Reviewer’s report

Title: Burden and Correlates of Non-Communicable-Diseases among rural residents: A cross-sectional study in Hebei, China.

Version: 2 Date: 29 March 2015

Reviewer: Berhe Sahle

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A. Major Compulsory Revisions

1. Methods section:

1.1. The authors have missed describing the study setting, and other important descriptions of the source population, which could have provided a general picture of the livelihood and lifestyle of the study population. Thus, such a description should be provided.

1.2. The first paragraph of the methods section tells that the authors “decided” to pick a sample of 1 per every 1000 population of #15 yrs old. And the authors have repeatedly claimed about the representativeness of the selected sample. Can you provide any justification for why the 1 per 1000 sampling approach was adopted?

1.3 In general the sampling technique requires further clarification. The authors mentioned that stratified sampling technique was used. If so, what was the stratifying variable, and how many units were there in each strata…?

1.4. In line 6-9 (the methods section) the authors mentioned that PPS sampling method was used. However, the administrative structure of the study area/province is not provided, which makes it understanding the sampling procedure difficult. Thus, the sampling scheme requires further clarification, with what constitutes a sampling unit in each sampling step, and how many strata were included in the selection.

2. Is there any justification on the validity of the method how mental state was measured?

3. Potentially, the use of many inter-related predictors in the logistic model may inflate /deflate the estimates due to multicollinearity. Was there any effort the authors did to identify the effect of multicollinearity in the multivariate analysis?

4. Was the predictor variables assessed for outliers, influential observations and normality? This may be of interest, as many of the predictor variables were continuous.

5. Who did the data collection for the clinical measurements? Who processed the
clinical samples? How were they handled and transported?

6. A subject was considered as having NCD if either he/she reports to have any chronic disease, or if the test results of the measurements (including BP, and blood examinations) revealed to have NCD. In this sense, how consistent and valid the outcome definition is? Moreover, self-report can relatively have better sensitivity for some NCDs than others.

Results:

1. In Paragraph 1 and 2 (results section) or table 1, the authors would have benefited from a more formal statistical testing in showing if there was a difference in the distribution of the demographic and behavioural variables between men and women. Additional statistical test should be undertaken.

2. In the prevalence of NCDs section: paragraph 1 and 2: the prevalence determined by the clinical measurement during the study and that of self-reported should be explicitly stated.

Discussion:

1. in paragraph 4 & 5, the authors have made definitive conclusions such as; “alcohol drinking were strong correlates for the development of NCDs. These findings probably emphasized the need for policy implications such as raising tobacco taxes, legislation of health warnings, laws to maintain smoke-free work environment.” Though exposures such as smoking and harmful use of alcohol are established risk factors of NCD, which risk factor is a significant contributor in a specific population requires in-depth study. In addition the design of the study doesn’t allow establishing causation association and many cases that can threat validly of the association were not ruled out. So, how do you justify making such recommendation/conclusion?

2. Interpretation of the findings is limited to simple comparison with other studies. There lacks a focus of how the methods used and the nature of the study population might have contributed to the comparability or variation of findings.

B. - Minor Essential Revisions

1. In the results section of the abstract –include the unitd for the BMI reported (kg/m2)

2. In the abstract, the authors can provide mean±SD or median (IQR) for age, than <30 years and >30

3. In line-6 of the methods section, says “Reference ”, provide appropriate reference

4. The abbreviation PPS should first appear along with the first use of its form in line probability proportional to size.

5. In paragraph 2 of the screening section-there is inconsistency in using brackets: (, [ and lots of missing punctuations.

6. Instead of screening, which is more than a simple cross-sectional examination, the authors can use another appropriate term.
**Level of interest:** An article of importance in its field

**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