Author's response to reviews

Title: Vitamin B6 deficiency and diseases in elderly - a study in nursing homes

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Author's response to reviews: see over
The Editor,
BMC Geriatrics

Dear Editor,

Thanks for your evaluation of our manuscript “Vitamin B6 deficiency and diseases in elderly – a study in nursing homes” and for giving us the opportunity to revise the manuscript. Thanks also to the reviewers for valuable and appropriate suggestions for improvement of the paper. We have commented on the questions raised by the referees and revised the manuscript accordingly; all changes have been written in a red font. Hereby follows an itemized, point-by-point response to the comments.

Comments to reviewer 1: Tommy Cederholm

1. The reviewer suggests that the statistical analyses are complemented by multiple regression to identify independent covariates. These analyses were included in a draft version of the paper, but were left out after advice from the statistician. Because of the limited number of subjects in the study and the high number of variables, the number of variables for the regression analyses had to be reduced. The selection of the appropriate variables for the regression analyses turned out to be somewhat arbitrary (depending on the method used) which made the results unreliable.

2. The word “predictor” in a cross-sectional study means that there is an association between the variables; it does not mean a cause-effect relation. This is in accordance with several textbooks and papers in medical statistics.

3. We agree that the low number of subjects might jeopardize the conclusions and the generalizability of the results and have made it clearer in the last part of the discussion.

Comments to reviewer 2: Jessica Sautter

Major compulsory revisions

1. Study “design and sample” and “study population”
   - According to the reviewer’s recommendations, we have added more details about how outcomes were generated.
   - The reviewer wants a reference to figure 1 from the “methods” section. Figure 1 gives the results of the study and should therefore be referred to from the “result” section. The “methods” section describes how the study was performed according to the study protocol. This is in accordance with guidelines for reporting clinical research.
   - How data collection differed for respondents with and without cognitive impairment has been accounted for. Missing or unreliable data from the respondents were given by their next of kin.
   - Subjects with organic GI diseases were excluded because the primary aim was to study associations between vitamin B6 deficiency and functional GI disorders (abdominal pain/discomfort, bowel function, constipation and diarrhoea). In subjects with organic GI diseases, the GI disorders (abdominal pain, bowel function, constipation and diarrhoea) were probably due to the organic GI disease (e.g. cancer) and not vitamin B6 deficiency. This has been clarified in the revised version.
2. The reviewer asks for comments on the differences between this study’s findings and previous literature. This is a valuable comment and an enlargement of this discussion has been added to the “discussion” section.

Minor essential revisions
Some reediting has been performed.

Discretionary revisions
1. I find it difficult to add information in the “background section” about what this study adds to the current literature. This is part of the “discussion” when the results of the study are known.
2. As proposed by the reviewer, trends (p > 0.05) have been left out.
3. Table 1: the label and text have been rewritten. We want to keep the table. The variables presented in the table were the primary aim of the study, and an explanation of the scoring system in the text makes the text long and unreadable.
4. The reviewer recommends to shorten and rephrase the last sentence of the section “Vitamin B6 deficiency and diseases”. These are the results with confidence intervals (not odds ratios) of the primary aims of the study and cannot be omitted. These results are mandatory for understanding that the study excludes a clinically significant association between B6 and symptoms of FGIDs.
5. The title is not misleading. The associations between B6 and diseases were the primary aim of the study. The lack of significant associations in this study does not change the primary aim. Some authors leave out the primary aim when the results are not statistically significant and write a paper about something else from the study and even call it the primary aim, which is unethical science.

We kindly ask you to evaluate the revised version of the paper for publication in BMC Geriatrics.

We thank you in advance.

Sincerely yours
On behalf of the authors

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