Reviewer's report

**Title:** Diabetes, hypertension and mobility among Brazilian older adults: findings from the Brazilian National Household Sample Survey (1998, 2003 and 2008)

**Version:** 2

**Date:** 30 April 2015

**Reviewer:** Hye-Ah Yeom

**Reviewer's report:**

Overall the manuscript is well organized and addresses an important geriatric issue: physical mobility and its associations between chronic diseases (HBP, DB). However, there are several revision points that need to be addressed before it is published:

1. The data for this research is a bit outdated – is there any 2013 data available? It should be addressed why data in 2013 was not included and what is the current feature of the associations of mobility with chronic illnesses in Brazilian older adults in the present time.

2. **Background:**
   1) In line 98 p4, paragraph 3, add more rationale for conduction this study. Authors simply state that assessing health status of older adults are needed due to population ageing and increased comorbidities. However, the main focus of this study is to assess the magnitude of associations between mobility and hypertension, DM over time. Authors should add more descriptions about the burden of complications of HBP and DM in Brazilian elderly from public health perspectives and how it is important to track down their disability status and its correlation with these diseases. Statistics on disability index of the nation can help readers to understand background of the study.

3. **Methods**
   1) Study sample (p5, line 106~111): Did authors use all 105,254 cases from the primary dataset without any cleaning of missing or incomplete data? Please address data cleaning process for the present research as secondary data analysis.
   2) **Instrument:**
      - Physical mobility: Please address Cronbach’s alpha reliability of the IRT5 items in this study (even if it is reported elsewhere).
      - Also what is the rational for using median as a base for classifying groups with moderate and great difficulty? Please provide specific median score that was used.
      - Covariate: Medication compliance is an important covariate in the relationship between chronic illnesses and mobility – High levels of medication compliance
stabilize physical conditions from chronic illness, which may increase their physical mobility. Was this variable available from the primary dataset? If not, please mention this in study limitation.

- Statistical analyses: correct typo in p7, line 155: itm -> item

4. Results
- Table 3 does not add a lot thus better to be deleted. Rather insert a table that includes frequency statistics of the 3 types of physical mobility by year.

5. Discussion:
p11, line 257~260: the explanation for the association between declined mobility and HBP is weak – Usually stroke increases the chance of physical immobility but not hypertension. There should be a more strong ‘storyline’ about why hypertension is consistently related to declined physical mobility over time. May be HBP has silent symptoms but when uncontrolled, it can be accompanied by more concrete symptoms such as headache and neck stiffness, which limit the patients from performing mobility activities such as lifting heavy objects or pushing furniture.

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

**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' below