Reviewer’s report

Title: What is the best adjustment of appendicular lean mass for predicting mortality or disability among Japanese community dwellers?

Version: 0 Date: 29 Oct 2017

Reviewer: Wei-Ju Lee

Reviewer’s report:

The manuscript entitled "What is the best adjustment of appendicular skeletal muscle mass for predicting mortality and disability among Japanese community dwellers: a 15-year longitudinal study" was intended to explore the optimal adjusted muscle mass of Japanese for mortality and disability. The topic was interesting and met the scope of BMC Geriatrics. The sample size and study methodology were fair. However, there are still some points needed to be clarified as followed.

1. What is the "pool of non-institutionalized residents in the institute ...."? Were these data extracted from registry data or from the outpatient's clinic/hospital? Please put some words on inclusion and exclusion criteria of NILS-LSA. (p5L58)

2. I strongly suggest the authors to use the CONSORT flow diagram to present the study participants recruitment. (p 6.L40) Additional figures 1-6 should be read as additional figure 1 with subheadings 1-6.

3. How do the authors manage the missing group? Is there any missing group analysis performed?

4. Basic assumption of proportionality is supposed to be tested before fitting Cox PH model. Statistical analysis of additional table 1 should be stated in method section.

5. Outcome measurement: The authors used "as either the date of death, the earliest day of needing long-term care (event group),...." Why didn't authors use two separate dates for analysis (i.e. setting outcome as disability or mortality respectively)? By the authors' definition, would the outcome be a composite outcome of disability or death?

6. Mortality and disability should read as "mortality or disability". Please added % at the column of mortality and disability (%) in table 2&3.

7. In men, crude HR in Q5 for ASM/leg length and ASM/height <1 but age-adjusted HR >1? The statistical direction is opposite, how do the authors explain the phenomenon? In other muscle indices such as ASM/Ht^2 and ASM, similar conditions were found, although they did not reach the statistical significance.
8. P9L11-19 Results from additional table 1 should be place in the results section instead of discussion section.

**Are the methods appropriate and well described?**
If not, please specify what is required in your comments to the authors.

Yes

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

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Please indicate the quality of language in the manuscript:

Acceptable

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