Reviewer's report

Title: Prevalence of frailty and contributory factors in three Chinese populations with different socioeconomic and healthcare characteristics

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Reviewer: Bobo Hi Po Lau

Reviewer's report:

This manuscript reports a secondary data analysis to compare the prevalence and predictors of frailty among Beijing rural, Beijing urban, and Hong Kong older adults. This is a very neatly written manuscript. I also agree with the authors regarding the need for such unique analysis on frailty among three cohorts of older adults of different living environment, under different healthcare system, but of largely similar ethnic backgrounds.

I have some concerns regarding the set up of the frailty index, and the analysis, and would like to seek more clarifications from the authors:

1. I have some concerns regarding the use of only 25 items to construct a FI. The number of items included is relatively few compared to the 30-40 items recommended by Searle, Mitnitski, Gahbauer, Gill, & Rockwood (2008). I would suggest the author to justify the sufficiency of their 25 items in the Methods section. May I also suggest the author to include items that reflect psychosocial adjustment to enrich their conceptualization of frailty. From the lay perspective, frailty seems to refer to vulnerability beyond just the physical and functional health system (Markle-Reid & Browne, 2003; Kwan, Lau, & Cheung, 2015).

2. For Table 1, please provide the cut-off score for MMSE & MNA. Also, please specify the criteria for weight-loss, risk of fall, and difficulty in movement.

3. Is the item "often feel tired and fatigue" included in GDS-15? Please make sure the item is not double-counted on the FI.

4. I find some items on the FI including memory loss, hearing loss duplicating in their meaning with other items such as dementia / MMSE, and deafness. May the author explain why they have opted to include these items of similar meaning or double-counting these aspects of health? Alterantively, I suggest the author to de-duplicate their items of similar meanings and make a more succinct and encompassing FI.

5. Please specify the diseases included in the predictor "No. of disease >= 3". In fact, I am more concerned about the role of disease burdens in the current analysis. Should cumulative disease burden be interpreted a component of frailty or a predictor of frailty?
Please specify the role of disease burdens / chronic diseases here. Please make sure disease burdens are not represented on both sides of the regression equation.

Overall, I think the paper is a very well-written one, and is going to be very influential to future research on frailty among the Chinese population. I am looking forward to the clarifications from the authors.

**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.

Unable to assess

**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

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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