PEER REVIEW HISTORY

This paper was submitted to a another journal from BMJ but declined for publication following peer review. The authors addressed the reviewers' comments and submitted the revised paper to BMJ Open. The paper was subsequently accepted for publication at BMJ Open.

(This paper received three reviews from its previous journal but only two reviewers agreed to published their review.)

ARTICLE DETAILS

TITLE (PROVISIONAL)	Competing needs: A qualitative study of cervical cancer screening attendance among HPV-positive women in Tanzania
AUTHORS	Linde, Ditte Søndergaard; Rasch, Vibeke; Mwaiselage, Julius D; Gammeltoft, Tine

VERSION 1 – REVIEW

REVIEWER	Paolo Giorgi Rossi AUSL Reggio Emilia, IRCCS, Italy
REVIEW RETURNED	06-Jun-2018

GENERAL COMMENTS	Abstract The abstract is well written and informative. I suggest to move the final sentence of the results "the cost and benefits can be conceptualised as a theoretical screening attendance model" in the background or to drop it at all. It would be more informative if the authors could say how the results can be conceptualised. I also suggest to drop the sentence "More education on HPV and further research is needed." Because it is not specifically linked to your results. Highlights I do not think the last point is a limitation, the scope of the study is well focused: "The study participants include women living in urban and semi-urban areas of Dar es Salaam, who have previously attended cervical cancer screening. Further studies would be needed to see if the findings hold among women who have never attended screening and live in other areas". Introduction The aim of the paper is reported in a that merges the aim of the whole project and that of thee qualitative research reporting. I suggest to split the sentence explaining the aim of the project and the aim of the paper. Methods Please describe briefly how the 15 women were selected: have been contacted all HPV positive women for proposing the interview? if not, how did you select the ones to be contacted? Consecutive? Few words may be enough. Only in the results it is clear that the sample was larger.

	Discussion Well written and clear. It is very interesting the difficulties in perceiving benefits of prevention: it seems that women have clear awareness of this paradox: you can have a benefit only if something is wrong, no benefit if you are health, so they are not interested in benefits that are quiet rare and imply bad news. Obviously this is also linked to the confusion between cancer and pre-cancer treatment, but in general the paradox is somewhat real and makes very difficult to correctly perceive the benefits. Very interesting findings! I think the paragraph recommendations is a little forced. Is it really necessary to make recommendations after each study? even when they are clearly a part of large project and will produce much more complex picture? Recommendations should be made by guidelines panels considering all the background evidence and values. Figure 2. I do not understand what is the box “prevention” distinguished from “treatment”. In this screening all the prevention comes from treatment. We can conceptualize the benefits in these categories: 1) better prognosis through early diagnosis and treatment of cancer; 2) cancer prevention through pre-cancer treatment; 3) care of symptoms (usually not related to oncogenic HPV) due to condyloma; 4) reassurance in case of negative test. According to your findings, the first two points are not usually distinguished by women. As designed now figure 2 is not correct.

REVIEWER	Leon Snyman Gynaecology Oncology Unit, Department Obstetrics & Gynaecology, University of Pretoria, South Africa Involved in cervical cancer screening research project in South Africa
REVIEW RETURNED	18-Jun-2018

GENERAL COMMENTS	Thank you for the opportunity to review this manuscript. The qualitative nature of this study makes for interesting reading and it brings the experience of the few interviewed individuals to the reader, highlighting an aspect usually not addressed in screening studies. What is not addressed in the manuscript is the level of cancer treatment available to women who are diagnosed with cervical cancer in Tanzania. It is not possible to make any screening recommendations following interviews performed with 15 women. Knowledge regarding self sampling as a preferred screening method in resource poor settings has been published. The issues of the emotional cost and aspects associated with screening are important and is highlighted in this study. However, this is surely not unique to resource poor settings and this effects all women who undergo screening for disease. Another important aspect highlighted in these interviews are the challenges associated with opportunistic screening. Opportunistic screening is either patient initiated or healthcare provider initiated. Healthcare provider initiated screening on gynaecological

	symptomatic patients can be challenging as screening can result in focusing on a "new" problem while the initial presenting symptoms remain a problem for the patient. This manuscript does not address this issue. Conclusion: this manuscript succeeds in bringing the patient's experience and emotions to the reader, but it does not contribute enough to identify or address significant challenges associated with the complex issue of screening for cervical cancer in resource poor settings.

