Reviewer's report

**Title:** Food patterns reflect more than just eating habits - bias in studies on disease etiology is avoided by appropriate exclusions

**Version:** 2  **Date:** 24 May 2010

**Reviewer:** Ming Li

**Reviewer's report:**

Comments re: Food pattern reflect more than just eating habits – bias in studies on disease aetiology is avoided by appropriate exclusions.

The association study between dietary intake and health problem is always problematic because of reporting accuracy, variation of diet, subjects’ health condition and analytical methodology concerns. This study enrolled 59573 eligible participants and their detailed health information was collected, therefore making it possible for necessary exclusion and adjustment possible without damaging the power of statistical testing. The study is of importance to researchers in the field of nutritional epidemiology. The English is acceptable. However, there are a few concerns I would like the authors to address:

1. In the tile, “eating habits” was mentioned, could the author state in the introduction section what this is referred to (classical nutrition intake assessed by FFQ or 24 h recall? or validated questionnaires that evaluate food consumption? Ect). At the first glance of the title, I thought the author was going to prove that food pattern generated from cluster analysis would be better to study on disease aetiology. But from the supplementary table 1-4, the clusters in both women and men had consistent significant difference intake of macro and micro nutrient intake. No association was done between nutrient intake and diseases. There was no comparison and discuss to show that “food pattern reflect more than just eating habits”. Please modify the title to match with the study purpose.

2. One of the strength in the study is that it excluded those “low energy report” and “previously ill participant” in the association study. Please state clearly in the method section the criteria for defining “low” or “normal” reporters. And also in the result section, the author presented mainly the “healthy normal reporters” (n=9376 in women and 8691 in men). Please state the numbers that fell in the 4 groups (healthy low, previous ill low healthy normal and health low).

3. Minor revisions:
   - Table 1, in women a total of 30954 were clustered in 4 groups. Is 34.1, 26.3, 29.4, and 15.2 making up to 100%? Please check;
   - Table 3. Explain the number of women and men (as raised in above 2);
   - Table 4. Keep the “sex” consistent throughout the paper (either female vs male or women vs men as in other tables);
   - Table 5. First column, do the superscript “3” and “4” for “all, crude model” and
“previously healthy normal reporters” in “elevated S-lipid levels” also apply to the corresponding groups in “elevated blood pressure”, “diabetes”, “IGT/diabetes”, and “IFG/IGT/diabetes”? please check;

• Supplementary Table 1 and table 3. The number of “high fat” group should be 3398, is it correct?
• Supplementary Table 2. Check the ”)” in “high fat” column.
• Supplementary Table 4. Check the footnotes

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests