Reviewer’s report

**Title:** Influence of muscle mass and bone mass on the mobility of elderly women: an observational study

**Version:** 3  **Date:** 22 September 2013

**Reviewer:** Hyehyung Shin

**Reviewer’s report:**

Major Compulsory Revisions #1. Health Conditions: the authors stated that the participants did not take the medications interrupting calcium metabolism for 48 hours before the test, however, this study included the patients with thyroidopathy, which is known to affect the body weight and bone mineral density (not because of the medication, but the symptom itself). Please justify that the participants are homogenous enough to be called ‘dwelling elderly women.’ Otherwise, please state the issue as the limitation for the study in the discussion section; most of the epidemiological studies referred in this article were conducted in community setting, with healthy elderly participants.

Major Compulsory Revisions #2. statistical analysis: Please state variables considered in the multivariate regression analysis: stepwise method was utilized to figure out the best fit model among the variables used in this study, but the author did not specify which variables were considered in the analyses. Thus, it is confused if multivariate regression analysis is used for figuring out the relationship/association between muscle mass/bmd and markers of mobility, or between other variables (such as age, # of medication, etc) and markers of mobility.

The aging is the well known factor for decreasing mobility in elderly people; the authors may consider using ANCOVA (analysis of covariance) to control for the possible covariate such as age and comorbidity and put muscle mass/BMD as predictor and TUG/gait speed as outcome variable to investigate the influence of muscle mass/BMD and mobility only. Lastly, please discuss the model fit statistics of the logistic regression models if the final models are sound enough for the analyses between the variables.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.

**Declaration of competing interests:**

I declare that I have no competing interests