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: 26 Apr 2017

Reviewer: Paolo Giorgi Rossi

Reviewer's report:

The paper uses well collected data to afford an interesting issue. The analyses are clever and original.

Abstract

Background

I suggest to drop the sentence about the relevance in the World, if you want to put something in the abstract please refer to a more contextualized epidemiology (Kenya, West Africa…)

There are many studies about community level factors (GPs' attitudes, socio economic status of the area, etc.) I think the statement should be "mostly studied individual…"

Methods

Please report the age range.

Results

Please report also the proportion of women who knew about cervical cancer on the total interviewed (the total is in the methods, but it is difficult for the readers to be sure that 9014 is the right denominator).

The OR for "older women" is not understandable for the reader: who are the reference (age bracket) and the comparison?

For me (a non-English speaker reader) the concept of "sexual autonomy" is not clear. May be is only my fault.
The OR 1.15 is not a 15% increase in probability to be screened. The outcome is too common to directly use OR to estimate prevalence ratio.

Background

Among the screening methods that have been proposed for low income countries, the authors should mention the HPV test. That is much more effective than VIA and even once in a life can reduce mortality.

Pag 5, second paragraph: the epidemiology has been reported at the beginning of the background, I suggest to put this part of the description of the burden of disease in Kenya just after the description of the burden in Africa and to mention only screening coverage here.

Pag 6: some parts of the introduction are presented as conclusions.

Pag 6 last paragraph: I suggest to avoid to say "only studied individual"…

Please explicit the objective of the study.

Methods

Some of the "individual" variables are actually community level variables: the distance from the health service is almost equal for an entire village; the socioeconomic level is an area based indicator if I correctly understood.

Statistical analyses: the authors used complex models using a logit link, in this case the OR is not a good approximation of the prevalence ratio. I suggest to use log binomial link or to transform the OR according to prevalence in Prevalence Ratios in order to discuss them properly.

Results

Pag 11, 2nd par. Last lines. It does not make any sense to say that are negatively (or positively) associated with other characteristics, because these characteristics does not have a clear direction in their classification.
Pag 13, last paragraph: the interpretation of OR is not correct, with a relatively common outcome OR 1.47 is far from representing 47% more coverage.

Discussion

I may agree that a national insurance would increase Pap test coverage, but this point should be sustained in a better way, including your data and other evidences from other low income countries.

I also suggest to comment about the effect of logistical barriers, that you partially observed in your study with the variable distance to health facility, but that could also be part of the community level un-explained variance. The subjective variable in this case could misclassify the real barriers since women living in very deprived Areas may have low expectations and cha judge a minor problem what a women living in a city could judge a big issue. The inclusion of an objective variable could help.

The issue of logistical barriers is also mentioned in the implication for policies, but now it is not treated in the discussion.

In the text there are some typos.

**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?
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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