Reviewer's report

Title: Does decreasing serum uric acid level prevent hypertension? --A nested randomised controlled trial in cohort study: Rationale, methods and baseline characteristics of study cohort

Version: 2 Date: 29 March 2013

Reviewer: Sunil V Badve

Reviewer's report:

Song and colleagues describe rationale and methods of a cohort study and a nested RCT.

Major Compulsory Revisions

1. The manuscript requires extensive corrections of English grammar and spellings. The text is presented in past, present and future tense on several occasions. It is quite confusing, especially where all tense occur in the same paragraph.

2. The selection method for the cohort study needs to be described in detail. It appears that the selection process is biased towards those people whose employers have long term annual check-up contracts with the research centre. This raises a selection bias and will affect external validity of the study to other populations.

3. The practice of financial compensation to the participants raises ethical concerns.

4. In the nested RCT, the methods of random sequence generation and allocation concealment are not described.

5. There are no details of the contents and medium of the 'education package'.

6. From the discussion section, it appears that the 'education package' will target not only uric acid reduction, but also obesity, alcohol reduction, and multiple components of lifestyle modification. Each of these factors is a known risk factor for hypertension. Obviously, in spite of being a RCT, the final result of the nested RCT will be heavily confounded by several hypertension risk factors that can be modified by the intervention (in this case- educational package).

7. The entire paragraph of the sample size calculation requires some work. The authors need to describe their assumptions, evidence behind these assumptions, effect size, etc. Should the RCT group be PH and not NH? What does the 'each group' of 289 designate? Four cohort groups or 2 arms of the RCT? How was the sample size of 1455 calculated? Please pay attention to grammar.

8. Are the definitions of hyperuricemia for male and female interchanged?

9. How the use of uric acid lowering medications (such as allopurinol) will be handled?
10. The sentence in the discussion section 'The findings about factors associated with .... in compliant participant' doesn't make sense. I am not sure what the investigators mean by that.

11. It is not clear whether the baseline characteristics described in this article are of those individuals that are eligible to participate or have already participated in the cohort study and the nested RCT.

12. I could not find the registration number of the RCT.

Minor Essential Revisions
1. Page numbers are not inserted.
2. Abbreviations are not described for Table 1.
3. Units of blood investigations are not described in Table 2.

**Level of interest:** An article whose findings are important to those with closely related research interests

**Quality of written English:** Not suitable for publication unless extensively edited

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

**Declaration of competing interests:**

I declare that I have no competing financial interests. I am one of the chief investigators of the CKD-FIX Study (Registration number ACTRN12611000791932).