Reviewer's report

Title: Prevalence of Hyperuricemia and its Related Risk Factors in Healthy Adults of Northern and Northeastern Chinese Provinces

Version: 1 Date: 7 November 2012

Reviewer: Nanfang Li

Reviewer's report:

The present paper evacuates the prevalence of Hyperuricemia (HUA) and associated risk factors in the population of two provinces in northern China (Heilongjiang Province and the Inner Mongolia Autonomous Region).

The paper is limited interesting: results are sometime difficult to read because of the double aim of the study: to evaluate the prevalence of UA level in the entire population and to compare it across genders and different regions. Data presentation should be clearly separated for the two objectives of the study, the conclusion should be clear and work in concert with the aims...

Major Compulsory Revisions (which the author must respond to before a decision on publication can be reached)

1. The sampling method of the subjects is OK but the subjects not described in detail. For example, what are the four regions of Heilongjiang and Inner Mongolia? How many Mongolians in your study?

2. The definitions of "big cities, suburb of big cities, small and medium-sized cities and rural and pastoral areas" "metabolic syndrome" should be explained.

3. The results are not so clearly reported and well-arranged.

4. Any references for "High UA levels are characterized by high muscle content, heavy labor work and active metabolism"? Please provide the contributing literatures as references for your discussion.

5. There no data comparison with those in coastal Chinese cities, it is not suggested to conclude this in the conclusion.

6. The limitations of the work are not stated.

Minor Essential Revisions (such as missing labels on figures, or the wrong use of a term, which the author can be trusted to correct)

1. "(CPCHC) 2008–2010" in background, but it is written as “…CPCHC, was
conducted in six provinces between 2008 and 2011”.

2. Laboratory measurements: It is known that the lipid levels and serum UA levels are greatly affected by diet. Are the subjects were told to take bland diet before blood testing?

3. Definition or classification of HUA and other metabolism dysfunction: Blood pressure division: hypertension is closely related to HUA, in the present study, how are the well-controlled hypertensive patients divided?

4. In the description of the criteria of dyslipidemia, the measurement unit and definitions seemed to be missed, such as “…BMI was classified as underweight (< 18.5), normal (18.5–25), overweight (25–30) and obese (> 30)…”; “TG: < 1.69 mmol/L, 1.69–2.26 mmol/L, 2.26–5.65 mmol/L, # 5.65 mmol/L”, what does it mean?

5. Are the UA levels and other parameters in the present study normal distribution?

6. “…the number and percent of participants was used to describe the prevalence of HUA” is difficult to understand.

7. “Uric acid levels gradually increased in women over 45 years of age”, is the trend tendency test was performed?

8. As referred in the background “little information is available about the HUA prevalence in areas inhabited by Chinese ethnic minorities”, but the data on Mongolians was not referred, it may be more meaningful if there were difference of UA level between Mongolians and Han population.

9. “diet” item, what does it mean of “No and bland diet”?

10. The measurement unit of lipid levels and other parameters are forgotten.

11. 3. Figure 3, is there any statistical difference between males and females in four regions?

12. Given the menopausal status was not selected in the stepwise logistic regression model due to missing data, how many women missed the response to “menopausal status”?

Discretionary Revisions (which are recommendations for improvement but which the author can choose to ignore)

1. Table 1 and 2 is recommended to be combined. Also, Table 5 and Table 6 showed same variables in column, they may be combined as one table.

2. The age groups in Figure 1 are different with the description of Results, e.g. 55-64yrs in Figure 1, but it is 55-65yrs in results, type error?

Level of interest: An article of limited interest.

Quality of written English: Needs some language corrections before being
published. An English native-speaker is suggested to revise the written English.

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

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

**Statistical review:** Yes, but I do not feel adequately qualified to assess the statistics.