REVIEWER	Dr. Michelle S. Williams University of Mississippi Medical Center, USA
REVIEW RETURNED	31-Jul-2018

GENERAL COMMENTS	Overall, your study make an important contribution to the literature about cervical cancer prevention in African countries. Please consider the following comments that may help to improve your article. The abstract is missing a methods section Line 136: “explained about” is awkwardly worded Very thorough description of the data collection process. Line 169: Socio demographic should be Sociodemographic Theoretical framework; There is a discrepancy between what is stated in design section of the abstract and the Theoretical framework section. It appears that your study based on existing theories, but ground theory was added later. That should be stated in the design section of the abstract. Line 184: “using a content analysis” does not make sense when describing the analysis of qualitative data. Line 185: “the” needs to added before “use” Line 189: inter-rater reliability would not be increased by the method described. Inter-rater reliability The entire data analysis section is not clear. Please consider revising this section that the reader can have a clear understanding of how the data was analyzed. Table 1. The column headings are not consistently capitalized i.e. Secondary subcategory, Quaternary Subcategory Line 200: SRQR needs to be defined. “Patient and Public Involvement” please clarify whether the study participants were contacted or were other clients and nurses who did not participate in the study contacted. There is no discussion about how the participants were selected and little information about how they were recruited. There was no discussion about eligibility criteria. Please explain how the sample size of 2 nurses determined?

VERSION 1 – AUTHOR RESPONSE

Reviewer #1: Abstract

The abstract is well written and informative. I suggest to move the final sentence of the results "the cost and benefits can be conceptualised as a theoretical screening attendance model" in the background or to drop it at all. It would be more informative if the authors could say how the results can be conceptualised. I also suggest to drop the sentence "More education on HPV and further research is needed." Because it is not specifically linked to your results.

Response: *We are grateful for the reviewer's support. As suggested by the reviewer we have removed the sentences and revised the result and conclusion sections of the abstract in order to clarify the key findings of this study (line 39-45, 4750).*

Reviewer #1: Highlights

I do not think the last point is a limitation, the scope of the study is well focused: "The study participants include women living in urban and semi-urban areas of Dar es Salaam, who have previously attended cervical cancer screening. Further studies would be needed to see if the findings hold among women who have never attended screening and live in other areas".

Response: *Thank you for this input. We agree with the reviewer that this point can be seen as the scope of our study and not necessarily a limitation. Therefore, we have revised the last point and pinpointed another limitation of our study (line 64-67).*

Reviewer #1: Introduction

The aim of the paper is reported in a that merges the aim of the whole project and that of thee qualitative research reporting. I suggest to split the sentence explaining the aim of the project and the aim of the paper.

Response: *Thank you for this suggestion. We have modified the phrasing of the project and study aims according to your suggestions (line 118-129).*

Reviewer #1: Methods

Please describe briefly how the 15 women were selected: have been contacted all HPV positive women for proposing the interview? If not, how did you select the ones to be contacted? Consecutive? Few words may be enough. Only in the results it is clear that the sample was larger.

Response: *We appreciate this observation, which was also made by reviewer#3. We agree that it is not clear how the interviewees were selected and have elaborated on this (line 136-142).*

Reviewer #1: Discussion

Well written and clear. It is very interesting the difficulties in perceiving benefits of prevention: it seems that women have clear awareness of this paradox: you can have a benefit only if something is wrong, no benefit if you are health, so they are not interested in benefits that are quiet rare and imply bad news. Obviously this is also linked to the confusion between cancer and pre-cancer treatment, but in general the paradox is somewhat real and makes very difficult to correctly perceive the benefits. Very interesting findings!

I think the paragraph recommendations is a little forced. Is it really necessary to make recommendations after each study? even when they are clearly a part of large project and will produce much more complex picture? Recommendations should be made by guidelines panels considering all the background evidence and values.

