Reviewer’s report

Title: The Application of Different Appendicular Skeletal Muscle Cutoff points and Research Definitions Associated with Health-Related Quality of Life in Korean Older People: Data from KNHANES 2008-2011

Version: 4 Date: 21 August 2014

Reviewer: Rachel Cooper

Reviewer’s report:

I thank the authors for making such a detailed and considered response and for providing clarification of the need for this research.

The authors have satisfactorily addressed the majority of my previous comments and so I have just a few additional comments, see below.

Major Compulsory Revisions

1) I recognise that in the absence of data on other characteristics of muscle (i.e. strength and function) the authors have made the best possible attempt they can to contribute to ongoing research debates about sarcopenia through their study of age-related loss of muscle mass. However, the lack of data on muscle strength, muscle function and mobility disability should be acknowledged as a limitation of the study in the manuscript on page 17.

2) Given the problem of using a cut-point of the bottom 20% (which the authors themselves acknowledge in their response) I wonder whether concluding with a statement that recommends use of this cut-point is appropriate. A more general statement about this work highlighting the need to consider country/population-specific cut-points may be more appropriate.

3) Please check the paper carefully for grammatical errors and amend these.

Minor Essential Revisions

1) It would be helpful if the authors could clarify the distinction between ‘chronic illness’ and ‘number of chronic illnesses’ in the covariates section of the paper on page 9; could including both sets of variables in the same model be an overadjustment?

2) Having reported that the ‘current study showed high kurtosis’ in one sentence it then seems repetitive to report that the data ‘did not show a normal distribution’ in the following sentence (page 11).

3) As the SPSS procedures are mentioned in the statistical analyses section there seems no need to report that ‘the SPSS complex procedure’ was used in the results section on page 11.

4) Please add units (i.e. kg/m2) when referring to values of ASMI in the text.
5) I think the authors have made a good decision, at the suggestion of the other reviewer, to highlight the fact that their study is novel in that it tests the association between low ASMI and health-related quality of life (page 16). I think it is important to raise here that it is especially important to investigate this association in other populations given it was found only in men.

Discretionary Revisions

1) I would suggest that the authors reconsider the statement ‘This reflects a distorted body image, with a desire to have a body type similar to Caucasian women, Korean females tend to prefer a slim body with poor muscle development.’ I do not think young women aim to have poor muscle development rather their methods of trying to stay slim (with a focus on diet restriction) have a negative effect on muscle development.

**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