Author’s response to reviews

Title: Reasons for nonuse of contraceptive methods by women with demand for contraception not satisfied: an assessment of low and middle-income countries using Demographic and Health Surveys

Authors:
Laísa Moreira (laisa.moreira.psi@gmail.com)
Fernanda Ewerling (fewerling@equidade.org)
Aluisio Barros (abarros@equidade.org)
Mariangela Silveira (mariangelafreitassilveira@gmail.com)

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Author’s response to reviews:

Dear Dr Silveira,

Your manuscript "Reasons for nonuse of contraceptive methods in women with demand for contraception not satisfied: an assessment of low and middle-income countries using Demographic and Health Surveys" (REPH-D-19-00209) has been assessed by our reviewers. Based on these reports, and my own assessment as Editor, I am pleased to inform you that it is potentially acceptable for publication in Reproductive Health, once you have carried out some essential revisions suggested by our reviewers.

Their reports, together with any other comments, are below. Make sure to review the English language and grammar carefully in line with the comments by Reviewer 1. Please also take a moment to check our website at https://www.editorialmanager.com/reph/ for any additional comments that were saved as attachments.

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1) One clean copy of your manuscript (submitted as supplementary file)

2) One copy where your changes are highlighted (track changes) (submitted as main manuscript file)

3) A separate, point by point response to the editor and referee comments

Please include a point-by-point response within the 'Response to Reviewers' box in the submission system and highlight (with 'tracked changes'/coloured/underlines/highlighted text) all changes made when revising the manuscript. Please ensure you describe additional experiments that were carried out and include a detailed rebuttal of any criticisms or requested revisions that you disagreed with. Please also ensure that your revised manuscript conforms to the journal style, which can be found in the Submission Guidelines on the journal homepage.

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Please be aware that we may investigate, or ask your institute to investigate, any unauthorised attempts to change authorship or discrepancies in authorship between the submitted and revised versions of your manuscript.

The due date for submitting the revised version of your article is 10 Aug 2019.
I look forward to receiving your revised manuscript soon and please do not hesitate to contact us if you have any questions.

Best wishes,

Anna E Kågesten, Ph.D., M.P.H.
Reproductive Health
https://reproductive-health-journal.biomedcentral.com/

Dear Editor Anna E Kågesten,

We are pleased to resubmit our manuscript "Reasons for nonuse of contraceptive methods by women with demand for contraception not satisfied: an assessment of low and middle-income countries using Demographic and Health Surveys" (REPH-D-19-00209) to the Reproductive Health. We thank you for the opportunity to address the reviewers’ relevant concerns and believe these changes have improved the quality of our manuscript. In addition, we agree with you and especially with the reviewer 1 that our manuscript needed English language and grammar review. A native English speaker has read and revised the text.

Best regards,

Mariangela Freitas Silveira, on behalf of all authors

REVIEWERS ASSESSMENT AND RESPONSE TO REVIEWERS:

REVIEWER #1:

Thank you for the opportunity to review this paper. I thoroughly enjoyed reading it and I believe it makes an important contribution to the literature on the social determinants of maternal health/mortality. I especially liked that the authors used different stratifications to look at the data; I think this helps tell a much richer, more nuanced story about how and why women use or don't use contraception and how their reasons can vary depending on so many different factors. Stratification by wealth quintile was particularly interesting as I think we tend to think about
differences in global health more on a national scale, but this paper demonstrates that there's plenty of variation within, not just among, countries. I very much look forward to reading the revised version of the manuscript after the authors have had a chance to consider the reviewers' feedback.

Answer: We thank the reviewer for this comment. We believe that it is really important in reproductive health literature to pay attention to women's opinion. In addition, we agree with the reviewer concern the importance of stratification to show variations within countries that can contribute to highlight reproductive age women specificities.

In addition to more line-specific comments, I offer a few overall suggestions that might help with the flow and readability of the paper. First, given the importance of the content of this paper, I would suggest having an English language editor review the manuscript; I think this could help with readability as there are several places in the paper where I needed to stop and re-read a sentence to ensure I understood it as the authors intended. Additionally, some of the transition word choices are a bit awkward; for example, on line 201, I suggest replacing "considering" with "among" as "considering" is typically used a bit differently in English. I've offered a number of suggested edits that attempt to clarify, but I think a dedicated review would be really useful and would strengthen the paper.

