Reviewer’s report

Title: Female perspectives on male involvement in a human-papillomavirus-based cervical cancer-screening program in western Kenya

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Reviewer: Francis Obare

Reviewer's report:

The authors explore male involvement in a human papillomavirus (HPV) screening program in Western Kenya from the perspectives of women and community health volunteers. They find that women experienced both support for and opposition to HPV screening from their male partners. I have the following suggestions for the authors to improve the paper:

GENERAL COMMENTS

1) The authors state that one of their objectives was to develop a framework for male involvement in cervical cancer prevention programs. One would therefore expect that they show how the key issues identified from the study inform the framework. In its current form, there is a disconnect between the key themes emerging from the study and how they informed the development of the framework. What seems to emerge from the paper is that the framework informed the analysis (e.g. as alluded to on page 6, lines 179-181). This suggests that the framework was already there and they just used it to guide their analysis rather than developing a new framework based on the study findings. If they indeed used the findings to develop the framework as indicated in the objective, there should be a clear presentation of how those findings informed the framework. This also means that the order of objectives as stated in the last paragraph of the background section will change to start with identifying the key issues and then developing a framework based on the issues identified.

2) To the extent that the authors actually developed a framework for understanding male involvement in cervical cancer prevention programs based on the key findings of the research, then the utility of having such a framework should be discussed in the background section.

3) The framework itself (Figure 1) shows the flow from screening to results notification, then from treatment to post-treatment adherence, and from post-treatment adherence to nowhere (i.e. there is no more core service after post-treatment adherence) while there is no flow from results notification to treatment (as shown by the downward arrows). Or how is one expected to interpret the downward arrows? And should one expect some interactions between drivers, facilitating, and prohibiting actions or they exist independent of each other? In reality, women may have to navigate through a complex web of drivers, facilitating and prohibiting actions to access services. I am not sure how the authors can capture such complexity in their framework. And did such complexity emerge from the interviews? The title of the framework is also too long and can be shortened to something like "framework for understanding male involvement in cervical cancer prevention programs".
4) The authors have not exhausted the discussion of the limitations of the paper. For instance, since the views are from women, there is the potential for bias if their views reflect individual prejudices. In addition, since men were not included in the study, it could be that their perceptions of cervical cancer prevention programs may be different from what their partners or CHVs think. The extent to which these limitations may affect the relationships identified in the framework depends on the nature of variations in participants' and men's perceptions regarding the latter's role in cervical cancer prevention programs.

SPECIFIC COMMENTS

1) Background
   a) First paragraph, last statement (page 3, lines 80-82): Rephrase to read: "Effective population-based screening … lesions therefore remain critical … cancer in the region."
   b) Second paragraph, last statement (page 3, lines 89-92): Insert "that" after "suggests".
   c) Third paragraph, fifth statement (page 3, lines 98-99): Rephrase to read: "While strategies that incorporate gender issues are important, …"
   d) Last paragraph, last statement (page 4, lines 113-118): Rephrase to read: "Given the gap … in other SRH issues, we explored the perceptions … cancer prevention study in order to: (1) develop …"

2) Methods
   a) There is confusion regarding the appropriate reference to the nature of in-depth interviews that were conducted. At some point the authors refer to them as semi-structured (e.g. on page 4, lines 121-122) and at other times they refer to them as structured (e.g. on page 5, line 128). Which is which?
   b) First paragraph, second statement (page 4, lines 124-126): It is not clear what the authors mean by the phrase "self-collected HPV testing". Also, there is Migori, a town, not a city, and Migori, a county. The hospital should definitely be located in Migori town.
   c) Second paragraph, first statement (page 5, lines 130-131): What is the difference between "target communities" where the in-depth interviews with women were conducted, and "study communities" where in-depth interviews with community health volunteers were conducted?
   d) Second paragraph, fourth statement (page 5, lines 134-135): The authors state that "interviews were sought from" various groups of women. It is not clear here whether the interviews that were "sought" from the different groups were actually conducted because "seeking" is different from successfully conducting the interviews as some women may decline while others may not be available. How many of the women seeking services and those lost to follow-up were actually interviewed?
   e) Third paragraph, last statement (page 5, lines 142-143): The authors state that "They included questions …" but it is not clear what "they" here actually refers to given the nature of the preceding statement. Is it the questions or the perceived facilitators and challenges?
   f) Fourth paragraph, first statement (page 5, lines 144-145): Delete "and" after "developed" and change "Dhluo" to "Dholuo".

