Reviewer's report

Title: The effects of plant stanol ester consumption on arterial stiffness and endothelial function in adults. A randomised controlled clinical trial.

Version: 1 Date: 29 April 2013

Reviewer: Arienne de Jong

Reviewer's report:

Major Compulsory Revisions:
1. Abstract: Conclusions: Since RHI did not significantly change in the study, it may not be right to say that “the more cholesterol was reduced, the more RHI was increased”, it can be said that the parameters are correlated however.
2. Methods: Study Design, paragraph 2: Can you please describe the study protocol in more detail: please add when the subjects came to the research center and when they were contacted via telephone. Please describe what was done during each visit? How many times blood was sampled, when were vascular measurements done. Was this only at the beginning and end? This is not clear now. What was asked during telephone contact?
3. Methods: Vascular Measurements: Paragraph 1: reference 13 for method of PWV measurement: this article does not thoroughly describe the measurement. In addition, reference 21: this does not describe CAVI as an indicator for lifestyle modification, please put the correct references.
5. Results: Vascular Variables: Since a gender difference has been observed here, it might be interesting to see whether this gender difference also exists for serum lipids and lipoproteins? Especially since CAVI was correlated with serum total and LDL cholesterol values. In addition it is interesting to see in table 1 that although not significant the CAVI in women tends to increase in the stanol group? Is there a correlation between CRP and CAVI?
6. Results: Vascular Variables: Is AI correlated to lipid parameters? If not what mechanism may be responsible for the change in AI in this study?
7. General: may the fact that the male/female ratio between the control and staest group are not the same have had an influence on the results? Especially since a gender effect for CAVI has been found? In addition, in reference 13 it has been described that there is a difference between men and women for CAVI (see factors affecting cavi in the article)

Minor Essential Revisions:
1. Background: consuming food products added with plant stanol ester, change to with added plant stanol ester
2. Background: reduced by 9% at the 2g/day dose of plant stanols, change to reduced by 9% at an intake of 2g plant stanols/day

3. Methods: Study Design: 2nd paragraph: in the end of the study, change to at the end of the study

4. Methods: Diet: a theoretical daily amount, change amount into intake

5. Methods: Diet: 3-d food record kept at baseline and in the end of the study, change in into at

6. Methods: vascular measurements: 1st paragraph: After 10 minutes, please put space between after and 10

7. Discussion: paragraph 4: lifestyle habits were kept as unchanged as possible, change to lifestyle habits were kept unchanged as much as possible

Discretionary Revisions:
1. Abstract: Methods: I would change symptomless subjects to apparently healthy or asymptomatic subjects
2. Methods: laboratory Methods and Measurements: Laboratory measurements, taken to ensure normal health: please define what parameters. Where they unchanged during the study?
3. General: in the methods section is mentioned that CAVI is considered to be independent of blood pressure; however this study showed a correlation between systolic blood pressure and CAVI, do you have an explanation for this?
4. General: Since the subject group is rather diverse in BMI, lipid parameters, medication and background disease I am still wondering if this may have influenced the results. Could you provide a table where this background is described per group?

Level of interest: An article of importance in its field

Quality of written English: Needs some language corrections before being published

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

Declaration of competing interests:

No competing interests