Reviewer's report

Title: Seroprevalence of Human Papillomavirus Types 6, 11, 16 and 18 in Chinese Women

Version: 2 Date: 12 March 2012

Reviewer: Fengyi Jin

Reviewer's report:

The paper by Ji et al. carries important information on the seroprevalence and risk factors for type specific HPV infection which is currently preventable by the advent of HPV vaccines.

The overall quality of the paper can benefit from the improvement of organisation, particularly, in the results section, and enhanced clarity in the methods section.

Results:
1. The results section in its current form is difficult to follow for its lack of coherence. I would strongly recommend the use of subheadings to make better organisation, such as seroprevalence, risk factors, etc. Under risk factors, this can be further divided by age, geographic, ethnic, and sexual exposure, etc.

Methods:
2. One of the strengths of the paper is its population-based sampling. Nevertheless, from the methods, the sampling is rather convenient. It would ease the concern for the bias introduced by this recruitment method by comparing a few key demographic statistics in the discussion section between the samples and the consensus data to ensure a fair representation of whole population.
3. In the results section, the authors compared the prevalence of HPV seropositivity after controlling for geographics and HPV DNA status. One would think that HPV seropositivity is highly correlated with HPV DNA status. The rational for this adjustment should be explained in the methods section under ‘statistical analysis’.

Other minor suggestions are as follows:

Abstract:
4. It reads seroprevalence increased with age in sexually active women. Is this statistically significant? If so, the p value for trend should be given.

Material and Methods:
5. Under sample collections, it reads that all the cervical cytological specimens were physician-collected. However, it also mentioned that in rural areas there were “self or physician obtained samples”. These seem contradictory.
6. There is a need for the definition of LGSIL. What is included, ASCUS and LSIL? If it is greater that LGSIL, would it be clearer and more consistent just to
use high-grade SILs instead?
7. The referral standard for urban area is unclear to me. Was it any cytological abnormalities and/or HPV positivity to any of the four types tested?

Results:
8. HPV6 is “notably more common than” HPV11. Is the difference statistically significant? If so, the p value should be given. The same applies to the comparison between sexually active women and virgins.
9. It looks like the risk factors analyses were restricted to sexually active women only. It would be clearer to mention this in the methods section.
10. The last paragraph in the results section: the authors should define high-grade cervical lesion in the methods section. Is it just CIN2/3 considered as being high-grade lesions in this analysis?
11. The same paragraph, the authors introduced a new term HGSIL. What is regarded as HGSIL? This should be defined in the methods section.

Discussion:
12. Second paragraph: the association between HPV6 seroprevalence and HPV DNA detection (the second last sentence). Could this be due to the higher clearance of HPV6 than other types as well?
13. Third paragraph: the comparison of peak age of HPV16 between China and the US should be referenced.
14. Fifth paragraph: the authors speculated the role of nonsexual contact in HPV transmission, or should it be non-intercourse sexual contact, such as oral sex?

**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:**

n/a