Reviewer's report

**Title:** Prospective cohort study of HIV incidence and molecular characteristics of HIV among men who have sex with men (MSM) in Yunnan Province, China

**Version:** 2  **Date:** 16 October 2012

**Reviewer:** Rongbin Yu

**Reviewer's report:**

With great interest I review the manuscript titled "Prospective cohort study of HIV incidence and molecular characteristics of HIV among men who have sex with men (MSM) in Yunnan Province, China".

Yunnan province is a critically special region for its HIV epidemic in China. To start with, the first HIV outbreak was initially detected among injection drug users (IDUs) in Yunnan province. Additional Yunnan province has the largest number of reported HIV/AIDS cases among all provinces in China. Thirdly, HIV transmission route is rapidly changing in Yunnan Province with the HIV prevalence among MSM reaching a very high level compared with other regions in China. However, the HIV incidence and its correlated factors were not well understood among Yunnan MSM population. The study described in this manuscript at some extent fills this knowledge gap.

By a relative long term follow-up and HIV nucleic acid amplification testing (NAAT) strategy among established high risk MSM prospective cohort, this study evaluated HIV incidence. HIV NAAT strategy was seldom used in China for the estimation of HIV incidence. Moreover, by multivariate analysis this study revealed major related factors for HIV seroconversion, which threw light on subsequent behavior interventions to Yunnan MSM. Also, the molecular characteristics of new infected Yunnan MSM were not evaluated before by prospective cohort study. It is very creatively helpful for tracking cross-group transmission of HIV among various risk populations.

While, there are still some minor problems in this manuscript, and it should be revised according to the listed comments.

**Minor Essential Revisions:**

1. Page 3, abstract section, 'which HIV incidence epidemic and molecular characteristics of new infected Yunnan MSM were not evaluated before' should be revised to 'while HIV incidence epidemic and molecular characteristics of new infected Yunnan MSM were not evaluated before'.

2. Page 3, abstract section, 'Fifteen MSM seroconverted to syphilis' should be revised to 'fifteen MSM seroconverted to syphilis'.

3. Page 3, abstract section, 'Two pairs of HIV transmission pair detected among seroconverted minority ethnic MSM' should be revised to 'Two pairs of HIV transmission pair detected among seroconverted minority ethnic MSM'.
transmission pair were detected among seroconverted minority ethnic MSM'.

4. Page 3, abstract section, conclusion: the authors concluded that 'Yunnan province needs to strengthen syphilis screening among MSM' in fact the HIV incidence was also moderately high, so it should stress both of HIV and syphilis screening program among local MSM population.

5. Page 7, introduction section, the authors stated that previous 'prospective surveys were mainly conducted during 2006-2007, and they cannot reflect current HIV incidence epidemic among China MSM'. While in the last paragraph of the introduction section, the authors failed to tell the study period of this study. It is very necessary for the authors to add such description in this manuscript.

6. Method section: the authors described that 'each participant was compensated with 100 Renminbi (RMB) [about 16 United States Dollar (USD)] for his participation', while it is confusing that whether participants were totally given 100 RMB during the follow-up, or be given 100 RMB at each visit time point?

7. Result section: for the paragraph of 'Migrant status of MSM participants' the word of 'Yunan' should be changed to 'Yunnan'.

8. Result section: for the paragraph of 'HIV subtyping and primary drug resistance genotyping', the description of 'By phylogenetic comparison of virus sequence, we found two pair our HIV transmission pairs were found' was grammatically incorrect, and should be revised.

9. Discussion section, the authors discussed that baseline syphilis infection significantly increased HIV seroconversion risk in the third paragraph. While, there is one minor grammar mistake. For example, 'This information can also help decrease HIV infection rate and transmission risk among in this population'. And it is should be revised.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

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

**Declaration of competing interests:**

I declare that I have no competing interests.