3) Results
   a) Second paragraph, second statement (page 7, lines 185-186): The authors state that "Participants and CHVs" but CHVs were also participants in the study such that the distinction between the two is not clear. Perhaps the authors meant the women and CHVs who participated in the study.
   b) Excerpt (page 8, lines 217-218): The excerpt reads more like a general comment on what is likely to happen rather than actual experiences of stigma by women who sought HPV services as alluded to in the paragraph preceding the quote.
   c) Excerpt (page 9, line 250): It was not clear what the participant meant by the statement, "I can't
allow anybody to abuse my rights" when the quote highlights possibilities for disagreement and the need for consensus between partners. The statement would have made sense if the participant showed some agency to seek HPV services even in the face of partner opposition.

d) Eleventh paragraph, second statement (page 9, lines 258-259): Delete "found to be" from the statement.

e) Thirteenth paragraph and the excerpt below it (page 10, lines 275-280): The authors should summarize the key message(s) from the excerpt rather than simply narrating what the participant said. What key message(s) do the authors want the reader to take away from the quote?

f) Sixteenth paragraph, first statement (page 10, lines 289-290): Change "post treatment suggestions" to "post-treatment advice".

g) Seventeenth paragraph, second statement (page 11, lines 297-298): An excerpt from a woman would have been more appropriate here than one from a CHV given that the preceding statement alludes to women emphasizing the need for accurate male partner education.

h) Eighteenth paragraph, fourth statement (page 11, line 308): Rephrase the second part to read: "...may improve their access to services by increasing the chances of getting permission from their partners."

i) Nineteenth paragraph, third statement (page 11, line 318): Rephrase to read: "Participants also reported that a better understanding ... and cervical cancer prevention ..."

j) Excerpt (page 12, lines 321-323): Rephrase the last part to read: "...post-treatment measures she is supposed to take are concerned."

k) Excerpt (page 12, lines 326-328): This excerpt is from a CHV, yet the preceding paragraph alludes to suggestions from women. Also, change "prevention the spread of HPV" to "preventing the spread of HPV".

l) Last paragraph, second statement (page 12, lines 334-336): The meaning of the statement is not clear. Why would women's beliefs about the effectiveness of using community members be informed by the understanding of community elders about the communities and how they function?

m) Last paragraph, last statement (page 12, lines 339-341): It is not clear what the authors meant by the statement. In particular, it is not clear how "emphasis of community leaders as educators" and the "desire for male partner education indicate a potentially positive correlation" between using community leaders as educators and the desire for partner education.

4) Discussion

a) First paragraph, second statement (page 13, lines 349-350): Insert "in" after "part".

b) First paragraph, fourth and fifth statements (page 13, lines 351-354): The authors' assertions here do not come out clearly from the way the findings are presented i.e. the findings as presented do not show variations between male involvement in cervical cancer prevention and their level of knowledge. Rather, participants expressed the view that educating men on cervical cancer is an important step to improving their involvement in prevention programs.

c) Second paragraph, last statement (page 13, lines 362-363): Rephrase to read: "Lack of support manifests itself through inability to provide financial or logistical support to travel for HPV screening or treatment."

d) Third paragraph, first statement (page 13, lines 364-366): Delete "an" before "increased". Also, I am not sure about the appropriateness of presenting quotes from the interviews in the discussion. That should be stuff for the findings section.

e) Third paragraph, second statement (page 13, lines 366-368): Change "women attempting to access treatment" to "women accessing treatment."

f) Third paragraph, third statement (page 13, lines 368-369): Rephrase to read: " Majority of participants reported that targeting male partners during outreach and education activities in the early phase of prevention programs was the most feasible ..."
g) Third paragraph, fourth statement (page 13, lines 369-372): Delete "We found that" from the statement since it connotes an intervention study that involved educating male partners, yet the finding is based on what participants felt would be the benefits of involving male partners in HPV programs.

h) Third paragraph, last statement (pages 13-14, lines 372-374): It is not clear what the authors meant by "standard definition" and how it can exactly "address the importance of education". Or did the authors mean "standard interventions" given that it is interventions that address specific needs.

i) Fourth paragraph, second statement (page 14, lines 377-378): It is not clear why the authors singled out researchers here. Shouldn't the information be more relevant for program implementers who are the ones who develop interventions?

j) Fourth paragraph, third statement (page 14, lines 378-379): Change "larger" to "greater".

