Author’s response to reviews

Title: Acceptability, Feasibility and Utility of a Mobile Health Family Planning Decision Aid for Postpartum Women in Kenya

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Title: Acceptability, Feasibility and Utility of a Mobile Health Family Planning Decision Aid for Women in Kenya

Dear Editors/Reviewers,

Thank you for your careful review of our manuscript entitled "Acceptability, Feasibility and Utility of a Mobile Health Family Planning Decision Aid for Postpartum Women in Kenya" (REPH-D-19-00003).
We greatly appreciate your comments and have revised the manuscript and have detailed responses to each of the points below. Original reviewer comments are included in italics. Investigators' responses to reviewers are included in bold. Revised text is included in bold italics.

Reviewer 3 (General comments)

1. The introduction is comprehensive but could be made more concise to capture the readers' attention and help the reader focus on the specific topic of the paper. It could be revised to answer the following three questions: What is the paper about? Why is it needed? What question does it seek to answer?

   Thank you for this recommendation. We have cut some of the background and added some text to make it clearer what the intention of the manuscript is earlier. We reviewed the introduction section to check if the suggested questions are answered. All the questions are incorporated within the different sections of the introduction. Given below are the specification of the page numbers and lines where we have included the answer to the above questions.

   What is the paper about: page 6, lines 6-9

   Why is it needed: page 7, lines 5-11

   What questions does it seek to answer: page 8, lines 4-8

2. Many thanks to the authors for their response to reviewer 1's point A, whereby they now describe how the participants were recruited and that the study sites were co-located within the same facility of the clinics. However, the authors have not addressed part of his/her request, which I also believe is important: to reflect on socio-demographic information about who the participants were in interpreting the findings. This is especially important given that you note the inclusion of different age groups and rural and urban participants as a key strength of your study. You mention this briefly in the methods and very briefly at the beginning of the results section, but not directly in your interpretation of the implications of the findings.

   Thank you for the comment. We did not collect a lot of detail on demographics in this study and do not wish to overstate our ability to comment further than we have already done so in the manuscript. In addition to reporting in the results, we do comment that our results may not be generalizable to other settings or other groups in the discussion. We believe this is sufficient given our results, and do not wish to comment further on making interpretations beyond which our data would support.
3. In the introduction, the authors note the systems barriers to PPFP counseling related to lack of provider time and heavy client loads. Please consider reflecting further in the discussion section how an added value of this tool might be that it could overcome/navigate around some of these systems barriers by providing information in advance of meeting with the provider.

We appreciate the reviewer’s point about reflecting on the added value of this tool that could overcome the systems barriers to PPFP in the discussion section.

We added this on page 24: "and saving providers time by streamlining the counseling process"

4. While it does seem that the findings were overall favorable, women and providers did note a few concerns about the tool and recommendations for how it could be improved. It would be important to add a sentence briefly noting what those concerns and recommendations are in the abstract and plain English summary, so that the findings are accurately represented.

Thank you for this recommendation. We have added a sentence in the abstract (page 3) and plain English summary (page 5) with a given below statement: "and suggested inclusion of multimedia such as audio or videos to optimize the effectiveness of the tool"

Reviewer 3 (Specific comments)

An outstanding issue in the paper is the reference list. Many of the references are either dated (1,2,9, etc.), secondary references (6,8,9, etc.), or not directly relevant to the statement at hand (4,5,10, etc.). Please review and revise the citations based on specific comments below.

Thank you for this comment. Revisions are made based on specific comments below.

1. Abstract and title: Consider specifying that this study looked at post-partum adolescent girls and young women.

Thank you for the suggestion. Majority of the women (60%) who participated in this study were adolescent girls and young women; however, our study looked at the perspectives of ALL postpartum women and not only adolescent girls and young women. So, the authors would like to keep the current title of the study and specification in the abstract.

2. P.3-4 L.22-2: Consider removing the last sentence in the abstract conclusion. The paper's findings relate to the perceptions of the acceptability, feasibility, and utility of this specific tool;
however, they do not directly conclude that such tools are needed - and also not needed only in resource-limited settings.

Thank you for the suggestion. We have revised the manuscript to read "Counseling tools that can support FP providers to help postpartum women make informed and individualized FP decisions in resource-limited settings may help improve FP counseling and contraceptive use in the postpartum period." Since our results are only from LMICs we have restricted our conclusions to this geographic area to avoid overstating our conclusions.

3. P.5 L.3: Consider adding "utility" to the first sentence of the plain English summary to accurately and consistently reflect the research question.

Thank you for this recommendation. We have added "utility" to the first sentence of the plain English summary.

4. Background, paragraph 1: This paragraph justifies the need for FP in terms of health outcomes only. Consider adding a rights dimension, as well, and perhaps implications for educational attainment, etc. (given the focus on adolescent girls and young women).

Thank you for the suggestion. We have added a line about reproductive rights in our revised background. We did not discuss implications for educational attainment to maintain focus for the manuscript i.e., we did not discuss all of the benefits of FP although we acknowledge there are many and include educational attainment.

5. P.6 L.6: Consider changing order to information, services, methods for a more logical order.

Thank you for this comment. As suggested, we have changed the order of our sentence on page 6, line 6.


This revision is no longer relevant with the revised background as this text is now omitted.

7. P.6 L.8: References 4 and 5 relate to research gaps and determinants of pregnancy, but not burden. Consider replacing these with a reference that focuses on burden.
Thank you for the comment. We have replaced the references with given below citations:


8. P. 6 L.9: This is not an appropriate reference for the statement, as it is a secondary reference and is focused on two informal settlements in Nairobi. Please replace with a reference that is directly relevant.

Thank you for the comment. We have replaced a reference with given below citation:


This revision is no longer relevant with the revised background as this reference is now omitted.

10. P.6 L.12: Reference 9 is over 10 years old and is also a secondary reference. Please replace.

This revision is no longer relevant with the revised background as this reference is now omitted.

11. P.6 L.13: Please remove reference 10 from this statement, as it is a secondary reference and reference 7 is sufficient.

This revision is no longer relevant with the revised background as this reference is now omitted.
12. P.6 L.21: Reference 11 is a review and secondary reference. Consider replacing with a primary reference for the statistic that is included in the statement.

Thank you for this comment. We replaced a review with a primary reference (given below) and also updated the statistics on page 6, line 14-15 after replacing a reference.


13. P.6 L.23: Please change LMIC to LMICs.

We changed LMIC to LMICs on page 6, line 19 (updated manuscript).

14. P.6 L.22-23: This line is not specific to PPFP, which is the topic of this paragraph. Please either revise to indicate its relevance here or remove.

Thank you for the comment. We have reworded to indicate that the line is specific to postpartum FP on page 6, line 18.

15. P.7 L.7-9: Please add a reference for this statement.

Thank you for the comment. We added a given below reference to the statement.


16. P.7 L.18: This reference is only about Tanzania. There are many references that speak to this topic in wider contexts. Please replace.

Thank you for this recommendation. We replaced the reference with wider context.

17. P.7 L.22: My sense is that references 22 and 23 are not optimal references for this statement. This should come from a research gaps analysis or a systematic review. Please replace.

Thank you for this recommendation. We did not find any research gaps analysis or a systematic review regarding the rigorous evaluations of mHealth technology to support healthcare decision-making, thus may not be able to replace the references.

18. P.8 L.17: Change b to with

We changed b to with on page 8, line 15.

19. P.9 L.17-19: Please move this statement regarding adolescent consent to the ethics section. Please also update the new order of the references.

Thank you for this recommendation. We moved the statement regarding adolescent consent to the ethics section updated the new order of the reference.

20. P.9 L.23: Reference 54 is out of order. Please integrate it into the reference list so that it flows chronologically.

Thank you for pointing this out. We integrated it into the reference list.

21. P.10 L.10-11: Provision of accurate information is a part of counseling. As such, the last part of this sentence is redundant and can be removed.

Thank you for this comment. We agree about the idea of redundancy; however, there are studies that have reported providers hiding about the side effects of the contraceptive methods during counseling. So, the authors would like to keep this information.

