Author’s response to reviews

Title: A comprehensive analysis of trends and determinants of HIV/AIDS knowledge among the Bangladeshi women based on Bangladesh Demographic and Health Surveys, 2007-2014

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Author’s response to reviews:

Reviewer #1:

1. This study examines uses national cross-sectional data from Bangladesh to examine which factors determine whether or not a woman is aware of HIV. In general, I think the article is valuable and acceptable for publishing in this journal, but could be further improved by reading through and addressing the comments provided.

- The authors would like to thank you for the insightful comments; we tried to address your comments/concerns/suggestions, which are listed response by response.

2. I recommend a native English speaker read through this study to correct errors in syntax, grammar and word choice to improve overall readability of this paper.

- We tried to correct the syntax errors and grammar, and also rephrased sentences or changed words to improve the readability of the paper.

Specific comments:

3. Page 6, line 13 "The remainder of the paper…” this section describing the organisation of the manuscript could be removed.
- This part (“The remainder of the paper …”) of the paragraph (section: “Background”, page: 5 of 22, line: 18—22) has been removed in the revised manuscript.

4. Page 6, line 57 "The main variable of interest is whether the women heard about HIV/AIDS or not". If you are using HIV awareness as a proxy for HIV knowledge, it would be good to state this clearly in the methods section, otherwise it would be more accurate to use the term "awareness" (rather than "knowledge") throughout the paper. It would be good to identify previous publications (if any) which have examined the associations between HIV awareness and HIV knowledge or protective behaviours (e.g. a person who is aware of the disease doesn't necessarily mean that that they engage in any preventative behaviours).

- The issue you raised is vital. In this paper, we would like to use the term “knowledge” instead of “awareness” for few justified reasons. The person who is aware of HIV/AIDS could be considered as knowledgeable about HIV/AIDS, however, vice versa relationship cannot be ensured generally. For instance, the respondents who heard about the disease might be ignorant of the ways how to prevent the disease, how to preclude transmission, etc. Thus we would like to interpret our findings with caution, especially, while mentioning “knowledge” instead of “awareness”. A thorough discussion on this can be found in the “Discussion” section (“Despite several … scope of the study”; page: 16 of 22; line: 22—29). We appreciate the issue you raised that might help us to work on another research problem that concentrates on “HIV/AIDS awareness”.

5. It would have been useful to also conduct a more detailed survey e.g. if participants knew about preventative behaviours, HIV programs, where to seek help or further information. This is beyond the scope of this paper, but could be mentioned in the limitations section.

- Women’s knowledge about HIV program and about the sources of information about HIV/AIDS are expected to have influence on their knowledge about HIV/AIDS, however, this study could not utilize these information due to unavailability of such information in BDHSs data. This discussion is placed in the “Data and variables” sub-section (“There are some other …these variables”; page: 6—7 of 22; line: 32, 1—4).

6. Also, it would be useful to analyse preventative behaviours (e.g. condom use, family planning) as outcome variables - this would be another publication if it is beyond the scope of this study. For example, HIV awareness may be a determinant of whether or not a woman uses condoms or engages in family planning activities.
There could be a causal relationship between the preventive behaviors, e.g., condom use and family planning knowledge, with women’s knowledge about HIV/AIDS as determinants along with other covariates, however, this is beyond the scope of this study and has been discussed as a limitation of the study (“Although we have…specific objectives”; page: 16 of 22; line: 29—33).

7. Page 6. Data and variables. It would be useful to briefly describe the datasets for the Bangladesh Demographic and Health Surveys (BDHSs) here. E.g., what other data is collected? Do you have data on the incidence of HIV among participants?

- The data description is edited as per your comment.

8. Discussion. It would be useful to discuss HIV incidence in relation to your results. For example is HIV incidence lower in women 30-49 years of age, or higher in Chittagong, Rajshahi, and Sylhet division etc.

- The information on the incidence of HIV/AIDS is unavailable in the BDHSs data and thus we could not relate our findings with incidence that might add more value to our findings. This issue is discussed in the “Discussion” section (“Analysing the effects…HIV incidence”; page: 17 of 22, line: 3—7).

9. Please add a paragraph discussing the limitations of the study.

- A paragraph describing the limitations of study is added as last paragraph of the “Discussion” section (“Despite several…HIV incidence”; page: 16—17 of 22, line: 22—33, 1—7).

10. Table 1. It would be good to report the actual numbers as well. E.g. you could report the number and then add the percentage in brackets.

- Table 1 is edited as per your comment.

11. It would be good to show the survey questions in the supplementary material (or provide a link to the survey questions).
- In the “Data and variables” subsection (“For details of …report of 2014”; page: 7 of 22; line: 4—5), we referred the BDHS (2014) report that discuss in detail about the survey design and survey questions.

