Reviewer’s report

Title: High protein intake is associated with low prevalence of frailty among old Japanese women: a multicenter cross-sectional study

Version: 1 Date: 9 October 2013

Reviewer: Chisato Nagata

Reviewer’s report:

This cross-sectional study examined the association of protein and amino acid intake with frailty among elderly Japanese women. The objective of the study is potentially important. The paper is well written and the authors address the limitations of their study fairly well. Some comments are detailed below.

Major compulsory revisions

1. As a component of frailty assessment, low physical activity is defined as < 25% percentile. This cut point is likely to be dependent on the distribution among study subjects. Although the authors referred to the criteria developed by Fried et al, more convincing basis should be necessary. A sensitivity analysis may be helpful.

2. Page 4, line 20-: It would be informative to provide more explanation why these amino acids were selected.

3. Page 12, para.1: The authors could provide potential mechanisms which support that total protein rather than specific protein sources or amino acids is associated with the frailty. This is relevant to my comment #2.

4. It would be good to refer to the possibility of selection bias.

Minor essential revisions

1. Page 10, line 3: I wonder if the 22.8% is high or not. Is there any data on frailty scores in other Japanese populations?

2. Page 8, line 15: “Slowness and weakness was scored as two points” – When it was measured?

3. Statistical analysis: I feel that the category of “history of chronic disease” is very broad. Please confirm that more refined categorization do not affect the results.

4. Page 12, para. 1: The last sentence is unclear.

Quality of written English: Acceptable

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.