Reviewer's report

Title: Intake of partially defatted Brazil nut flour reduces serum cholesterol in hypercholesterolemic patients- a randomized controlled trial

Version: 1
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Reviewer: Alfredo Gea

Reviewer's report:

This is a very interesting paper on the effect of partially defatted Brazil nut flour on lipid profile and thyroid hormones. However, a few major changes are needed.

Major Compulsory Revisions:

1) In this study, "there were no differences between Brazil nut and placebo group throughout the study". Therefore, any effect between baseline and the end of the study may not be attributed to the intervention. Some of the effects may be due to the diet itself and no due to the supplementation. Therefore, authors should discuss why there were no differences between groups instead of discussing the possible mechanisms underlying the effects of selenium. Because, as I mentioned before, we cannot distinguish which of the factors is causing the effect found in the intervention group.

And the same happens with attributing the effects of the flour to the nut. (discussion: "Finally, our results indicate that Brazil nut in association with a healthy diet did not promotes weight gain...")

2) Therefore, the title have to change in accordance to that.

3) If authors collected data not only at baseline and at the end of the study, but also in some intermediate points, I would use repeated measurement ANOVA or any other equivalent methods in order to take advantage of these data.

4) I think table 4 is more interesting than any of the figures and should be in the main text and not as a supplemental file.

Minor Essential Revisions:

There are some questions that author should consider responding on the main text:

5) Why do you use partially defatted Brazil nut flour and not Brazil nuts?
Fat from nuts has been proposed as beneficial for some health outcomes.

6) Why do you use block randomization instead of individual randomization?

7) Why the quantity of flour per day is different in both the placebo and the
intervention group?

8) When describing the estimation of sample size, it is written "Thus, 70 patients would be required for a statistical power of 80% or more". It should say "more than 80%" or just "80%".

9) It might be adequate to clearly include a strength and limitation section.

10) Between some words there is no space. It happens throughout the manuscript.

11) Although I am not a native English, I think English should be revised.

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

Statistical review: Yes, and I have assessed the statistics in my report.

Declaration of competing interests:

I declare that I have no competing interests