Reviewer's report

Title: Prevalence and type distribution of Human Papillomavirus infection in women from North Sardinia, Italy.

Version: 1 Date: 18 July 2011

Reviewer: Kate Soldan

Reviewer's report:

Major Compulsory Revisions
1. Describe the selection biases applying to women eligible to enter the study, and the participation rate (and biases) amongst the eligible women. Without this it is impossible to interpret any comparisons to other studies. Similarly, when referring to other studies that have supposedly sampled the "Italian" population, please specify whether women sampled were undergoing cervical screening, and the conditions of participation that may have affected HPV prevalence.

2. Revise literature review in background. Many of the refs cited are not appropriate, e.g. refs 1 and 2 are not the source for the facts in the text, refs 3 and 4 do not give same list of HR types are in text (suggest use IARC monograph 90, and replace HPV68 in current list of 13 types with HPV66).

3. Abstract and main text makes much of the "stricking findings" of high frequency of co-infection with HPV 16 and 51, but does not show (with appropriate statistical analysis) that this is a more common occurrence than would be expected given the individual frequencies of HPV 16 and HPV 51. Please add analysis and qualify findings re frequency of co-infections. Regarding the frequency of HPV51, the test specificity for this type should be discussed, and any method for confirming this if such a potentially important finding. Please review the emphasis on this findings given the small sample size and wide confidence intervals.

4. Clarify results from INNO-LiPA from results from home-made (suggest use term "in-house") assay, if latter were included. If latter results are not reported remove from methods.

Minor Essential Revisions
1. Correct and improve the use of English language throughout.
2. State expected proportions used in power calculations.
3. Please give reason for re-testing samples found positive for HPV 16,18,31,33,45,51 and 52 but not other types?
4. Split results and discussion.
5. State whether "result" about no statistically significant association between HPV 16, 18 and 51 and abnormal cytology is meaningful or the study lacked power to assess this association?
6. Comments on page 9 touch on the use of HPV testing as a screening test. Please review whether these comments are justified by the study's data and necessary to include or would be better removed from the discussion of these data.

7. Table 1. Please show characteristics for positives vs negatives, with chi-2 results.

8. Table 2. Also throughout paper and in Fig 1. Given that the relevance of these data is largely related to HPV 16/18 vaccination, please include data for HPV 18 prevalence specifically, or at least for HPV 16 and 18 combined (i.e. for directly vaccine preventable HR-HPV).

Discretionary Revisions

1. Abstract background: check basis for HPV associated with cancers of the skin. To my knowledge, this is not established (certainly not to the same extent) as for genital tract and oropharynx. IARC Monograph 90 concludes "limited evidence" for HPV carcinogenicity in skin (in general).

2. Background: review whether "recently" is correct for association of HPV and cervical cancer.

3. To better understand the bias in the participants it is necessary to know the findings of previous pap tests within past 3 years. How many of these women were returning for repeat screening due to previous abnormal cytology (i.e. likely biased to high HPV prevalence)?

**Level of interest:** An article of limited interest

**Quality of written English:** Needs some language corrections before being published

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

**Declaration of competing interests:**

I declare that I have no competing interests