Reviewer’s report

Title: Individual-level and Community-level Determinants of Cervical Cancer Screening among Kenyan Women: A Multilevel Analysis of a Nationwide Survey

Version: 0 Date: 10 May 2017

Reviewer: Johannes Berkhof

Reviewer's report:

General comments.

1. Neither the introduction nor the discussion mentions HPV self-sampling as an alternative screening method in low-resource settings. HPV self-sampling may enhance autonomy (a woman can do the test at home), lowers barriers and should be discussed by the authors. Furthermore, an HPV DNA test is objective whereas the quality of both VIA and Pap are only moderate and variable across laboratories.

2. What was the rate of missing data per question/item and how did the authors deal with missing data in the multilevel analyses?

Other comments.

Introduction.

Methods

Where does the abbreviation KDHS stand for?

Results section.

Keep nomenclature uniform throughout the manuscript. For instance, p11.l.17 state "woman had low decision-making power at home". p.11.l.26. state "women who had high decision-making
autonomy”. I guess the second statement is the antonym of the first statement, but this is not obvious from the description.

p.11.l.49. "By contrast, the variable of having undergone the Pap test….."

There is no contrast with the earlier description.

p.12.l.10. "31% of the total variance in the cervical cancer screening behavior was accounted for by community differences". This sentence is slightly misleading because it is not clear whether these differences are really caused by differences between communities or differences among women within communities. I prefer a more neutral formulation, .e.g "31% of the total variance in the cervical cancer screening behavior was at the community level".

p.12.l.43. "older women were 47% (AOR = 1.47; 95% CI = 1.16-1.85) more likely to undergo cervical cancer screening". The odds ratio is incorrectly interpreted as a relative risk, please adjust.

Table 2.

- It is confusing that the same means are presented as in Table 1, but they are slightly different (because weighting is now per community rather than per individual).

- What is the purpose of this table? These are not community-level characteristics but averages of individual-level characteristics. I assume that the correlations will be much stronger at the individual level than at the community-level. These individual level correlations need to be shown in addition to the correlations presented in Table 2.

Table 3.

- Heading N = 6498. How many are in the control group?

- The bivariate associations with community-level characteristics do not add to the associations with individual-level characteristics presented before. The community-level characteristics are mere averages.
Table 4 and 5.

- Model 3 does not make sense to me because a community-level characteristic can only be interpreted after inclusion of individual-level characteristics. This is done in Model 4 which aims to disentangle community- and individual-level effects.

- The between- and within community variation in Model 1 can be described in the text but does not deserve a separate empty column in Tables 4 and 5. Therefore present only Model 2 and 4.

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?
If not, please specify which controls are required in your comments to the authors.

Yes

Are the conclusions drawn adequately supported by the data shown?
If not, please explain in your comments to the authors.

Yes

Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?
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I am able to assess the statistics

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