Reviewer's report

**Title:** Impact of Family Average Income on Stroke Prevalence among Urban and Rural Residents in Regional Mainland China

**Version:** 1  **Date:** 1 November 2007

**Reviewer:** tim pearson

**Reviewer's report:**

**General**

This is an interesting article that examines the relationship between stroke and socio-economic factors. It shows an increased stroke risk with increasing socioeconomic status in contrast to several other studies which, when using different SES measures, have reported decreasing stroke risk with increasing socioeconomic status. The study shows that family average income (FAI) may be a useful socioeconomic measure. However, the standard of writing is sufficiently poor that a more detailed critical review is very difficult.

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

1. The clarity with which the article is presented could be substantially improved. Poor grammar and sentence structure result in confusion regarding study design and procedures followed. These comments apply throughout the article.

2. There are incorrect statements. Example, Discussion, 2nd paragraph: "The results of our study prove the positive association . . . . . ". The study showed an association but did not prove an association. It is unclear whether errors such as these are as a result of poor English or reflect a more serious lack of scientific understanding. They need to be addressed.

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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. The authors often refer to "basic demographic variables". This term is vague. The reader needs to be clear which specific variables that are being referred to. A similar comment applies to their use of "conventional risk factors".

2. I do not understand the term "positively dose-despondently associated" (Abstract; Results; 2nd sentence).

3. Stroke diagnosis. Greater detail on how stroke was assessed is required. For example, was it possible that a participant may answer "no" to the question whether they had ever been diagnosed as stroke. Were medical records
checked. There is some reference to this in the authors discussion, but it needs expanding. More detail in the "Methods" section would help.

4. Stroke diagnosis. Did all participants have equal access to "doctors" or "doctors at a grade 1 or higher hospital". This was required for stroke diagnosis. Are there urban/rural, financial or other inequalities which may have an impact on an individual's ability to access these medical facilities? Inequalities in healthcare is referred to when discussing other published studies but the authors do not appear to address this issue in their study and among their sample.

5. More information on sampling would be helpful. For instance were there situations where there was more than one stroke case within the same family, and if so how were these situations handled.

6. The article's "Discussion" section is confusing. It is not always clear whether the authors are discussing the findings of published studies or their own study's findings. Some of this sections text would be better placed in the "Background" section.

Discretionary Revisions (which the author can choose to ignore)

1. The paper compares use of FAI with two other measures of SES (education, occupation). The title does not inform the reader of this comparison.

2. The authors refer to several other studies that have looked at stroke and measures of SES. Do any of the SES/deprivation measures that these studies have used incorporate a measure of income-per-capita?

3. The paper refers to urban and rural Chinese populations. A brief summary of how these populations would compare to urban/rural western populations would be helpful to an international reader.

4. Inappropriate English.
   Example-1. The authors refer to "links" between outcomes and various factors. Association or relationship, both used else where in the article, are better terms and their consistent use would add clarity to the text.
   Example-2. The term "dose" seems inappropriate in this context. Dose implies that exposure could easily be changed or manipulated. This is not the case when talking of an individual's socio-economic status.

What next?: Unable to decide on acceptance or rejection until the authors have responded to the major compulsory revisions

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

Declaration of competing interests:

I declare that I have no competing interests