Answer: We thank the reviewer for this important suggestion. Sometimes writing in other languages can be difficult and the first author recognize the need to improve this ability. A native English speaker has revised all the text and we have carried out modifications needed.

Second, consider using shortened versions of some of the longer indicator names to help with readability, as one would do with an acronym. For example, you could use just "nonuse" as a shortened version of "nonuse of contraceptives." Or "demand not satisfied" as a shortened version of "demand for contraception was not satisfied." A long indicator name can be a bit confusing in a sentence.

Answer: We agree with the reviewer that using shortened versions of the indicator names can help the readability. So, we revised the text according to the suggestions. The indicator names were shortened, especially in the results and the discussion sections.

Third, if the reasons for nonuse are in quotation marks, make sure that that's consistent throughout the paper; around line 204, that convention is dropped and the reasons aren't consistently written in quotation marks. I found the quotation marks helpful, so I would suggest keeping that convention.
Answer: We thank the reviewer for the attention to this point. We modified the text as suggested - now the reasons for nonuse are in quotation marks throughout the whole manuscript.

Line-specific recommendations/considerations are below, along with a number of comments about some of the stronger parts of the paper.

134-138: Consider combining these two sentences; as they are, they sort of contradict one another (first the pregnant women are eligible for inclusion, then they're not). I also recommend bumping the sentence that starts with "The reasons" down to start a new paragraph.

Answer: We combined the two sentences, as suggested by the reviewer: “Although pregnant women who considered their pregnancies untimely or had not desired their pregnancies are generally classified as in need of contraception [11], they were also excluded from this study because being pregnant is one of the filters for the questions regarding the reasons for nonuse of contraception.” (lines 141-145). We also have made the additional change, as suggested.

Line 142: How were the reasons grouped? It would be helpful to explain this here (e.g., "The responses were grouped into eight reasons: 1) respondent opposed… etc.). Also, the use of "reason" to describe both the eight groupings and the individual response options is confusing, and makes the sentence on 142-143 challenging to understand. Finally, were the reasons grouped before or after (during) analysis? If it was during analysis, then that explanation should be moved to the analysis section/be their own paragraph.

Answer: We agree with the reviewer that the text was not very clear, so we revised the text according to the suggestions. The reasons were grouped before the analyses taking into account the results of preliminary analyses and discussions between the authors.

Line 146/Table 1: More definition on what is meant by "fatalistic" is needed. Above (line 146), you write "up to God" but more description would be helpful. Also, for parallel structure with the other reasons, you may want to consider using "fatalistic outlook" as the name of the reason.

Answer: As suggested by the reviewer, we included a more detailed definition of fatalistic in the text (lines 152-153).

Lines 160-162: No additional description is needed after "the wealthiest 20%"; the explanation is obvious.
Answer: We thank the reviewer for the suggestion. However, we believe that saying that the wealth index classifies the households in each country is important for a reader that is not familiar with the DHS and the wealth index. We believe that the statement makes it clearer that the wealth index is a relative measure of wealth and that comparisons are made within countries. We did, however, excluded the end of the sentence “considering the surveyed countries”, as we agree with the reviewer that this is an obvious statement.

Lines 162-165: The wealth index description is useful, but kind of gets in the way here. Consider moving it to the discussion section in order to demonstrate why this is an important stratifier. Otherwise, remove it.

Answer: We understand it is important to keep at least a short definition of the wealth index in the methods section as many readers are not familiar with DHS and how socioeconomic position is estimated in these surveys.

Line 166: The SII definition is a great addition. I really liked that it was included, however, I suggest moving it up to the preceding paragraph; it connects better to the information there.

Answer: We thank the reviewer for this suggestion and have made the changes accordingly.

Line 182: Use "and" between "Latin America and Caribbean" rather than &.

Answer: We thank the reviewer for this comment and have made the changes as suggested (line 186) and throughout the manuscript for consistency.

Line 183: I suggest switching this sentence around (i.e., starting with "Health concerns' was the top reason for nonuse in 22/47 countries), otherwise, it makes it seem like the countries themselves have health concerns, not the women in the countries.

Answer: We thank the reviewer for the attention to this sentence. We have made the changes as suggested to provide clarification: “Health concerns” was the top reason for nonuse in 22 out of the 47 countries. (line 187)

Line 184: Add "countries" after "18”—it looks like it was accidentally omitted.

Answer: We have made modification as suggested. (line 188)
Line 196: Change "East Timor" to "Timor Leste" for consistency (you use Timor Leste in all other areas of the paper).

