Reviewer's report

Title: Factors affecting attendance to cervical cancer screening among women in the Paracentral Region of El Salvador

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Reviewer: Carmen Beatriz Visioli

Reviewer's report:

- Major Compulsory Revisions
The article presents some major inconsistencies that need to be reviewed before a decision on the publication can be considered.

1) The selection criteria used by the Authors to select 2649 women from a total of 11,421 women, age 30-49 years of four health centers, are not clear.

How many women were visited at home by health promoters because they did not have a screening test in the last 3 years in the cytology registries?

Among them, how many women, visited at home, had a Pap test, recently?

In the “methods”, the first selection criterion of study population was that the women had not performed a Pap test in the last three years, however, how the Authors can explain that 77% of women, who answered to the interview in the educational session, had performed a screening for cervical cancer in the last three years (see table 2)?

If this is true, then the Authors had selected a population with very high adherence to screening. In this case, it makes no sense to compare factors affecting attendance to cervical cancer screening in women, who adhere versus those that do not adhere. Probably for this reason we do not observe differences of attendance for demographic factors.

What was the purpose of the study? Perhaps, the Authors describe an interesting experience of participation in primary screening for cervical cancer with a new HPV test (suitable for regions with low resources) after an educational session.

2) How many women were self-referred in the educational sessions? Were they included in the study? If so, were these women included in the calculation of the percentage of adhesion to educational session? I did not understand where these women are in Figure 1.

3) The attendance at screening in the randomized group is not 88%, because the Authors have to exclude 23% of women who had not attended the educational session and, with high probability, they would have not attended the screening. Therefore, it becomes about 65%. This attendance is still very high for developing countries. This finding could confirm that the study population is a selected population. Women, who had participated in the educational session, had high probability of adhering to the screening.
4) The results of the study can not be generalized to the entire rural population of El Salvador, but only to a subset of this population, that did not have a Pap test in the last three years (study population).

‘5) In calculation of the sample size, the Authors wanted to detect a difference in attendance of 15% or greater, among those who had not been screened in the last 3 years versus those who were screened. But, was the selection criterion only the women who did not have a Pap test in the last 3 years?

- Minor Essential Revisions

Title
1) In the title it is not described the type of study.
2) The Authors do not report that the study is based upon a new primary screening for cervical cancer using HPV testing. This experience could be very interesting for low-resources countries and also for readers of the journal, who work in the field of public health.

Abstract
1) The Authors could change "Approximately 529,828 cases and 275,125 deaths" with “Approximately 528,000 cases and 266,000 deaths ...in 2012”
The first data refers to GLOBOCAN 2008, while the latter refers to GLOBOCAN 2012:
“There were an estimated 528,000 new cases and 266,000 deaths from cervical cancer worldwide in 2012.”

2) Authors should use the primary source of data (from IARC), instead of the secondary sources (Wright et al.), as follows:
http://globocan.iarc.fr/Pages/fact_sheets_cancer.aspx

3) In the background, the Authors could delete the phrase "Coverages rates are poor and follow-up for cytology is inadequate" that adds no information with respect to the preceding sentences.

4) In the “methods”, the Authors report a randomization not described in the article: women who were chosen from the catchment area of the four rural health units to participate in the educational session. Can the Authors correct the abstract?

5) In the methods, the Authors report that “Between October 2012 and March 2013 a subgroup of participants was chosen randomly...”, but in the paper the period is between September 2012 and March 2013. Can the Authors clarify
what is the right time?

6) In the “key words” lacks the word “HPV”

Background
1) The readers of the journal could be interested to know some data of the statistical incidence and mortality for cervical cancer in El Salvador to know the context in which the study was performed. See http://www.hpvcentre.net/statistics/reports/SLV.pdf for the latest information

Methods
1) The readers of the journal could be interested to know some data of cervical cancer screening in El Salvador and to know the context in which the study was performed.
2) The HPV testing for low-resources regions (careHPV) may be described in more detail in the methods, instead of “background section”.

Why the Authors refer to “careHPV screening” several times in the text instead of HPV screening? Is there any conflict of interest?

3) page 5- the paragraph on the selection of the population is not clear and should be rephrased.

