Reviewer’s report

Title: Predictors of abnormal cytology among HPV-infected women in remote territories of French Guiana

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Reviewer: Jane Shen-Gunther

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ABSTRACT OF MANUSCRIPT (SUMMARIZED BY REVIEWER)

- Objective: identify factors associated with abnormal cytology in HPV-infected women in remote regions of French Guiana.

- Design: prospective, cross-sectional study

- Data collection: December 2012 through September 2014. Prospective data and sample (cytology and HPV DNA) collection from 601 women aged 25-65 years undergoing routine cervical cancer screening.

- Data analysis: crude odds ratios and multivariate logistic regression were used to identify predictors of binarized outcome (normal or abnormal cytology).

- Data interpretation: identification of predictor variable(s), i.e. demographic characteristics and/or HPV genotypes associated with abnormal cytology.

COMMENTS

1. Overall quality of manuscript: needs extensive language editing.

   a. Recommend a scientific writer to review and edit the manuscript for grammar, sentence structure and word choice; the manuscript also lacks sufficient detailed information for the readership.
2. Background Section.

a. This section requires editing for clarity and flow of information. For example (page 5, lines 18-28), "Vaccination against HPV is now recommended in French Guiana" should be deleted; "Opportunistic screening…" should be revised as, "Current screening practice in French Guiana is annual cervicovaginal cytological testing in women aged 25-65 years of age." Also, "…the HPV test is only reimbursed…" may be edited as follows, "Primary HPV testing is not standard practice, instead it is performed after an abnormal cytology result."

b. Rationale and significance of the study needs to be emphasized in the last sentence of this section (page 5, line 39).

3. Methods Section.

a. The Methods Section and subheadings (page 5, line 42 through page 7, line 32) should follow the format provided by BMC Women's Health (https://bmcwomenshealth.biomedcentral.com/submission-guidelines/preparing-your-manuscript/research-article).


b. Design: prospective, cross-sectional study.

c. The authors use prospectively collected data from December 2012 through September 2014.

d. The data covers the results of diagnostic tests from 601 women.

e. Commercial test used: GREINER-BIO-ONE kit for HPV DNA detection.

i. Comments: the GREINER-BIO-ONE laboratory methods should be described in detail. For example: the types of primer sets, PCR cycling conditions, definition of positive or negative test according the manufacturer. Also, the analytical sensitivity and specificity needs to be described. The cervical cytology sampling and testing method, i.e. conventional cytology (Pap smear
slides), liquid-based cytology, Thin-Prep automated screening or manual visual screening should be described.

f. Statistical Section (page 7):

i. Crude odds ratios and multivariate logistic regression were used to identify predictors of binarized outcome (normal or abnormal cytology).

ii. Comments/Suggestions: Power analysis was not described. This needs to be documented.

g. Tables and Figures: in general, logical layout and straightforward.

i. Comments/Suggestions: Table 1 column headings, both columns are labeled as "cytology positive" - the column on the left should be "cytology negative." Also, cytology samples should be integers and does not require decimal points. For the OR column, the 1.00 is preferably labeled as "referent." Table 3, first column with HPV species and genotype, the heading should be labeled "HPV species (genotypes)" for clarity. Figure 1, the HPV genotypes should be grouped by carcinogenic potential, i.e. carcinogenic, possibly carcinogenic, or not or unclassified.

4. Results Section.

a. The number of women with abnormal cytology (N=61) does not equal the number of cytological abnormalities listed (30 ASCUS, 7 ASCH, 18 LSIL, 7 HSII, 3 glandular abnormalities [ N=65]) (Page 7, line 42-44). This needs to be corrected.

5. Discussion/Interpretation.

a. Interpretation of the results may be biased due to 1) the small subset of subjects within each cytopathological category (30 ASCUS, 7 ASCH, 18 LSIL, 7 HSII, 3 glandular abnormalities [ N=65]), and 2) higher numbers of ASCUS versus other cytological categories. The HPV genotypes within each cytological category are different (see references below). However, the general conclusion that HPV genotype, in particular, carcinogenic HPV species and genotypes are associated with cytological abnormality is consistent with other published studies.
b. Recommend the authors to use International Agency for Research on Cancer (IARC) terminology for HPV carcinogenic potential. For example, HPV-53 is categorized as "possibly carcinogenic" rather than "probably carcinogenic" (page 9, line 12-17).

c. Strengths and limitations are briefly discussed.

d. Findings and concluding remarks address the original question of the study "what factors are associated with abnormal cytology in HPV-infected women in remote regions of French Guiana." The findings do contribute new knowledge to the existing literature since women of French Guiana have been unstudied/understudied; however, a larger sample size with detailed information regarding the methodology of the assay & its analytical performance is required to draw valid conclusions.

SUGGESTED REFERENCES (FOR REVIEW AND/OR ADD TO MANUSCRIPT)


Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

No

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

Unable to assess

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

Quality of written English
Please indicate the quality of language in the manuscript:

Not suitable for publication unless extensively edited

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