Reviewer #2:

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This manuscript is interesting and may be published to the journal- Archives of Public Health, if the following issues can properly be addressed.

1) The introduction and conclusion of this manuscript should be more orthodox, organized, clear and informative.

- We tried to improve the introduction and conclusion as per your comment.

2) Literature review section should be included in the manuscript. It lacks sufficient literatures. Literature of Bangladesh perspectives should be augmented.

- In the revised manuscript, we could not include a separate “Literature review” section, however, we revised the “Background” section, where more literatures in the context of Bangladesh are discussed.

3) Rather than explaining the logic of using mixed modeling approach in back ground section (page-3), author should discuss it in materials and methods section.

- The justification of using mixed modeling approach has been discussed in the “Model” subsection under “Materials and methods”, rather than in the “Background” section.

4) It is not clear whether men were interviewed or not (if yes not clearly explained). If not, it is a great weakness of this study, because husbands can influence wife about HIV/AIDS knowledge in any age.

- In BDHS-2007 and 2011, data regarding the knowledge about HIV/AIDS among the married men and women aged 15—49 years along with other variables are available. However, married men show substantial improvement on knowledge about HIV/AIDS from 2007—2011, for which, BDHS-2014 collected data on the knowledge about HIV/AIDS only among the married women aged 15—49 years. Although the knowledge status of the married
women could be greatly influenced by the knowledge status of their husband, this study is limited to analysing only the knowledge of married women about HIV/AIDS. The discussion on this can be found in the “Background” section (“In the context … documented in 2011.”; page: 3 of 22; line: 5—13) and “Discussion” section (“There is a possibility…BDHS data.”; page: 16—17 of 22; line: 33, 1—3).

5) Why religion, region, residence, age, economic status influence to get more or less knowledge about HIV/AIDS to women are not properly explained. What are the contributing factors behind this are not properly identified and explained.

- In the revised “Discussion” section, we tried to add more explanation on the justification of the mentioned factors associated with women’s knowledge about HIV/AIDS.

5a) Why Muslim women are much aware about HIV/AIDS then the women of other religion is not clarified. An explanation was given of African culture about this, but it needs an explanation of Bangladeshi culture!

- This issue has been addressed in the revised “Discussion” section (“In the BDHSs (2007-2014) data, …in Bangladesh.”; page: 14 of 22; line: 8-18).

5b) Why working women have much knowledge about HIV/AIDS then Non-working women?

- A discussion on this can be found in the “Discussion” section (“Working women compared …knowledge about HIV/AIDS”; page: 16 of 22; line: 14—19).

5c) Due to availability of media, satellite Television etc. throughout the country region, age, residence etc. are not the determinants factors of knowing about HIV/ADS among women now a days.

- In the context of Bangladesh, there are earlier studies (e.g. Rhaman, M.S. and Rahman, M.L. (“Media and education play tremendous role in mounting AIDS awareness in Bangladesh”, AIDS research and therapy, 4(1), 10 (2007)) that showed that there is a positive association between media use and knowledge about HIV/AIDS. The study also demonstrates that the use of media has not been uniform for rural/urban women and for women from different age groups. Additionally, the divisions of Bangladesh differ from each other in terms of education, economic condition, technology, media exposure, etc. These altogether convince us to investigate the influence of region, age, residence, in addition to media use.
6) In page 6 "the descriptive measure show that over the years the percentage of women with knowledge about HIV/AIDS slightly increased for older women and decreased for younger women of which women aged under 20 years show a more steeper decline…." How it possible, explain.

- Please find our revised explanation for this result in the “Results” section (“The rationale behind this change…over the three survey years.”; page: 8 of 22; line: 15—21).

7) "Khulna and Sylhet divisions have the highest and lowest percentage of women with knowledge about HIV/AIDS respectively, for all three of the survey years”. In result/discussion section elaborate the cause/factors.

- This issue has been discussed in the “Discussion” section (“The divisions of Bangladesh possess…to Sylhet division.”; page: 12—13 of 22; line: 32—33 & 1-11).

8) Overall, in discussion section keep much focus on the causes/factors of increasing/decreasing of knowledge about HIV/AIDS among women rather than keeping much focus on previous study.

- We tried to revise the “Discussion” section as per your comment.

Editorial comments:
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1. Please revise the text for the English

- We tried to revise the text of our Manuscript, improving the organization and correcting the syntax and grammatical errors.

2. The title should include information on the periods

- The title has been changed according to your suggestion.
3. The title of the tables should be informative so that the table can be understood without reading the text. Please add information on study name, time and place to the title.

- The updated table captions include the information on study, country, and time.