4) page 6- The condom use described in the calculation of adherence in the methods are not present in the table 2.

5) Although there are no statistically significant differences of participation by age, it is always a important confounding factor and should be included in the full model, also as a continuous variable.

A suggestion for the analysis is performing a logistic regression adjusted by age for each response variable and a full adjusted model that include all independent variables which proved significant in the univariate model.

Results
1) Page 7- The correct number of women participants in the study on adherence is 1,487. Then, the correction is “(85.5% of 1,487; p=0.23)”.

2) Page 8- can the Author correct “100% of participants reported sexual activity with one partner within the last 3 months”? In the table 3 the correct percentage is 85%.

Discussion
1) The Authors could explain in the discussion because there were no differences of screening participation for some factors (age, education level, etc) recognized in the literature as potentially responsible for low adherence to screening.

2) How many women were helped for transportation to the educational sessions and screening appointments? This fact does not allow to evaluate the logistical
barriers to participation (see Table 3) or, at least, these factors are evaluated with lesser extent.

The transportation of women is a factor associated with this study or is it part of the organizational model of screening? In other words, how the active intervention of health promoters is sustainable over time of women? Did the Authors make a quantification of the costs?

‘3) Page 9- It is not appropriated to conclude that the two factors associated with no-adherence to screening ("large number of sexual partners" and "long time since last cervical screening") “mirror” previous literature because they did not treat the high-risk behavior, such as smoking, sexual intercourse unprotected and alcohol. Instead, this is a limitation of the study because it has not been investigated these important risk factors.

Tables

‘1) Is not very appropriated to write "given" in the title of the tables, but it is better to use "for" (tables 1-4)

‘2) In the title of Table 1 it is not correct "history of cancer", but “family history of cancer", and it does not include health problems (diabetes, cancer, heart disease, hypertension, depression)

‘3) In Table 2, why it is mentioned three times “month injection" and it is not reported the use of condoms and oral anticonceptioanal?

‘4) Can the Authors correct the screening interval "3+ years ago" in the tables 2 and 4? The third year is already included in the interval “<= 3 years ago”.

‘5) In Table 2 the Authors can check the correctness of the percentages for the factor "number of partners in the past 3 months"?

‘6) In the title of Table 3 it is not correct "and future screening method preference", because it is a matter not presented in the study.

‘7) Can the Authors correct the time interval "30-60 min" and “>=1 hour” in the table 3? The time intervals must be unique.

‘8) In Figure 1 it is missing the arrow that directs the woman who declined to participate in the study after randomization along with all the other women.

References: see BMC Public Health web-site instructions
http://www.biomedcentral.com/bmcpublichealth/Authors/instructions/researcharticle#formatting-references

Citations in the reference list should include the correct abbreviation of the name of journal (see Index Medicus/MEDLINE) and year of publication: see references n. 1 (Wright TC Jr 2012), n. 6 (White K 2012), n. 7 (Pirzadeh A 2012), n. 8 (Park 2005), n. 10 (Hidalgo B 2012), n. 11 (Lazcano-Ponce EC 1999), n. 13 (Ware NC 2013), n.14 (Farooqui M 2013), n. 15 (Champion JD 2013), n. 16 (Ert 2013)
Citations in the reference list with documents available only online should include the complete public online address and the date the site was accessed: see n. 17 “Ministry of Health ES: Cancer de Cervix El Salvador. 2010.”

- Citations in the reference list should include all named Authors, up to the first six before adding 'et al.'...: see references n. 2 (Murillo R 2008), n. 12 (Basu P 2006), n. 13 (Ware NC 2013), n.14 (Farooqui M 2013)

- Citations for updating in the reference list: see references n. 3 (Ferlay J)

- Citations in the reference list do not need the issue number of the journal: see references n. 5 (Spadea T)

- Citations in the list of references should include a semicolon after the year of publication of the article and not the comma

- Citations in the list of references should include the volume number and the number of pages in the journal: see n. 15 (Champion JD 2013)

- Discretionary Revisions

1) The word "participants" is used many times in the text, but it is not possible to recognize easily if the women are participants in the educational session or appointment screening. Can the Authors be clearer when they use this word?

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Acceptable

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests.