

Reviewer's report

Title: Serum lipid responses to psyllium fiber: differences between pre- and post-menopausal, hypercholesterolemic women

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Reviewer: Chew-Kiat Heng

Reviewer's report:

This paper by Kuo et al investigated the differences in serum lipid responses to psyllium fiber between pre- and post-menopausal hypercholesterolemic women in San Francisco and its neighbouring communities. The key finding in this study is that consumption of 15g/day of psyllium fiber for 6 weeks was able to achieve a significant reduction in serum total and HDL-cholesterol only in the post-menopausal but not in the pre-menopausal group.

The research question posed by the authors regarding the effect of menopausal status on the lipid-lowering properties of psyllium fiber is a good one but not original. A similar study in greater detail and in a larger sample size was earlier conducted by Vega-Lopez et al (Ref 15).

Major Compulsory Revisions

In my opinion, there are 3 shortcomings in this paper:

1. Smoking is a well known modulator of lipid levels. However, the authors did not provide any information on whether any of the subjects were smokers and for those who are, whether they were advised to keep their smoking habit consistent during the period of the study.
2. The lack of association for the pre-menopausal group and for lipids other than total and HDL-cholesterol might be due to type II error, ie insufficient number of subjects recruited to observe statistically significant differences. Did the authors carry out a sample size estimation prior to the study to determine how many subjects are required to observe a similar effect size as those seen in ref 15? In the absence of such power analysis, it would not be appropriate to make a conclusion regarding the differential effectiveness of psyllium fiber in the pre- and post-menopausal group.
3. In the light of point 2, I am not too convinced by the authors' statement that "our study did not reveal that psyllium fiber reduced serum total cholesterol without lowering HDL-cholesterol." because a larger sample size might reveal significant total cholesterol and/or LDL-cholesterol reduction. Based on the conclusion in the Abstract, "In post-menopausal women, the observed change in response to psyllium fibre in total cholesterol was due to change in HDL-cholesterol", it ironically implies that the outcome of consuming psyllium is undesirable since lowering of total cholesterol was due to lowering of the good

HDL-cholesterol. I am sure this is not what the authors are trying to convey to the readers.

4. The conclusion in the abstract is not consistent with that found at the end of the text.

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

Quality of written English: Acceptable

Statistical review: Yes, but I do not feel adequately qualified to assess the statistics.