Reviewer's report

Title: Kaposi’s sarcoma associated herpesvirus infection among female sex workers and general women in Shanghai, China: a cross-sectional study

Version: 2 Date: 21 October 2013

Reviewer: Jesse Clark

Reviewer's report:

Thank you for the opportunity to review, “Kaposi’s sarcoma-associated herpesvirus infections among female sex workers and general women in Shanghai, China: a cross-sectional study.” The authors present data on the seroprevalence of KSHV (HHV-8) among Chinese women in a general population sample and in a sample of female sex workers (FSW). They analyze the data according to the hypothesis that sexual transmission of KSHV among women will be evidenced by associations between serostatus and sexual risk behavior and/or prevalence of other STIs. The analysis is interesting in the approach to differentiating sexually-transmitted from non-sexually transmitted infections, detailed, and generally well conducted (with some concerns about the statistical analysis), and the information presented is potentially important. There are a few areas to be addressed prior to publication:

Major Compulsory Revisions

1) Introduction: Overall, the authors do not make a convincing case for the importance of their analysis. While the epidemiology of KSHV infection among MSM has been an important topic of research, due to the high prevalence of KS among HIV-infected MSM, it is not as clear what the importance of understanding its epidemiology among women would be. As stated above, the authors present an interesting, well-conducted analysis that, if nothing else, would be important as an academic exercise. But it would be helpful to have more information to highlight the importance of conducting this analysis in the first place (e.g., public health impact, importance for understanding patterns of STI transmission among women in China, etc.)

2) Methods: i) How was “commercial sex” defined (Page 5, last paragraph)? ii) The sampling methods are unclear: If the minimum number of subjects estimated for 95% power was 430, then why were 600 subjects recruited? If 600 subjects were recruited, then why was the total sample size 1200 subjects? How were the FSW participants and the general population participants matched?; iii) What cut-off value was used to determine seropositivity on the HerpeSelect ELISA? iv) How was the multivariate analysis designed and what analytic techniques were used?

3) Results: i) The comment on Page 15 at the end of Paragraph 1 (“The consistent observations among MSM studies in China...”) is dubious. Although KSHV prevalence is higher among MSM and associated with men who engage in
receptive anal intercourse, I don’t think it is correct to state that KSHV infection is associated with “homosexual activities, especially receptive anal sex acts,” but rather that KSHV/HHV-8 is more common within MSM sexual networks. None of the studies cited provide any evidence to suggest that specific sexual acts are more likely to result in HHV-8 transmission.

4) Conclusions: Again, the authors don’t make a convincing case of the importance of their findings. The impact of HHV-8 infection on health outcomes among non-MSM populations is rather small, and so it is not clear that additional public health efforts to control the infection are needed. Instead, it may be helpful to outline how this analysis contributes to the understanding of patterns of transmission of different viral infections and differentiating STIs from other viral infections.

5) Tables: In general, the Tables present a large amount of data with little apparent consideration of what information was important to include in the analysis of in the presentation of the results. Table 3: What criteria were used to design the multivariate regression model? It appears that the authors simply included all of the variables available to see what came up significant.

6) General: The manuscript should be carefully edited by an English speaker to correct spelling and grammatical errors.

Minor Essential Revisions
Table 2: “Years of prostitution” Row 3 reads “>56”
Table 3: Row 5: “Monthly Income (Yuan RMB, P<0.001)” Why is a p-value included in the title of the row?; Row 7 “Number of sex partns in the past 12 months” should be “partners”

**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

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

**Declaration of competing interests:**

I declare that I have no competing interests