Answer: We thank the reviewer for the comment. However, in the new manuscript version, we have made some changes in the results section, as suggested by reviewer 2 (especially we have summarized some information). So, the Timor Leste correct data and writing appear just in the tables.

Line 209: Suggest rewriting this sentence to something like "In countries where demand for contraception was not satisfied for 30-50% of the women,…" for more clarity about which strata is being discussed. A similar rewrite for line 217 would be helpful too.

Answer: As suggested by reviewer 2 (“that the results could be presented in a more constructive way”) we have rewritten some parts of the results to make this section clearer. So, we decided to rewrite and to summarize the main stratification results too.

Line 214: Remove "remarkably" (since this is the results section).

Answer: We removed this word from the results section.

Line 224: What are the two reasons that Ghana stood out? Either elaborate and describe those reasons, or remove this sentence.

Answer: We thank the reviewer for highlighting this point. We removed this sentence.

Line 229: This sentence feels incomplete. If the point is that these data reveal differences in why women do not use contraception, then say that whole statement.

Answer: We add the information “on why some women do not use contraception” (line 211) to complete the sentence. We thank the reviewer for attention to this point.

Line 231: Consider switching "however" out and using "indeed" instead—this way, you’ll affirm, rather than contradict.

Answer: We thank the reviewer for the suggestion and have revised the manuscript.
Line 234: Typo here—I think it should say "opposition BY others", not "be."
Answer: We thank the reviewer for the comment and have revised the text.

Line 225: This paragraph is very interesting… seeing the reasons broken out by the different strata of demand-satisfied is intriguing. It makes me wonder about the social and cultural norms driving the numbers.
Answer: We have highlighted some important stratification results as well as discussed it.

Line 244: "still regarding place of residence" is not necessary and can be deleted.
Answer: We thank the reviewer for highlighting this point. We revised the text accordingly.

Line 247: It looks like the "it" after "access" is there by mistake.
Answer: We have deleted the word “it” and revised the manuscript as suggested.

Lines 249-250: Replace "e" with "and" between the percentages.
Answer: We replaced the word and revised the text as suggested.

Line 282: Consider replacing "thus, in theory" with something more descriptive, such as "So, although these two countries demonstrate lower numbers, the optimal prevalence for this indicator would be zero."
Answer: We thank the reviewer for the comment and have replaced the sentence accordingly.

Line 284: Add "the literature on" before "Latin America and the Caribbean describes…”
Answer: We have made the changes as suggested (line 267) and thank for this comment.
Line 286: Does the transition process happening in LAC explain the low numbers in Colombia and Honduras? If so, that should be included here. One way to do that would be to start this paragraph with a sentence like, "The lower prevalence in Colombia in Honduras may be attributable to demographic transition processes and the availability of contraceptives." That would frame this section really nicely.

Answer: We think that many factors can contribute to explaining the low numbers in Colombia and Honduras, among which may be demographic transition processes. We recognize that in this sentence is not clear what 'demographic transition process' refers to. So, to be clear we have rewritten the respective sentence and added information as follow:

“The literature on Latin America and the Caribbean describes a decline in fertility rate over time [19] as well as other demographic changes, such as aging populations [20]. In this context, reproductive health policies, among other strategies, play an important role in family planning [21]. Some advances also may be attributed to the availability of a variety of contraceptive methods [20]. It is possible that these various processes together may explain the low levels of demand for contraception not satisfied identified in Colombia and Honduras.”

Lines 289-294: I suggest moving this up to the previous paragraph, right after mentioning the 5 African countries. You could group the insights related to the African countries, and then in the next paragraph, group the insights on the LAC countries. That would read better.

Answer: We thank the reviewer for the suggestion. We have changed the information order and have grouped insights related to the African countries in the second discussion paragraph and information concern Latin America and Caribbean countries in the third discussion paragraph.

Lines 297-303: These two sentences would make an excellent overall conclusion.

Answer: We thank the comment. These sentences were moved to the end of the discussion.

Line 304: "In fact" is not necessary to the sentence.

Answer: We deleted this discourse marker.

Line 313: This is a great reminder about the importance of contextual variables!

Answer: We agree with the reviewer and thank the comment.
Lines 313-315: I would remove the sentence that starts with "About contraceptive methods"; it's a fragment and doesn't add anything. On line 315, it should say "contraception" instead of "contraceptive."