k) Fourth paragraph, fourth statement (page 14, lines 379-382): Change "addresses" to "emphasizes".

l) Fourth paragraph, last statement (page 14, lines 382-384): Delete "the" before WHO, and change "claim" to "recommendation".

m) Fifth paragraph, first statement (page 14, lines 385-387): Rephrase to read: "Our finding regarding the potential role of community leaders in conducting male partner education is consistent with WHO recognition of such leaders playing an "essential role" …" Also, provide page number for the citation as it is a direct quote.

n) Fifth paragraph, last statement (page 14, lines 387-389): Change "has proved to be" to "is", and "strategy in improving" to "strategy for improving".

o) Sixth paragraph, first statement (page 14, lines 390-392): It is not clear what the authors meant by the phrase, "the significant emergence" i.e. there is absolutely no way of determining this from the information presented.

p) Seventh paragraph, first statement (page 14, lines 398-399): It was not clear what the authors meant by the phrase, "this study was able to sample a relatively under-sampled population of women". In particular, how did the authors determine that the population is under-sampled? And it is under-sampled with respect to what? And how does sampling an under-sampled population make the study unique?

q) Seventh paragraph, last statement (page 15, lines 406-407): Change "CHV's personal" to "their personal", and rephrase the second part to read: "…experiences during their interactions with female clients and their partners throughout …"

r) Last paragraph, first statement (page 15, lines 408-409): Insert "in cervical cancer prevention programs" at the end of the statement.

s) Last paragraph, second statement (page 15, lines 409-411): Change "reveals" to "shows". Otherwise as previously noted, the authors do not accomplish what they purport to have accomplished here i.e. they do not show us how their findings informed the framework.

t) Last paragraph, last statement (page 15, lines 411-414): Again, it is not clear what the authors meant by "standard definition of male involvement" here. Or did they mean standard interventions to improve male involvement in such programs? Also, delete reference to Figure 1 here.

5) Conclusion

a) First two statements (page 15, lines 416-419): These statements can be deleted since they are general in nature and do not highlight key message(s) that a reader can take away from the paper, which should be the purpose of a conclusion.

b) Third statement (page 15, lines 419-421): Rephrase to read: "The findings of this paper demonstrate … uptake of cervical cancer screening and prevention services."

c) Last statement (page 15, lines 421-423): Rephrase to read: "… these findings highlight the need for greater … that go beyond …" Also, it is not clear why researchers and policy makers are the only ones singled out here when program implementers have even a greater role to play in achieving the
goal of eliminating cervical cancer by 2030.

6) Abstract
   a) Background, third statement (page 2, lines 50-52): It is not clear what the authors meant by the phrase "employing self-collected human-papillomavirus (HPV) testing". Perhaps they should explain it a little bit for the benefit of readers who are conversant with the parent study. Also, rephrase the second part to read: "... we examined the role of male partners and community leaders ... screening services."
   b) Methods, first statement (page 3, lines 53-54): Indicate the number of women and CHVs that participated in the study.
   c) Results, second statement (page 2, lines 57-59): The authors state that women participants acknowledged that most community leaders are male. This, however, is not evident from the findings presented in the paper. What we have in the paper is the authors' own interpretation of the likely reason why participants did not discuss the preferred gender of community leaders i.e. "perhaps ... because it is accepted that community leaders are generally men." (see page 12, lines 338-339). But they do not present any evidence showing that women acknowledged that community leaders are generally men.
   d) Results, fourth statement (page 2, lines 59-61): The authors state that opposition from the partner entailed "perceived negative reactions". What do these reactions entail?
   e) Conclusion, last statement (page 2, lines 65-66): This recommendation is not mentioned in the main text and only appears in the abstract. The abstract should summarize what actually appears in the main body of the paper. Also, rephrase the statement to read: "Future research should explore the feasibility and effectiveness of engaging male partners in cervical cancer screening and prevention programs."

7) Declarations
   Availability of data and material (page 16, lines 444-445): Change "on reasonable request" to "upon reasonable request".

8) References
   a) Names of institutions should be spelt out as they are since institutions do not have surnames. Thus, the World Health Organization should be spelt out as such, not Organization, W.H. The same applies to the Joint United Nations Programme on HIV/AIDS or UNAIDS.
   b) Reference #12 (page 17, lines 488-489): It is not clear why the title for the publication is in caps. Also, spell out the name of the institution i.e. Population Council.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

Does the work include the necessary controls?
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Yes
Are the conclusions drawn adequately supported by the data shown?
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