Response: *We very much appreciate the reviewer's support, and value your and reviewer #2's arguments concerning the study recommendations. We have decided to keep a section of recommendations that highlights how these findings should be seen in the context of the larger study in which this qualitative study is embedded, and what this brings to the research field (line 450-459).*

Reviewer #1: Figure 2. I do not understand what is the box "prevention" distinguished from "treatment". In this screening all the prevention comes from treatment. We can conceptualize the benefits in these categories: 1) better prognosis through early diagnosis and treatment of cancer; 2) cancer prevention through pre-cancer treatment; 3) care of symptoms (usually not related to oncogenic HPV) due to condyloma; 4) reassurance in case of negative test. According to your findings, the first two points are not usually distinguished by women. As designed now figure 2 is not correct.

Response: *Thank you for this input. Based on this input as well as input from reviewer#2, which highlighted the importance of differentiating between "patient-initiated" and "health provider-initiated" screening, we have revised figure 2. We have only included elements in the figure which are found in our study. We believe this revised figure more clearly illustrates the key findings (attached file, figure 2).*

Reviewer #2: Thank you for the opportunity to review this manuscript. The qualitative nature of this study makes for interesting reading and it brings the experience of the few interviewed individuals to the reader, highlighting an aspect usually not addressed in screening studies. What is not addressed in the manuscript is the level of cancer treatment available to women who are diagnosed with cervical cancer in Tanzania.

Response: *We are grateful for the reviewer's support and appreciate the observation in relation to cancer treatment in Tanzania, which we have now added to the manuscript (line 91-94).*

Reviewer #2: It is not possible to make any screening recommendations following interviews performed with 15 women. Knowledge regarding self sampling as a preferred screening method in resource poor settings has been published.

Response: *We value your and reviewer #1's arguments concerning the study recommendations. As stated above in response to reviewer#1, we have revised the study recommendations, so that they now highlight how these findings should be seen in the context of the larger study it is embedded in (line 450-459).*

Reviewer #2: The issues of the emotional cost and aspects associated with screening are important and is highlighted in this study. However, this is surely not unique to resource poor settings and this effects all women who undergo screening for disease.

Response: *Thank you for addressing this issue. We agree that all women who attend screening have to consider the cost and benefits of going. However, we believe that this study elucidates the screening dilemma of whether to prioritize a health provider-initiated follow-up screening, which "only" has the benefit of prevention of disease against e.g. bringing food to the table. This issue is especially urgent in a resource poor setting and a concern which future screening programs in Africa that involve HPV-testing have to address for them to become more effective. We have clarified this dimension in our discussion (line 396-405) and conclusion (line 462-468).*

Reviewer #2: Another important aspect highlighted in these interviews are the challenges associated with opportunistic screening. Opportunistic screening is either patient initiated or healthcare provider initiated. Healthcare provider initiated screening on gynaecological symptomatic patients can be challenging as screening can result in focusing on a "new" problem while the initial presenting symptoms remain a problem for the patient. This manuscript does not address this issue.

Response: *We very much appreciate this comment. The distinction between patient-initiated and health provider-initiated screening was not addressed in our first submission, and this distinction is especially relevant when wanting to understand what drives women to attend one screening but not to return for a follow-up screening. We have added the dimension of "patient-initiated" versus "health provider-initiated" screening throughout the manuscript and believe this clarifies the study findings (e.g. line 39-42, 136, 249-250, 287290, 398-401, figure 2).*

Reviewer #2: Conclusion: this manuscript succeeds in bringing the patient's experience and emotions to the reader, but it does not contribute enough to identify or address significant challenges associated with the complex issue of screening for cervical cancer in resource poor settings.

Response: *We acknowledge the reviewer's point of view and agree that screening*

attendance in a resource limited setting is a complex dilemma. In this revised version of the manuscript we have distinguished between patientinitiated and health provider-initiated screening and clarified how the key issue of "prevention" is especially challenged in a resource poor setting, such as the Tanzanian. We believe that these clarifications illuminate what is unique about this study and what it contributes with to the field of research.

