Reviewer's report

Title: Prevalence of cervical infection with HPV type 16 and 18 in Vietnam: Implication for vaccine campaign

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Reviewer: Maria Gabriella Dona'

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The manuscript by Lan Thi Hoang Vu et al. reports the results of a study conducted on Vietnamese women with the main aim of assessing the prevalence of HPV16 and 18 cervical infection. The authors analyzed samples from 5 different cities and found a variable rate of 16/18 infection. They also evidenced the presence of other high risk HPV types and discussed their results in view of the availability of the HPV prophylactic vaccines.

The findings are of a certain interest because of the paucity of data available for the country and because data were collected from five different cities. However, several criticisms may be raised and the manuscript needs to be extensively revised before being acceptable for publication.

Major compulsory revisions:

1. No data are available regarding the presence of lesions in the women analyzed. HPV prevalence is expected to be different in women with and without cervical lesions. Was a Pap-test performed at the time the cervical samples were collected? Was HPV 16/18 prevalence comparable in women with/without lesions?

2. It is weird that the number of women available to participate in the study (i.e., 750/city for the 1 round and 1000/city for the 2 round based on the response rates) coincided with the number of women actually enrolled. We have to conclude that all women who were available for the enrolment fulfilled the inclusion criteria, which were ascertained only subsequently, when data about obstetric/gynaecologic history were collected during the interview. The authors should clarify this point.

3. The authors should be consistent with respect to their choice of aggregating or not the results. If they aim to underline the differences among the 5 cities, they should stratify all their data, included the characteristics of the study participants, by city. Alternatively, if there is not a valid reason to keep the data separated for each city or for round 1 and 2, they should pool all their results, as they did for the HPV prevalence by age group.

4. How were women contacted (letter, phone call)? The authors should mention and discuss a possible participation bias.

5. The manuscript needs to be revised by a native English speaker because of
the numerous grammar mistakes and poor phrasing.

Minor essential revisions

1. Abstract
1.1 The actual number of women analyzed is 1500 for round 1 and 3002 for round 2, as it can be deduced from Table 1: provide the exact size of the populations
1.2 Specify the age range and the median age of the women enrolled
1.3 Specify the method used for HPV detection and genotyping

2. Background
2.1 Page 3: which age target does the Expanded Program on Immunization consider for the routine vaccination?
2.2 Page 3: “As reported elsewhere, the prevalence of HPV cervical infection in those cities ranged from 6.1% to 10.2% and the prevalence of high risk HPV infection was from 5.6% to 9.3%”. Include appropriate references for these data.
2.3 Page 4: the authors should explain at this time why only married women were eligible

3. Methods
3.1 Page 4: specify the medium used to collect the cervical samples and describe concisely the method used for HPV detection and genotyping (how many HPV types are detected by the assay employed?); specify, providing an adequate reference, the HPV risk classification used

4. Results
4.1 Page 4: provide the median age and the age range for the study population
4.2 Page 6: provide the type-specific prevalence of the 5 most common high risk genotypes; these data should be aggregated for the 1st and 2nd round since the two populations seem quite homogenous, unless the authors provide a valid explanation for using not aggregated data

5. Discussion
5.1 Page 6-7: “While most of the positive cases were infected with HPV 16 and/or 18, a large proportion of positive cases (ranged from 24.5% to 56.8%) were also infected with other high risk HPV types that may also lead to cervical cancer and which cannot be prevented by currently available vaccines”. This statement is weak because HPV 16 or 18 may still be the cause of the cancer in cases where other high risk types are present. Instead, the authors should report the prevalence of the other high risk types and discuss about their possible role in cervical cancer development, especially in light of the prevalence of HPV types other than 16 and 18 in cervical cancer cases in Asian countries.
5.2 Page 7: the authors discuss about the lack of sufficient awareness about HPV and HPV vaccine in their country. It would be interesting to know about the
situation in other countries. Can the authors make a comparison with other Asian
countries or even countries where HPV vaccine has been routinely introduced?

6. Conclusion

6.1 The authors should also comment about the screening programs in Vietnam,
since they reasonably state that, even with the vaccine, cervical cancer
screening cannot be neglected.

7. References

7.1 The literature citation needs to be updated (e.g., Ref. 2 is valid but outdated;
other more recent studies that included thousands of cervical cancer cases
should be considered, i.e., de Sanjosè et al, 2010; Li et al, 2011)

Tables

Table 1:
• Data should be aggregated or, alternatively, shown for each city if the authors
  want to highlight possible differences
• Provide the total number of individuals in the Table headings (N=1500 for round
  1 and 3002 for round 2)

Figures

Figure 1:
• Provide the title for the y axis (e.g., cervical HPV prevalence)
• None of the city names has been abbreviated except HCM; be consistent in the
  use of abbreviations

Figure 2:
• Move the data about “HPV16/18 and other high risk” close to those about
  “HPV16/18 only”, so that the proportion of cases with HPV16/18, independently
  of the presence of other types, is clearly visible
• 2.2% is not entirely readable, a smaller character size should be used

Figure 3:
• It would be interesting to have also data about the overall HPV prevalence
  stratified by age group
• A p value to report the trend of these data should be calculated to evidence
  their significance

Level of interest: An article of importance in its field

Quality of written English: Not suitable for publication unless extensively edited

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