Reviewer's report

**Title:** Associations of alcohol consumption with diabetes mellitus and hyperglycemia among middle-aged and elderly Chinese

**Version:** 1  **Date:** 28 July 2010

**Reviewer:** William C Kerr

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This study is a cross-sectional analysis of the associations between alcohol consumption and diabetes, hyperglycemia and related markers in a study of 50 to 70 year olds in 2 areas of China. The studies strengths include detailed anthropometric and laboratory measures, dietary intake measures and what appears to be a good measure of current alcohol intake with attention to beverage type and container or drink size. Statistical measures appear to be appropriate. The results are to some extent in accord with previous findings indicating increased risk for liquor drinkers and for the heaviest drinking group and decreased risk among all drinkers for women. However, results indicating increased risk for the lightest drinking group, which includes drinkers of up to 19.9g/d, seem to differ from many previous studies.

Major Compulsory Revisions

1) The major weakness in this study is the lack of any past drinking information. While this is acknowledged, the authors should provide additional information on any studies assessing the proportion of abstainers who are likely to be former drinkers and lifetime abstainers. They should also comment on the potential biases in the results from including former drinkers in the abstainer category.

2) Because the abstainer category is a mixed group it would also be informative to test for differences between groups of drinkers for men in order to establish increased or decreased risk as alcohol intake goes up.

3) In the Table 4 beverage type analysis it would be of interest to divide the <40g/d group to see where the differentiation between reduced and increased risk occurs.

4) Table 4 is very interesting but also raises questions regarding the increased risk among very light drinkers, <1 day a week, where there would not seem to be a plausible mechanism differentiating them from abstainers and for 5-7 day 0.1-19.9 g/d drinkers who appear to drink about 0.5 to 1.5 US standard drinks (14gram) a day, which would be considered moderate drinking in most studies and might be expected to have a reduced risk. The authors should comment on these findings.

5) The study design is a multistage sampling procedure in three areas. This design should be included in the analysis to account for the effects of clustering
on standard errors.

6) Particularly for women, the drinkers might differ from non-drinkers in socio-economic status or other important characteristics. Income is included in Table 1 but is not controlled in the analysis. This should be included or it's exclusion justified. Additional comment regarding this issue is also warranted.

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

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests