Reviewer's report

**Title:** Oral consumption of flaxseed oil increases serum brain-derived neurotrophic factor (BDNF) and malondialdehyde (MDA) levels in healthy human subjects

**Version:** 1  
**Date:** 26 November 2014

**Reviewer:** Beng San Yeoh

**Reviewer's report:**

This paper examines the effect of flaxseed oil supplements on the level of serum brain-derived neurotrophic factor (BDNF) in a randomly sampled population of healthy man and women. However, several flaws have to be addressed before the manuscript can be accepted for publication.

**Major Compulsory Revisions**

1. In table 2 and Figure 3, the means and standard deviations for BDNF level after treatment are exactly identical for both female and male group. This is statistically impossible. Hence, I suspect that the authors must have made a statistical error by comparing the mean from the female/male group to the mean of the total sampling population. Please revise the analysis so that the mean for women before treatment is compared to the mean for women after treatment. The same should be done for the male group.

2. In Figure 1, what is the difference between the 'control' group and the 'pre-treatment' group? If 'pre-treatment' group is considered as the appropriate control, please revise/omit the redundant 'control' group.

3. Please state the statistical test used in the 'Statistical Analysis' section. This information is important to show that appropriate statistical test are used to analyze the paired data sets in this study.

4. For Figure 3, the figure does not have standard deviation bar which reduce the credibility of the data being presented. It would be more consistent if Figure 3 is presented in the same format as Figure 1 and 2.

5. For Figure 2, please include the analysis to reflect the MDA level changes in female vs male. Since the paper claimed that BDNF levels in female are more significantly changed compared to males, I expect the same trend for the MDA levels as well.

**Minor Essential Revisions**

6. Please include the appropriate measurement units in all figure (at the y-axis).

**Discretionary Revisions**

7. Please comment why the study was not performed with a placebo control.
8. Please revise the 'conclusion' part in the Abstract section. This study was not carried out on stroke patients and the references cited in the discussion regarding ALA as potential stroke treatment are based on mice (not human) study. Hence, it would be inappropriate to make the conclusion as presented in the abstract as it does not accurately reflect the data/experiment being presented in this paper.

**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.