Answer: We agree with the reviewer and have removed this phrase as well as replaced the word suggested.

Line 320: I think "contemplate" should say "meet." Also, consider moving the sentence that starts with "Added to that" to the end of the paragraph, where it will sum things up nicely with a recommendation.

Answer: We thank the comments and have replaced the word suggested as well as have changed the sentence order.

Line 324: This sentence mentions "issues of development." What are those issues? This thought feels incomplete. I suggest briefly describing those issues or removing the phrase.

Answer: We agree with the reviewer that the sentence was not very clear. The text was revised accordingly, and the expression “issues of development” was deleted.

Lines 338-341: This is a nice conclusion regarding how different groups of women have different social pressures, and thus stratification by reason is essential to being able to provide the most relevant, helpful care/services.

Answer: We thank the reviewer for this interesting feedback. We have made some changes in the text (as suggested by reviewer 2), however, the main idea is the same.

Line 342: Remove "added to that"; it doesn't add to the sentence.

Answer: We have deleted the expression “added to that”.

Lines 351-364: Another great paragraph with interesting insights.

Answer: We thank the reviewer for this feedback.
Line 380: Suggest rewording this sentence to read, "...survey, which does not necessarily capture women who have sexual intercourse more infrequently." (assuming this change accurately describes what you're trying to say). As is, the sentence is a little confusing.

Answer: We thank the reviewer for the suggestion. We agree that the sentence is misleading, especially because married women not necessarily engage in sexual intercourse either. This is already captured in the reasons evaluated, so we decided to drop this sentence.

Lines 383-384: Good recommendation.

Answer: We thank the reviewer for the comment. We believe that this point is really important concern reproductive health in reproductive age women from different countries.

Lines 391-400: I agree with these strengths, particularly the point about stratification.

Answer: We thank the reviewer for bringing this point up.

Line 406: I suggest ending this sentence at "test contextualized interventions"; everything after that isn't really making the sentence/conclusion any stronger.

Answer: We thank the reviewer for this suggestion. We have made some changes in the conclusions section and we believe that the new version is better than the previous one.

Figure 1: The age groups in the "Woman's Age" graphs should say "15 to 19", "20 to 34", etc. Same with the graph on "Parity Alive Children"—this edit applies to Figures 2 and 3 also.

Answer: We have made the changes suggested to Figures 1-3.
REVIEWER #2:

This study makes an important contribution to the field of reproductive health, in that it describes reasons for non-use of contraceptives in women with demand for contraception not satisfied using DHS data from 47 low and middle-income countries. The results of this study should provide a way forward for country-level policy/programming to improve uptake of contraception among women of reproductive age. I append a few comments below.

Introduction:

- A sentence or two describing why it is important to answer this research question would be beneficial i.e. what are the potential negative implications for non-use?

Answer:

We thank the reviewer for the suggestion and have added information about this in the background section (lines 106-109).

Methods:

- Just confirming that the exclusion of pregnant women who had not desired the pregnancy or who considered the pregnancy to have been untimely (lines 135-138) was due to the DHS filter for questions regarding the reasons for non-use (i.e. there was no way for you to include these women in your study)? This would be a group that especially needs appropriate targeting for uptake of contraceptive use; this point could be raised in the limitations if it cannot be addressed with the data?

Answer: Yes, being currently pregnant was a filter for the questions on the reasons for not using contraception. We agree it would be very important to understand whether these women had a contraceptive failure or whether they were not using any method; and if they were not using any method, what was the reason for that. Unfortunately, this is a limitation of the data in the DHS. We included this in the limitations of the paper.

- Table 1: I realize that this comes from DHS categorizations, but I find that 'health concerns' as a reason is very vague (and it is referred to frequently throughout the paper). Is there any way to expand on this definition so that the readers understand how a health concern might differ from a side effect?
Answer: Actually, the category “health concern” includes women that reported not using contraception due to health concern, fear of side effects and interferes with body processes (please see table 1 in the manuscript). Even though DHS differentiate these reasons, we believe they are very similar to each other. For example, women that were not using contraception because they think it can make them unfertile, could give any of these answers. We believe that “health concerns” is the best term to describe the broader definition that we used in the paper.

Results:

- Consider adding a separate category for the countries with demand for contraception not satisfied >70%. This is uniquely high, and so it is important that the reasons for non-use are highlighted for these countries especially.

Answer: The categorization of the countries in <30%, 30-50% and >50% was done because it divides the countries in three groups with a similar number of countries. There are only five countries with demand for contraception not satisfied above 70% (Angola, Mali, Gambia, Guinea, and Chad). We understand these countries have an especially high need for interventions, that is why the reasons more frequently reported in these countries are highlighted in the text. However, we decided not to include one more figure with this specific group because the paper already has too much information and the prevalence of each reason by country and stratifier are also available in the supplementary file.

- I feel that the results could be presented in a more constructive way. Without looking at the tables, the reader is unsure of whether the prevalence estimate reported corresponds to findings for that country or for reasons for non-use (across all countries, within their respective categories). For example, for India, other opposed (lines 204-205): are you indicating that in India, 'other opposed' was the reason most cited or that 'other opposed' as a reason for non-use had the highest prevalence in India (among the countries with <30%). It is the latter, though I feel that the former would be more beneficial to highlight in terms of in-country actions that could be taken. Another example, you have stated that lack of access (as a reason) was highest in Namibia (line 206), though this is slightly misleading given that there were higher reporting of health concerns as reasons for non-use in the country.

Answer: We have made changes in the writing of the results. However, summarizing the results in this manuscript was really a challenge because there is a lot of information that can be highlighted. So, to make this section clearer we discussed with the authors about alternative ways to present the results and have decided to rewrite some specific parts. We especially have summarized the results of the reasons for nonuse by coverage level and country. In addition, we checked the information about the “lack of access” (as a reason) to be highest in Namibia. In the
previous version of the manuscript this information was correct - among countries with a prevalence of demand for contraception not satisfied below 30.0%, the highest prevalence of “lack of access” (as a reason) was in Namibia (see table 3). However, in the current version, this information was summarized/ replaced too.

- To me, the results of the SII analysis show very clear patterns of pro-rich and pro-poor reasons for non-use, regardless of the country categorization (<30%, 30-50%, >50%), brought out by the shading (of course, with some exceptions). I.e. Pro-rich: health concerns, infrequent sex, method related; Pro-poor: other opposed, fatalistic, lack of knowledge, lack of resources. I think you could highlight this more, either in the results or in the discussion.

Answer: We agree with the reviewer and these results were highlighted in the results section.

- Are there any patterns noted when grouping reasons for non-use by region?

Answer: At first, we performed the statistical analysis by world region (instead of by level of demand for contraception not satisfied). However, we identified a huge variability between the countries in each region, both in terms of the levels of demand for contraception not satisfied and in terms of the reported reasons. Because of this great variability, it was not possible to find clear patterns by world region. Thus, we decided that it was better to group the countries according to their coverage level.

Discussion:

- You touch briefly on some actions that could be taken in the case of non-use due to lack of access; could you highlight some strategies to improve contraceptive uptake where other reasons are cited for non-use?

Answer: Considering that the discussion has already a lot of information (as implied in the reviewer's next comment) we decided to highlight only some additional actions in the text, although there are a lot of actions that could be cited.

- Overall, I think the discussion could be shortened and made more concise.

Answer: We agree with the reviewer and revised the text accordingly.
Minor comments:

- Line 176: not sure what 'denominator' is indicating, as the denominator for the prevalence estimate is the number of WRA in need of contraception

Answer: We agree with the reviewer that the term was misleading in that sentence, so we dropped the word denominator.

- Lines 249-250: need to replace 'e's with 'and's

Answer: We thank the reviewer for the attention to this word. We replaced this information.

- Line 285: not clear what 'demographic transition process' refers to

Answer: We think that many factors can contribute to explain the low numbers in Colombia and Honduras, among which may be demographic transition processes. We recognize that in this sentence is not clear what 'demographic transition process' refers to. So, to be clear we have rewritten the respective sentence and added information as follow:

“The literature on Latin America and the Caribbean describes a decline in fertility rate over time [19] as well as other demographic changes, such as aging populations [20]. In this context, reproductive health policies, among other strategies, play an important role in family planning [21]. Some advances also may be attributed to the availability of a variety of contraceptive methods [20]. It is possible that these various processes together may explain the low levels of demand for contraception not satisfied identified in Colombia and Honduras.”

- Figures 1-3: should read 15-19 or 15 to 19; 20-34; 35-49 (for woman's age) and 1 or 2 (parity)

Answer: We have made the changes suggested to Figures 1-3.