Author's response to reviews

Title: Vegan diet and blood lipid profiles: a cross-sectional study of pre- and postmenopausal women

Authors:

Yee-Wen Huang (47445@cch.org.tw)  
Zhi-Hong Jian (s841039@yahoo.com.tw)  
Hui-Chin Chang (cshe215@csh.org.tw)  
Oswald Ndi Nfor (nforoswald2@yahoo.com)  
Pei-Chieh Ko (ko52070@hotmail.com)  
Chia-Chi Lung (dinoljc@csmu.edu.tw)  
Long-Yau Lin (xillin681113@gmail.com)  
Chien-Chang Ho (ccho1980@gmail.com)  
Yung-Po Liaw (Liawyp@csmu.edu.tw)

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Author's response to reviews: see over
Dear Sir:

Thank you for sending me the reviewers’ comments on the manuscript (No. MS: 1839581692116316) entitled “Vegetarian diet and blood lipid profiles: a cross-sectional study of pre- and postmenopausal women” My colleagues and I have carefully revised the manuscript by incorporating the reviewers’ comments into the resubmission. Please find attached the revised manuscript and an itemized list of our responses to all of the comments/suggestions from the reviewers. We hope that the revised manuscript is now acceptable for publication in BMC Women’s Health.

Should there be any future correspondences concerning this resubmission, please do not hesitate to contact me. Thank you again for your kindly help and I look forward to hearing from you soon.

Best regards,

Sincerely,

Yung-Po Liaw
Department of Public Health and Institute of Public Health, Chung Shan Medical University, No. 110 Sec 1 Chien-Kuo N. Road, Taichung City 40201, Taiwan R.O.C
Phone: +88-642-4730022 ext.11838
Fax: +88-642-3248179
Email: Liawyp@csmu.edu.tw
**Point-to-point response to the reviewers’ comments**

**Reviewer 1: Musarrat Riaz**

Reviewer's report:

**Major Compulsory Revisions**

Although it is a good manuscript and the findings are important there are some basic questions that needs to be answered before publication.

1. **Lipid profile is affected by various factors apart from diet like diabetes, prediabetes, metabolic syndrome, obesity, use of various drugs. Were these factors taken into consideration?**

   **Response:** Thank for your great comments. Authors took these factors into consideration and revised Table 3 and 4.

2. **Amount of diet taken by participants can affect the results. This fact has not been taken into consideration.**

   **Response:** Thank for your great comment. Amount of diet was not available in the questionnaires. We have added this in study limitation.

3. **Discussion is too long. Need to omit repetitions of findings.**

   **Response:** Authors have deleted repetitions of finding in the discussion.

**Reviewer 2: Gerald H Tomkin**

Reviewer's report:

An analysis of 2002 data. The introduction is clear and the aims concise. The methods well presented.

1. **It would be helpful to know how many premenopausal women were on the contraceptive pill.**

   **Response:** Authors have added the number of premenopausal women who were on contraceptive pills in the manuscript. See Table 1. (current user: 29; former: 321; never: 2044).

2. **The discussion could be shortened to concentrate on the other studies which have shown similar or different results in regard to lipid changes.**

   **Response:** Thank for your great comment. Authors have shortened the discussion and have concentrated on the studies which have shown similar or
different results in regard to lipid changes.

3. It might be easier to discuss only the absolute values rather than ratios when comparing the authors results with other studies.
   Response: Thank for your great comment. Authors have now used absolute values to compare their results with other studies.

4. The discussion of fact that the pre and post menopausal women who were vegetarian had significantly lower HDL and similar LDL to omnivores and therefore a potentially more atherogenic profile, seems to have been lost in the unfocused discussion.
   Response: We added a paragraph about a potentially more atherogenic profile with lower HDL and similar LDL (paragraph 2 in discussion).

5. Discussion about metabolic syndrome and insulin resistance seems irrelevant as blood sugars in the groups were similar and insulin was not measured.
   Response: Authors have deleted the paragraphs about metabolic syndrome and insulin resistance.

Editor's Comments:

This manuscript presents interesting data on the differences in blood lipid levels in vegetarians vs. non-vegetarians. The paper would be further strengthened by addressing the following issues:

1) Please clarify the distinction between vegetarian and vegan diets, as characterized here. "Vegan" seems a better description of the 'vegetarian' diet the authors describe, and may be more consistent with previous literature.
   Response: Authors have replaced “Vegan” with Vegetarian.

2) It is difficult to determine what covariates are included in the multivariable models presented in Tables 3 and 4. Are all of the factors presented in the tables included in the models? If so, I am concerned about over-adjustment. Many of these factors do not differ by diet pattern (as shown in Tables 1 and 2), and thus are unlikely to be true confounders of the diet-blood lipid relation. Control for other parameters that are associated with lipids like blood pressures and fasting glucose seems both unnecessary and potentially contributing to bias in regression coefficients. Please justify or revise model selection.
Response: Authors agree with your great comments. All of the factors presented in the tables were included in the multivariable models. This may indeed cause over-adjustment. We have revised model selection in Table 3 and 4.

3) I agree with the reviewers that the discussion is lengthy and should be condensed. Also, because this study evaluates only dietary patterns and not specific food and nutrient components of participants' diets, the discussion presenting physiologic explanations for these findings is speculative. This text should also be shortened and it should be emphasized that the present results cannot directly address biologic and nutritional mechanisms underlying findings.

Response: Authors have shortened the discussion and have deleted the paragraphs about speculative explanations. The present results cannot directly address biologic and nutritional mechanisms underlying findings. Further studies are necessary to elucidate such mechanisms.