Reviewer’s report

**Title:** Gender differences in adiponectin level and body composition in older adults: Hallym Aging Study

**Version:** 1  **Date:** 29 August 2013

**Reviewer:** Lei Chen

**Reviewer’s report:**

This article examined which body composition component was associated with adiponectin concentration, comparing male and female of Korea older adults. This is an interesting and important study. I have the following comments.

**Major Compulsory Revisions:**

1. The conclusion section says “The present study shows gender differences were associated with body composition and adiponectin concentration in older adults”. This conclusion is not clear. Per the results, I assume the author is intending to say “gender may be an effect modifier for the relationship between body composition and adiponectin concentration”

**Minor Essential Revisions**

2. Table 2: the header of “mean (95% CI)” is misleading. I assume the authors refers to the mean of regression coefficient

3. Results section: per Table 2, the most pronouncing correlations are between adiponectin and HDL-C, triglyceride, HOMA-IR. This is worth some description in the results section, as well as discussing it’s implication

4. Discussion section: the authors acknowledged that “the weakness of the study is small sample size”. Is there any other limitations? Could the sampling method impact the generalizability of the conclusion?

5. Introduction section: next to the last sentence of the second paragraph. It says “With age, body composition, especially visceral adiposity and muscle mass, change.” This is not a complete sentence, please revise.

6. Statistical analysis section, it says “In the linear regression, the dependent variables were natural log (loge) transformed …”. Besides adiponectin, are there any other dependent variables?

7. Discussion section, page 8, 5th to the last line: it says “However, our results suggested that gender difference was not merely a confounding factor but a disease modifying factor in older adults”. Do the authors want to say “gender …is an effect modifier “?

**Discretionary Revisions**
8. Discussion section: page 8, 4th and 3rd lines: it says that adiponectin is negative related with ARM BMC in male, but not in female; conversely, adiponectin is negatively related with LEG BMC in female, but not male. It is hard to understand the gender difference here, and would be worth some discussion for the possible cause of this, could this be a spuriously finding?

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

**Declaration of competing interests:**

I’m an employee of Eli Lilly & Company, and hold stocks of Eli Lilly & Company