Reviewer’s report

Title: High phosphorus intake and gut-related parameters - results of a randomized placebo-controlled human intervention study

Version: 0 Date: 20 Nov 2017

Reviewer: Junia Gomes

Reviewer's report:

The authors conducted a double-blinded, placebo-controlled and parallel design trial to evaluate if high phosphorus supplementation affects gut-related parameters independent of calcium intake. This is an interesting article. The followings are my comments and suggestions:

Abstract:
Line 27: Is this modulation beneficial or harmful?

Line 30: Please indicate mean age and BMI, and gender of the participants (number of men/women)

Lines 46, 51 and in many parts of the manuscript: The intervention was not only with phosphorus. So I suggest changing to "calcium and phosphorus"

Line 39 (abstract), and line 89 (background): I'm not familiar with the term "compatibility" in this context - is it the best term?

Background
Line 63: I would consider deleting this sentence and directly indicate what has been discussed (ex: mortality, bone health, cardiovascular disease, etc.)

Line 68: recommended intake for adults and the elderly

Lines 71-74: Rewrite or delete the sentence (unnecessary information)

Line 87: Please give a reference for your statement "above-mentioned study"
Methods

How has free-living intake been monitored? Did the participants receive any guidance?

Lines 93-100: Did they monitor supplement intake?

Line 105: body weight and BMI should have been included as eligibility criteria

Line 132: Was the supplement tolerance questionnaire referred to at line 132 validated for assessment of health aspects in adult population? Please specify, with appropriate reference(s).

Line 139: Please provide information about faecal sample collection and quality assurance processes used.

Lines 145 (faecal fat analysis) and 147 (SCFA analysis): Please the provide the technique used (ex: HPLC)

Line 171: as proposed by Oberreuther-Moschner et al.

Statistics: Please report sample size calculation

Line 220: P < 0.05 or P < 0.05?

Results:

It would be interesting to report and discuss the mean Ca and P intake, and the Ca/P ratio during the study periods

Figure 2B: Please report the sample size each group

Table 1: Please report the sample size in each group

Line 234: spelling "and" P1000/Ca500…

Lines 237-238: It would be better to consider results without this outlier

Line 252: It is needed to provide the figure reference "(Figure 3)" after "the P100/Ca0"

Discussion

The reader may well wonder why some parameters (total SFCA, acetate, Clostridium, etc.) differed only for men - reasons for why this occurred need to be covered in detail in the discussion.
Line 355: I did not understand which groups differed ("two groups" or "only compared to P100/Ca500 group")?

Lines 407-408: How was the intake of calcium in this study?

Line 410: Please give a reference number for Grimm et al. (reference 15)

Line 415: Would it be reference 15 instead of 10?

Line 419: Why were the problems attributed to the sherbet powder? Was the sensorial analysis of the product evaluated?

**Level of interest**
Please indicate how interesting you found the manuscript:

An article of importance in its field

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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None
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