Reviewer #3: Overall, your study make an important contribution to the literature about cervical cancer prevention in African countries. Please consider the following comments that may help to improve your article. The abstract is missing a methods section.

Response: *We very much appreciate the reviewer's support, and thank you for this observation. We have structured the abstract according to the journal guidelines and therefore only stated "objectives, design, setting, results, and conclusion".*

Reviewer #3: Line 136: "explained about" is awkwardly worded. Very thorough description of the data collection process. Line 169: Socio demographic should be Sociodemographic.

Response: *We fully agree and have rephrased the sentences (line 139-140,175).*

Reviewer #3: Theoretical framework; There is a discrepancy between what is stated in design section of the abstract and the Theoretical framework section. It appears that your study based on existing theories, but ground theory was added later. That should be stated in the design section of the abstract.

Response: *We agree with the reviewer that the two-step process of theoretical framework was not clearly stated in the abstract. We have added this to the abstract (line 28-30).*

Reviewer #3: Line 184: "using a content analysis" does not make sense when describing the analysis of qualitative data. Line 185: "the" needs to added before "use".

Response: *Thank you for identifying these errors. We have corrected the sentence (Line 189-190).*

Reviewer #3: Line 189: inter-rater reliability would not be increased by the method described. Inter-rater reliability.

Response: *Thank you for this observations. We have rephrased the sentence (line 194-196).*

Reviewer #3: The entire data analysis section is not clear. Please consider revising this section that the reader can have a clear understanding of how

the data was analyzed. Table 1. The column headings are not consistently capitalized i.e. Secondary subcategory, Quaternary Subcategory.

Response: *We appreciate this notification and revised the description of the data analysis and corrected table 1 (line 189-199, 202: table 1).*

Reviewer #3: Line 200: SRQR needs to be defined.

Response: *Thank you for pinpointing this error. We have now defined SRQR (line 206207).*

Reviewer #3: "Patient and Public Involvement" please clarify whether the study participants were contacted or were other clients and nurses who did not participate in the study contacted.

Response: *We have now clarified that it was the study participants who were contacted to comment upon the data analysis (line 210-211).*

Reviewer #3: There is no discussion about how the participants were selected and little information about how they were recruited. There was no discussion about eligibility criteria. Please explain how the sample size of 2 nurses determined?

Response: *Thank you for these observations. Reviewer#1 also pinpointed the need for elaborating on the recruitment process, and we have followed your suggestions and explained this further. In the discussion, we have outlined what limitations our recruitment process has* (line 136-143, 148-149, 155156, 441-445).

VERSION 2 – REVIEW

REVIEWER	Paolo Giorgi Rossi AUSL - IRCCS di Reggio Emilia, Reggio Emilia Italy
REVIEW RETURNED	02-Oct-2018

GENERAL COMMENTS	This new version is much more convincing in presenting and discussing the results. Reviewer #2's suggestion about foocussing on patient and service initiated intervention is definitly an improvement! The authors should really thank reviewer #2! I am still convinced that thhe section "recommendations" should have another title, nevertheless now the content is consistend with your results and thoughtful.

REVIEWER	Dr. Michelle S. Williams University of Mississippi Medical Center United States of America
REVIEW RETURNED	08-Oct-2018

GENERAL COMMENTS	Dear Authors, Thank you for considering the suggested revisions. I recommend that your manuscript is accepted without any additional revisions.

VERSION 2 – AUTHOR RESPONSE

Reviewer #1: Recommendations

This new version is much more convincing in presenting and discussing the results. Reviewer #2's suggestion about focusing on patient and service initiated intervention is definitely an improvement! The authors should really thank reviewer #2! I am still convinced that the section "recommendations" should have another title, nevertheless now the content is consistent with your results and thoughtful.

Response: *We are grateful for the reviewer's support. We have changed the subheading from "Recommendations" to "Lessons learned" (line 449).*

Reviewer #3: Dear Authors. Thank you for considering the suggested revisions. I recommend that your manuscript is accepted without any additional revisions.

Response: *We very much appreciate the reviewer's support. Thank you.*