Reviewer’s report

Title: Vegetarian diets are associated with healthy mood states: a cross-sectional study in Seventh Day Adventist adults

Version: 2 Date: 2 November 2009

Reviewer: Susan Torres

Reviewer's report:

This paper on mood in vegetarian versus omnivorous diets has merit; however, this paper requires significant revisions before it is suitable for publication. This paper has been submitted in the form of a short report, but due to the restrictive word limit this has resulted in omission of important information. It is recommended that this paper be resubmitted in the form of a full paper so the following comments can be addressed sufficiently (Major Compulsory Revisions). It is also recommended that the authors review recent publication reporting POMS and DASS data, to incorporate any relevant discussion in the methods, results and discussion.

Major Compulsory Revisions

Methods page 3

5. More information needed on FFQ eg no of items, was this a quantitative FFQ? How was quantity of omega-3 derived from the FFQ.

Results page 6

16. The authors have reported POMS adjusted for age and physical activity. Can the authors cite other published literature for this type of adjustment or can the authors justify this adjustment. It is typical to report unadjusted POMS.

Paragraph 3- these results need to be in a table for greater clarity. P-value of 0.000 needs to be replaced with p<0.0001

Discussion page 7

17. The discussion did not provide enough detail on the findings from this study. There needs to be a comparison of POMS unadjusted data to other similar population groups. More discussion on the limitations eg sample studied Seventh Day Adventists

Minor essential revisions

Abstract page 2.

1. The statement “female Veg participants reported significantly less mood disturbance than female OMN” doesn’t match the data presented.

2. “The vegetarian diet profile does not appear to increase mood variability” The
authors did not assess mood variability. This concluding statement needs to be rephrased to reflect the findings in this study.

Introduction, page 3

3. “report more mood variability” needs to be replaced with worse mood.

Methods page 3

4. Need to include state and country where study was conducted.

6. More information needed on the DASS and POMS eg what is the scale of responses. For the POMS eg, “An abbreviated thirty-seven-item version of the Profile of Mood States (POMS) (30) was used to assess participants' mood state. The thirty-seven-item POMS is designed to assess current and changes in mood states, and has been validated (31). Each week, participants rated their mood state on five-point Likert scales (0 ¼ not at all, 4 ¼ extremely) which best described how they had been feeling during the past week.” “Scores for each person on each of the thirty-seven items of POMS were averaged across the 13 weeks of the study and then a principal components analysis with oblique rotation was performed (34). Six factors had eigenvalues greater than 1, but several items were loaded with similar strength across more than one factor, or loaded below 0.5. Seven items were subsequently dropped from analyses.

A principal components analysis with oblique rotation of the remaining thirty items resulted in simple structure.

The thirty items explained 85.2% of the variance in mood. The following six factors emerged: Anger (furious, bitter, angry, annoyed, resentful, grouchy, peeved) (range 0–28); Confusion (unable to concentrate, forgetful, confused) (range 0–12); Depression (worthless, hopeless, helpless)

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Need to include the original ref for the POMS. Shacham S (1983) A shortened version of the Profile of Mood States. J Pers Assess 47, 305–306.

Results page 5
7. For the 8 participants excluded, were these from the VEG or OMN group?
8. Any difference between those who participated and those who were excluded? How were extreme dietary PUFA intakes defined?
9. The authors refer to “characteristics at baseline” was there another phase to this study?
10. “which was not correlated with total mood scores” this statement is confusing. 3rd paragraph- these results are duplicated in the table.
11. There was no reference to packed cell volume in the methods.
12. How was education level determined?
13. Positive correlation between DASS and POMS scores- there needs to be some interpretation of results. The authors need to report unadjusted POMS scores (global score and 6 mood variables) and unadjusted DASS scores. duplicated in the table.
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Results page 6
14. Paragraph 1- “Dietary intakes of EPA, DHA and AA were directly related” was it a positive or negative relationship?
15. Paragraph 2- all these results are repeated in Figure 1.

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

**Declaration of competing interests:**

I declare that I have no competing interests