22. P.10 When you introduce the tool, it would be useful to classify it based on the new WHO guidance on classification of digital health interventions and include a citation. https://www.who.int/reproductivehealth/publications/mhealth/classification-digital-health-interventions/en/

Additionally, please indicate the language of the app. I.e. is it only in English?
Thank you for this recommendation. We added a given below statement on page 10 and included a citation:

"Based on the WHO classification of digital health interventions, clients or postpartum women are the targeted primary user of the application."

Our app is available in three languages (English, Kiswahili, Dholuo). Language of the app is specified on page 10, line 10-11 as "The prototype was designed by study team members and nurses in Kenya, and allows women to select one of three languages: English, Kiswahili, or Dholuo."

23. P.10 L.13: On page 8, you mention that the tool can be used with providers if women could not use it on their own. On page 10, you mention that it can be used with study staff. Consider referencing the same group (whichever was true in the case of this study) for consistency.

Thank you for this comment. For the purpose of this study, women who were not able to use the tool by their own had an option to complete it by the assistance of study staff, hence, we specified it can be used with study staff. The one specified on page 8 is for the later purpose of the tool. After completion of the study, if the tool gets implemented at the clinic level, women who cannot use the tool by their own could still use it with the help of the providers. So, the two statements serve different purpose.

24. P.10-11: Please indicate how much time it typically takes for a client to complete the app's process, as it reads as potentially lengthy. Please also indicate if the app notifies clients if they are ineligible to use some of the 6 methods at the end (based on the MEC) or indicates which of the methods might be most applicable given her responses to previous question. If it does not, please explain why all of this data is collected.

Thank you for this comment. Length of time required to complete the app's process was also a part of what we were evaluating under feasibility of the tool, hence, the information is included under the results section on page 14, line 11 as "Participants completed iMACC in a mean of 15 minutes."

The app will be designed in a way to recommend the three most applicable contraceptive methods for the postpartum women based on their responses to the previous questions. The data were collected mainly to evaluate the feasibility and acceptability of the information included in the application. Based on the recommendation provided by the women and healthcare providers, the information in the tool will be revised before developing a program to provide recommendations.
25. P.11 L.18: Please consider adding something about improved knowledge and agency to select a method that meets clients' needs and preferences, rather than just contraceptive initiation and continuation.

Thank you for this recommendation. Improved knowledge and agency to select a method that meets clients' needs and preferences are mediating effects for an integrated theoretical framework that we have applied in this study. Contraceptive initiation and continuation is the change in the behavior that we are aiming for as an outcome, hence, included only two measures.

26. P.12 L.4-7: Please considering including time necessary to complete iMACC in your analysis of acceptability. This would be an important consideration.

Thank you for this comment. Length of time required to complete the app's process was also a part of what we were evaluating under feasibility of the tool, hence, the information is included under the results section on page 14, line 11 as "Participants completed iMACC in a mean of 15 minutes."

27. Many of the findings who high percentages of approval (i.e. 98% 92% etc.) Given that these are so high, it may be useful to unpack the negative responses to understand why a few people did not agree.

Thank you for this comment. We included perspectives on divergent opinions and negative responses that were identified during the analysis of this data. However, given the overwhelming positive response there were limited negative experiences to draw from. Without variation in approvals it is difficult to unpack reasons for negative perceptions and we do not want to over-interpret the little data we have from our participants. So, we have not added any additional results or interpretation of results from our analysis.

28. P.13 on: In the subtitles for the results section, suggest to use the exact wording you include in your explanation of feasibility, acceptability, and utility (p.12) to ensure consistency. For example, on page 17 the subtitle "confidentiality supports participant engagement" does not directly match any of the domains listed under acceptability.

Thank you for this comment. The wordings used in the explanation of feasibility, acceptability, and utility on page 12 is based on what we aimed for evaluating at the beginning of the study. The subtitles used for the results sections are based on the themes/sub-themes that emerged out of the narratives of participants after coding. We have tried to match the concept of the themes and wordings, even though the words/subtitles don't match exactly.
29. Please change mention of "female participant" in the various quotes to either client/woman or provider, so that it is clear who is speaking.

Thank you for this comment. All the quotes are mentioned as of "female participants" or "FP providers." Female participant stands for client/woman and FP provider stands for provider. We believe our explanation will clarify the confusion.

30. P.13 and P.14: Suggest to group comprehension and literacy together.

Thank you for this comment. We believe these are distinct domains; comprehension is about whether they understand the content while literacy is about logistical aspects of implementation. Therefore, we maintained the separation of results into these sections.

31. P.13-14: My sense is that P.13 L.22 - P.14 L.6 relates more to acceptability and utility than feasibility. Please revisit this and confirm whether it should be included here.

We respectively disagree with the reviewer comment. We believe the former is about comprehension rather than utility.

32. P.14 L.17-18: Please indicate the percentage of women who said the time required was feasible.

Thank you for this recommendation. Since, all women said the time required was feasible, we have included "All" in the sentence on page 14, line 11 that is equivalent to 100%.

33. P.20-22: Self-efficacy isn't directly addressed in the findings on perceived utility, despite being included as a domain of this item on p.12. Please consider addressing it.

Thank you for this recommendation. Self-efficacy concept is addressed under "Improved knowledge with personalized approach" section on page 19, though not directly. We have added a sentence on self-efficacy on page 20, line 9 that might explicitly address the concept.

34. P.20 L.2: Please indicate the percentage of women who said the tool was useful for them.
Thank you for this comment. Since, this is a qualitative study the percentages are not very informative as they are easily influenced by small numbers. As such, and as is common in qualitative results, we did not present these as percentages.

35. P. 20 L.12: Please indicate how many women described gaining insight on side effects, how many women commented that potential menstrual changes are undesirable, and how many said that learning about the side effect profile of multiple methods helped them make a more informed decision about selecting an appropriate contraceptive method.

Thank you for this comment. Since, this is a qualitative study, we did not analyze the response of the participants quantitatively. We do not believe the numbers being reported should be emphasized since in qualitative research the themes are more important than statistics derived from small samples. Therefore, we did not report these numbers.

36. P.22 L.12: My sense is that it does not make sense to speak about method stock outs here, unless it is framed more clearly as ensuring that women get information about all methods regardless of whether they are in stock or not. However, it would be useful to reflect on this (and other) remaining barrier(s) briefly in the discussion section, when thinking through implications.

Thank you for this comment. The statement on method stock outs is made on page 22 as FP providers had mentioned that they do not counsel women on methods that are not available at the facility. However, this tool would help women gain information on all methods regardless of whether they are in stock or not. We have now mentioned this explicitly on page 22 to avoid any potential confusion.

37. Overall comment: My sense it would be most useful to slightly reorganize your discussion section to answer the following questions:

1. What were the main findings?
2. What is your interpretation of these findings?
3. How do these findings relate to existing evidence?
4. What are the implications of these findings?
5. What are the strengths and weaknesses of your study?

Thank you for this comment. We have organized the manuscript as 1) main findings 2) putting our results in context with the research/theories, 3) ways tool could be adapted based on findings,
4) strengths/limitations, followed by the CONCLUSION section. This organization is quite similar to what the reviewer proposed so we made no revisions to the organization of this section.

38. P.23 L.2: Please add acceptable to "feasible and useful" to consistently reflect what you studied.

Thank you for this comment. We have added acceptable in the sentence.

39. P.23 L.3: From the findings, I did not get the impression that women and providers thought the tool would reduce providers' workload, but rather that the tool would allow women and providers to make better use of the little time available for counseling. Please revisit this sentence.

Thank you for this comment. We agree that the tool would allow women and providers to make better use of the little time available for counseling. However, on page 14 and 15 of the result section, there is a given below paragraph with a provider's quote on how iMACC will streamline the counseling process:

Several providers (n=14) thought the decision aid would streamline the counseling process by reducing time to provide comprehensive counseling since they felt the decision aid included all of the information and answers to common questions asked by FP clients. They said, "It will save time a lot because once you have given the tool to the client she has everything, so when she comes [to us] it will be just review and it will take shorter time."

In the context of this study, streamlining the counseling process is related to reducing providers' workload too.

40. P.23 L.14-21: Instead of repeating the elements of the theoretical framework and describing where else they have been used/validated, please consider commenting on how they emerged/were reflected in your findings. You have done this for empowerment earlier in the paragraph, and it is useful.

Thank you for this comment. In the second paragraph of the discussion section, we have discussed very briefly on how the elements of the theoretical framework emerged. The first sentence is followed by how the elements were reflected in our findings. To make it explicitly clear, the given below statement is added to the discussion on page 23, line 5-8:
"We did an extensive literature review of the multiple behavioral frameworks/models to identify the elements that have shown effectiveness in changing contraceptive behavior of an individual and used those elements to develop an integrated theoretical framework used in this study."

41. P.24: This paragraph contains a number of different issues and would be best split into different paragraphs. You address the following:

* The potential of the tool to address gaps in FP delivery programs
* The benefit of including providers in your study
* The implications of the tool beyond only post-partum women
* Evidence from other studies on decision aids
* Evidence from other studies on other technological interventions, i.e. SMS
* More information about the potential of the tool to address gaps in programs/service delivery

Thank you for this comment. We appreciate the suggestion and believe that the earlier additions from the prior review of the rationale for including these points together will help it become clearer why the results are integrated rather than separate. We found the manuscript read too duplicative when separated into multiple paragraphs.

42. P.24 L.4-6: You could have also explored perceived usefulness and problems with current counseling practices by speaking only to women. Please consider revising this sentence to convey the added value of also interviewing providers.

Thank you for this recommendation. The given below statement has already been added to the paragraph based on a recommendation from an earlier reviewer that reflects on added value of also interviewing providers:

"Inclusion of providers allowed us to explore whether the decision-aid had perceived usefulness, and addressed common problems with current counseling practices."

We agree that exploring perceived usefulness and problems with current counseling practices by speaking only to women would have been beneficial. Since, this was not the focus of the study, we have not been able to mention it in the revised manuscript and would like to keep for the future study.
43. P.25 L.7: Please add useful to "acceptable and feasible" to consistently reflect what you studied.

Thank you for this recommendation. We have added useful to the sentence.

44. P.25 last paragraph: Here you predominantly discuss strengths of your paper. Please reflect on what other limitations your study may have had and add to this paragraph.

Thank you for this recommendation. We have added a given below paragraph on page 25, line 17-23 to reflect on study limitations:

"Our study also had few limitations. The content analysis used in this study was purely a descriptive analysis that was limited by the content available and may not completely reflect the underlying view of participants towards the FP decision-aid. Also, although our study participants were sampled from both urban and rural government-run public health facilities serving low to middle income populations, findings from four MCH clinics with a small number of women and providers may not be generalizable to other settings or groups of women."

45. P.26 L.10: My sense is that it is not appropriate to link this tool to potential improved continuation and satisfaction based on the findings of this study.

Thank you for this comment. We have used the word "potential" so that it does not confirm the effectiveness of the tool based on the findings but could potentially be helpful in improving the outcomes (continuation and satisfaction).

46. P.26 L.11: Please add feasibility and utility to "acceptability"

Thank you for this recommendation. We have added feasibility and utility to the sentence.

47. P.34 Table 2: Please consider revising the subtitles in this table to reflect the wording used for the domains of feasibility, acceptability, and utility on p.12 to ensure consistency.

Thank you for this suggestion. Subtitles used in the Table 2 are for the selected quotations that supported the constructs of the integrated theoretical framework rather than the domains used to measure the acceptability, feasibility and utility of the tool. Hence, we would like to keep the current subtitles.
The thoughtful comments and guidance of the RH reviewer is greatly appreciated. The authors feel that the reviewers' revisions as well as other small clarifications have strengthened the focus and content of this manuscript submission. We look forward to the RH decision.

Kind regards,

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