Reviewer's report

Title: Vitamin B12 and folate levels in healthy Swiss senior citizens

Version: 4
Date: 20 January 2015

Reviewer: Johan Frederik Berg Arendt

Reviewer's report:

Major compulsort revision:
I appreciate the corrections performed in the manuscript. However, I still consider the approach problematic.

Using the cut-off for holoTC (<35 pmol/L) is at best arbitrary. But it also undermines the potential that the data collected possess.

I believe that the Fedosov equation can be used to established the proportion of healthy Swiss elderly with metabolic B12 deficiency (<-0.5 wellness factor). The equation has been shown robust to the varying cut-offs of the four single biomarkers when applied separately. If desired, this can also provide cut-offs for the individual biomarkers in the elderly. Alternatively, the population can used to generate a reference interval for the elderly for holoTC, just as for the other biomarkers. To my knowledge, reference intervals for holoTC for healthy elderly have not been established on such a large material before.

This approach can challenge the approach commonly applied, where cut-offs from one population are mistakenly applied on other populations or population subgroups. And support the use of different reference intervals for elderly

Minor essential revisions:
1. Background: omit second paragraph. Not relevant
2. Background: the paragraph on the impact of dietary habits could be moved to the discussion
3. Methods: it is not so much that assays have acceptable imprecision. It is the actual imprecision in percentage that is interesting to interpret the small numerical differences
4. A discussion on the association between cognitive function in the elderly and B vitamins would be appreciated, given the recent focus on this matter
5. The flow chart should also include the persons excluded due to medication use.

Level of interest: An article of importance in its field

Quality of written English: Acceptable

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

Declaration of competing interests:

I declare that I have no competing interests