Author's response to reviews

Title: How protective is cervical cancer screening against cervical cancer mortality in developing countries? The Colombian case.

Authors:

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Author's response to reviews: see over
Bogota, April 2010


Dear editorial board:

We are resending the article “How protective is cervical cancer screening against cervical cancer mortality in developing countries? The Colombian case”. We have incorporated most of the suggestions made by reviewers and we believe that it has improved the overall quality of the manuscript. Despite the limitations of the secondary information used in this work we feel that the data may be useful for decision makers and public health workers in general to try to address better the reduction in the burden of diseases imposed by cervical cancer in other developing countries.

We also included a point by point response to reviewers.

Sincerely,

Luz Angela Chocontá Piraquive
Fernando de la Hoz Restrepo
Nelson Alvis
Reviewer's report:

This MS emphasizes the important point that gaps in continuity of health care, even after women have obtained cervical cancer screening, may lead to health disparities. In short, to evaluate disparities in cervical cancer, it is not adequate to simply consider screening. Nevertheless, several improvements to the MS are needed; it is worth noting that these concerns were indicated in the previous review which the authors claim to have addressed. I don't think they were adequately addressed. I've organized my comments into major, minor and discretionaly revisions below.

Major Compulsory Revisions:

1. The methods section still is not clear. Because the readership for this paper is international, it is important for the authors to provide information about the data sources used for this analysis. There is little information in the text and one government document is provided. Is this the source for all the data in this MS? Readers cannot be expected to access and review the document. Rather the authors need to answer the obvious questions begged about the data. Mortality rates are from the DANE mortality records. Since an algorithm was used to address "potential misclassification bias", the data are presumably not complete.

R/ We included some explanations about the characteristics of the death records in Colombia. We included the following statement “National mortality information is routinely collected and analysed by DANE using individual records of every person deceased. DANE make estimations of under registry by department using information collected from national census”

2. Are the alpha and beta coefficients from a previous study (there's no reference) or how were they chosen?

R/ We included the international reference where these coefficients were obtained from.

3. How complete are the DANA mortality records and are they equally complete for all departments? Have studies been done on the accuracy of this vital statistic?

R/ DANE records vary in quality by department. Coverage of mortality registry is estimated in 91% in average, with rural and far away areas having less coverage (Colombia, Departamento Administrativo Nacional de Estadísticas. Calidad de los datos: Censo 2005. Conciliación Censal
However, this potential source of bias may not affect our findings since the largest amount of mortality occurs in urban areas (> 80%).

4. Screening data are described in the text as coming from the ENDS, a national survey. What is the response rate for this survey? Do response rates vary by department?

R/ We have included a short description of the ENDS. “The ENDS is carried out every five years using a stratified polietapic probabilistic sample of 37,211 households. In 2005, the survey collected information from 41,344 women within ages of 13 to 49 years and had a response rate from 88% to 92% depending on the geographical unit.”

5. What questions are asked to elicit the information presented? This additional information can be provided in a sentence or two; but it is important for the study, especially since conclusions drawn by the authors rest on findings from a single medium-sized department Boyaca.

R/ Here we included the questions translated from Spanish and how they were used to construct the variables on screening characteristics.

During the ENDS survey women were asked the following questions (in the order presented):

1. Have you ever heard about cervical cytology?  
   Women could only answer YES or NO; those who answered NO were no further questioned about cervical cancer screening and continued the survey regarding breast cancer screening. Women who said YES continued the cervical screening survey.

2. Have you ever had a cervical cytology?  
   Women could only answer YES or NO; we choose the proportion who said they have never had a cervical cytology as a variable for the study.

3. How often do you have a cervical cytology?  
   Women who have had a cervical cytology were asked about the frequency of the screening, the following options to answer were given:
   - Once a year
   - More than once a year
   - Every two years
   - Rarely
   - Only once
   - Other

   For our screening coverage variable we used the proportion of women who reported having a cervical cytology once a year.
4. Did you collect the results of your last cervical cytology?

Women were asked if they collected the results of their last test, we used the proportion of women who did not collect the results.

