Reviewer’s report

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

Version: 1 Date: 13 Jun 2019

Reviewer: Marina Plesons

Reviewer's report:

Thank you to the authors for submitting this paper. My sense is that it is an interesting paper and should be published, pending revisions based on the general and specific comments below.

General comments:

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?

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.

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.

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.
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.

Specific comments:

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

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.

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

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).

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

P.6. L.7: Change "African" to "Africa"

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.

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.


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

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

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

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.

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

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

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.

P.8 L.17: Change b to with

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.

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

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.

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?

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.

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.
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.

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

Results:

Comments throughout the section:

* 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.

* 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.

* Please change mention of "female participant" in the various quotes to either client/woman or provider, so that it is clear who is speaking.

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

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.

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

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.

P.20 L.2: Please indicate the percentage of women who said the tool was useful for them.

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.

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.

Discussion:

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?

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

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 counselling. Please revisit this sentence.

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.

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
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.

P.25 L.7: Please add useful to "acceptable and feasible" to consistently reflect what you studied.

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.

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.

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

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.

**Level of interest**

Please indicate how interesting you found the manuscript:

An article whose findings are important to those with closely related research interests

**Quality of written English**

Please indicate the quality of language in the manuscript:

Acceptable

**Declaration of competing interests**

Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?
6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.

I declare that I have no competing interests.

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal