Reviewer’s report

Title: The Effects of Dietary Fasting on Physical Balance

Version: 1 Date: 17 September 2009

Reviewer: Eva Ageberg

Reviewer’s report:

The effects of dietary fasting on physical balance

Major compulsory revisions

ABSTRACT
1. The abstract should be written according to instructions of the journal.
2. Last sentence: I do not believe that authors can draw conclusions and implications regarding falls prevention among the elderly from the results of the present study (it may however be included in the discussion section, in relation to suggested further work). I therefore believe that “and falls prevention to the elderly individuals” should be deleted here.

BACKGROUND
3. The background section is just over 3 pages long. I believe it needs to be shortened and kept more to the point. Both the rational for doing the study, and what this study adds to current knowledge, need to be made clearer to the reader. For example, on page 4, second paragraph, the authors state that there are few studies on nutrition and balance and 4 references are given. The authors then state that more research is needed in examining the effects of fasting on balance. It is not clear why more resaerch is needed in this field, and it is not clear why young women, specifically, need to be studied. Please include the rational for including young healthy women (to some extent this is mentioned in the method section, i.e., skipping breakfast) and also point out the differences between the present study and previous ones, and why the methods that you use are important (compared to other studies).
4. Page 5, paragraph 2: “Although nutrition imbalance has not been identified as a risk factor related to balance impairments…” – isn’t the opposite stated on the previous page (“decrease in dietary intake negatively affects one’s ability to maintain balance”). Please clarfiy.

METHODS
5. Page 9, “static balance”: From the description here, it seems like subjects stood on one leg on the floor, keeping their balance as long as possible (seconds). The position (other leg in 90 degrees of flexion in the hip and knee joints) seems to be the same as reference no 1. However, in that study (1) a force platform was used, single-limb balance was measured for 25 seconds, and center of pressure variables were analyzed. Please re-write and refer to
6. Page 9, “static balance, termination”: The authors state that “consistent with the test termination criteria reported in the literature…” but no references or reliability data are given. Please include this here, as this information is important to the reader.

RESULTS
7. Page 11: Please indicate (provide references if appropriate) whether “financial status”, “perceived health status”, and “physical activity” are methods that have been previously used and evaluated. Also, regarding regular physical activity, it would be of value to know whether this refers to sedentary or strenuous activities. Also, how can an average be “four to six days per week”? Please clarify and re-write.

8. Page 13, postural response: A whole paragraph on postural responses, related to test termination criteria, is provided here and also in the discussion section. However, no data is given, which is essential. This data is required (see also comment above on the method for measuring postural responses).

DISCUSSION
9. Page 14, first paragraph, last sentence: Again, from this statement, the rational for doing the study and what this study adds to current knowledge is not clear to the reader (see comment above in the background section).

10. Page 14, paragraph 2: Data regarding postural responses are required (see comment above). Also, “stopped due to sore leg” is introduced here, but not given in the method section. Please clarify.

11. Page 17, line 2: From the design of the present study, and the subjects included, I do not believe that the authors can state that their study has implications for falls prevention in the elderly. This may, however, be a subject for further study.

Minor compulsory revisions

TITLE
12. To better reflect the study I believe that “among young healthy women” can be added in the title, followed by the study design.

ABSTRACT
13. Please include SD after mean age
14. “Background questionnaire” does not include information related to the questioned posed, but rather subject characteristics. I suggest “background questionnaire” is omitted in “Measures included”.
15. Omit “Even among young healthy adults” (line 4 f.b.) since only young healthy adults were included in this study.

BACKGROUND
16. Page 4, line 3: reference Tropp et al 1988 (6) is given here. I don’t believe that this is the original article on balance strategies. Please change reference if appropriate.

17. Page 4, paragraph 2, line 4: “… that a sex difference affects in the ability to maintain balance…”. Language not clear here, and some other unclear sentences are also found in the manuscript. I therefore believe some language corrections are needed.

18. Page 4, line 2 f.b.: Please include reference after the sentence on general characterization of fasting.

19. Page 5, paragraph 2: Please include reference(s) after “These symptoms are well-known risk factors for impaired balance and falls in the elderly population”.

20. Page 6, line 2: Please include references after “The majority of these studies…”

21. Page 6, purpose of study: Delete “With the possibility the age and sex differences” as this is not related to the aim of the study (statement also unclear).

METHODS

22. Page 6: Please indicate that no power analysis was conducted prior to the study (this is first mentioned in the discussion section).

23. Page 7: What is “standard fasting/non-fasting protocol”? Has this been used and evaluated in previous studies so that reference(s) can be given? Please clarify.

24. Page 8, “background questionnaire”: As the information here does not provide answers to the questioned posed, this can be moved to the method section, and Table 1 be referred to.

25. Page 10, “data analysis”: “descriptive statistics were used to analyze…” – please re-write.

26. Page 10, “data analysis”: “…foods consumed for breakfast was analyzed…” How was foods analyzed?

RESULTS

27. Page 10: Were all subjects University students? Seems so from Table 1, please clarify.

28. Page 11. Information from Table 1 is also given in the text, which is not necessary (i.e., avoid repeating results).

29. Page 12, paragraph 2: Some results seem to be repeated in the text here, and on the next page. Please see over and shorten.

30. Page 13, line 2: Omit “…even among healthy young adults” as only young women were tested.

DISCUSSION

31. Page 15, first paragraph: A discussion of the clinical relevance of the observed differences would be helpful here.
32. Page 17: I believe that the last sentence can be omitted.

**Level of interest:** An article whose findings are important to those with closely related research interests

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

**Statistical review:** No, the manuscript does not need to be seen by a statistician.

**Declaration of competing interests:**

I declare that I have no competing interests’.