5. Did you return to receive treatment?

Women were also questioned about whether the results of their last cervical smear were normal or abnormal and when abnormal if they contacted their health care provider to receive treatment, the proportion of women who return to the health care center for treatment was defined as the treatment variable.

6. Are you affiliated or are you a beneficiary of any Social Health Security System institution?

People were questioned about their insured or uninsured status. We choose proportion of uninsured population as a variable for our model.

6. The five screening variables are unconventionally presented. Again, the highlighted result is for Boyaca, because the largest proportion of women who failed to "collect the results" for their test was in this department. While findings from this department are suggestive, a regression analysis would be more likely to uncover actual relationships. Whereas the text describes Poisson regression analysis reported as rate ratios, the MS had only one table (Table 1). Perhaps another table of results is missing from this submission?

R/ We have included table 2 showing the results from regression analysis.

3. There are allusions to the "current managed health system" and "health care reform in Columbia". Since international readers are unlikely to know about these, and can't be expected to read other MS to find out, the authors should provide some background. Also, only one reference is provided for "recent studies" about "deleterious effect of health care reform".

R/ We have expanded the description about our health system in Introduction, also included more references about the topic.

4. The final conclusion that "new technologies ... may help reduce the burden of disease" is not spelled out and how it would is not clear.

R/ We explained it in more details in the new version.

Minor Essential Revisions

In the first paragraph of the discussion, the second sentence should say was

NOT protective. R/ done

In the last para of page 6, change "subside" to "subsidie". R/ This paragraph was changed.

Table 1: "media" deaths by year should be "mediaN" R/Corrected
Limitations of the study should be indicated. R/ We have included a paragraph on potential limitations.

Discretionary Revisions

In Table 1, it would be useful to spell out the "screening variables 1-5" more clearly. R/ it was done

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

Quality of written English: Needs some language corrections before being Published. R/ We have reviewed the English and hope the level is now acceptable.

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests.

Reviewer 2

Reviewer's report:

1. Although the topic is very interesting the paper is incorrectly presented. I guess that it is an epidemiological and not ecological analysis. R/ According to Morgenstern an ecological study is an epidemiological analysis where the observation unit are groups of individuals and not individuals. In this case, our observation unit of was the 33 Colombian, departments. Rates of mortality were grouped by departments and screening characteristics were also summarized by departments.

Major Compulsory Revisions:

2. Material and methods are superficially presented; data collection and retrieval of the major parameters used in the study should be defined. The description of the statistical analysis is vague. The method by which the screening coverage, “Media deaths by year” and the “Screening variables” mentioned in Table 1 are evaluated should be carefully described. R/ We tried to improve the description of methods. See changes in the new version (highlighted with track changes).

3. In addition, in the Introduction section the cervical cancer screening policy and the health care system of Colombia should be described as well as the major differences of compared regions to emphases the observed differences. All this have to be supported by adequate references.
The introduction section was enhanced with more detailed explanation on healthcare.

4. The discussion and conclusion are too simplified, probably because of the lack of knowledge of the already existing literature on the topic and event the specific one related to Colombia. The authors are strongly advised to consider investigating the corresponding literature before resubmission of their paper.

E.g.:


Etc. At least some of the listed references should be cited.

We have included some of the references in the new version.

Minor Essential Revisions:

The abbreviations should be correctly defined: National Department of Statistics (DANE, sp. Departamento Administrativo Nacional de Estadística) (Reference:
http://www.dane.gov.co); National Survey of Demography and Health (ENDS, sp.
Encuesta Nacional de Demografía y Salud) (Reference:
http://www.encolombia.com/salud/saludsex-portada.htm or other); C530,
malignant neoplasm of endocervix, C531, malignant neoplasm of exocervix, etc.
R/ Done

Discretionary Revisions:
In Table 1 insert (%) following “Screening variables” R/ Done

Level of interest: An article whose findings are important to those with closely related research interests
Quality of written English: Not suitable for publication unless extensively edited
Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.
Declaration of competing interests:
I declare that I have no competing interests.