intervention group and the comparison (control) group students before and after the intervention.

The possible differences among the groups as can be observed from the P-values of chi-square tests could be explained as the effects of peer education intervention. But the effects of possible confounders were controlled in the multivariable analysis.

Line No.273-276 “22.3% initiated sex”

was it before or after the intervention The percentage shows ever initiated sex among the study participants or secondary school students during the study period

Line No.280 Is ever initiated sex among two groups (20.8% and 22.3%) can be said significantly different? No, because in both cases the p-values are above the cutoff point or 0.05. Hence, no statistically significant differences were observed between the base line and end line data of both groups as far as ever having sexual intercourse is considered

Line No.278-284 Rewrite for better clarity Revised accordingly

Discussion Section

Line No.297-302 Take it out and start your discussion from Line No.303 Done
Are students in intervention and control groups with comprehensive knowledge of HIV 71.9% and 77.9% comparable (6% difference)? Of course there are some differences and we don’t expect 100% similarity between them. However, as students included in both groups were from the same setting (Addis Ababa) and all were from Grade 11, we can say they were more or less comparable in many instances such as socio-demographic, HIV/AIDS related knowledge, risky sexual behavior, etc.

General Revise your discussion section to bring it to the level of standard
Revised to so as much as possible

Limitation Not stated in the manuscript though very important part It was stated
already in Line No.341 -347

Acknowledgement Avoid general acknowledgements
Make it specific to the organizations and individuals Done accordingly.

Table 2: Summary of the second reviewer’s comments and their respective responses or changes made in the manuscript

Section of the manuscript and Ser. NO of the given Comment/s

Comments/Questions Responses and changes made in the revised manuscript

General Authors need to relook at the whole manuscript and fix grammar and sentence construction Thank you for your invaluable comments. In line with, some revisions and corrections in grammar and sentences constructions were done throughout the manuscript

In methodology you need to have a section devoted to measures of the study A separate section is presented now.

Did you translate your questionnaire from English to Amharic and then back to English Yes, it was done for consistencies in meanings and senses by two individuals with expert knowledge in both Amharic and English languages

Line 247 The outcome variable condom use in the last 12 months is not a good measure of risk Thank you; it is corrected as the consistent use of condom in previous 12 months.

Minor Essential Revisions

1. Title better to introduce HIV/AIDS in the title Modified as …HIV/AIDS related Risky sexual behaviors of Secondary School Students ….
2. Abstract
   a. Line 30 replace experiencing with “engage in” Done
   b. Lines 31-35 Merge paragraphs 2&3 Done accordingly
   c. Lines 36-43 Merge paragraphs 5&6 Done accordingly
   d. Lines 53-60 Merge paragraphs 8&9 Done accordingly
3. Background
a. Lines 88-90 Revise the paragraph in order to fit well or else delete it Deleted
b. Line 93 Replace AIDS with HIV Replaced
c. Lines 96-103 Merge the paragraph by introducing “additionally” Done with conjunction “in addition”
d. Line 98 Sentence should be in present tense Tense changed, i.e.,... peer educators were perceived to be less expensive was modified as “using peer educators is less expensive”
e. Lines 105-110 Re-construct the sentence and fix all grammatical errors The paragraph is re-constructed and corrected for grammatical errors as much as possible
f. Lines 121-126 This paragraph needs to be revised The paragraph is re-constructed and corrected for grammatical errors as much as possible

3. Materials and Methods

a. Line 171 Vs Line 182 Are study subjects from secondary school or preparatory schools? In Ethiopian context, schools are classified into three major levels: primary, secondary and tertiary. Grade 11 and 12 are under the second cycle of secondary schools or called preparatory. Thus, the students included in both the intervention and control groups were from grade 11 of purposely selected four secondary schools at different Sub-cities of the study area

b. Sampling procedure How and Why did you choose 30 secondary schools? As this study was aimed at addressing one of the five different, but practically inter-related specific objectives of a PhD project with a wider scope, the multi-stage and multiphase sampling techniques were done. In phase I: 103 public schools (76 randomly selected primary and all 27 secondary schools) were participated in order to address specific objective I, presented elsewhere, i.e., among 220 public schools those satisfied the inclusion and exclusion criteria about 50% were selected based on available resources. Then in phase II, 30 public schools (15 primary and the other 15 secondary) were selected using systematic random sampling techniques, in order to address specific objectives II, III, & IV. The number of schools to be 30 was determined to generate adequate sample size required for the study and considering the resource availability. Finally, in Phase III, four secondary schools (two for the intervention and the other two for control groups) among the above 27 public secondary schools were selected purposely in order to address specific objective V, i.e., this study or effects of peer education intervention on HIV related sexual behaviors among secondary school youth based on available resources.

c. Line 173 Replace has taken with “used” Done
d. Revise the paragraph on sample size calculation and make it more clearer; use short sentences Revised accordingly
e. Line 189 Delete “issues and” from the sentence Done
f. Line 210 Delete “have” from the sentence Done
Throughout the intervention period, supportive supervisions were done by the principal investigator in collaboration with the respective Directors and/or Deputy Directors of two secondary schools of the intervention group in order to monitor the effectiveness of peer education program. The post intervention data were collected after three months of the pre-intervention survey.

4. Data Analysis

a. Line 232 Replace transported with “exported”

b. Line 248 Define HCT and replace “Accordingly”, with “A” The paragraph was revised as follows: …willingness to go for HIV Counseling and Testing (HCT). In addition, during the chi-square tests, the p-values less than 0.05 were considered as statistically significant.

c. You used Logistic regression technique to test association. How did you assess the association? In multivariable logistic regression analysis the value of an adjusted odds ratio (AOR) along with the corresponding 95% confidence interval was used to assess the strength of the association.

II. Discretionary Revisions

5. Results

Line 279 Delete “were observed” Deleted or revised accordingly

6. Discussion It should be strengthened by focusing only on key findings Revised accordingly

Please let us know, if still there are issues to be addressed by the authors.

With all the best wishes,

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