Author's response to reviews

Title: Sex differences in circumstances and consequence of outdoor and indoor falls in older adults in MOBILIZE Boston cohort study

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Author's response to reviews: see over
Dear Editor,

We appreciate the opportunity to further address the comments from reviewer one and revise and resubmit the MS 8624671781028088 “Sex differences in circumstances and consequence of outdoor and indoor falls in older adults in MOBILIZE Boston cohort study”. We have considered all the reviewer ones comments and adjusted the manuscript accordingly. The responses to the reviewers' comments are included at the bottom of this letter indicating the page and paragraph of the manuscript in which the revisions have been made. All revisions are highlighted in yellow block color. For further information please do not hesitate to contact me.

Finally, we thank our Japanese fall researcher for sharing their research interest and wisdom.

Kind Regards

Wenjun Li, PhD
Associate Professor
Director
Reviewer's report

Title: Sex differences in circumstances and consequence of outdoor and indoor falls in older adults in MOBILIZE Boston cohort study

Version: 3 Date: 3 October 2013

Reviewer: Yoshiro Okubo

Reviewer's report:

We would like to thank the reviewers for their excellent reviews and comments. The suggestions from the reviewers have helped us to improve the manuscript by clarifying a number of issues. The following are our responses to the specific comments. Related changes in the revised manuscript are highlighted in yellow and exemplified below.

Major Compulsory Revisions

1. Statistics

1-2. Page 8
"Rate ratios were adjusted for a combined risk score composed of the differences in physical characteristics between genders". Please describe how you calculated the combined risk score. Specify the variables combined, name of the analysis used.

As suggested we have added more detail to the statistical analysis section on page 8 to explain the method used to adjust the rate ratios for a composite risk score. We have named the variables as well as the name of the analysis used.

1-3. page 11 "Although differences in characteristics existed gender differences in fall rates were not explained by any of these factors when adjustments were added to the analysis (not shown)". The adjusted results should be presented on this paper.

We have added more text explanations in the “Rates of all fall and circumstance” section, and the “Rates of Injurious Falls" section, both on page 10. Furthermore we have added the adjusted values to table 2 and table 3.

1-4. Table 2, The adjusted results should be presented on the table. The adjusted variables should be presented on the foot note, as well. If there is not enough space, 95% CI for rate of all falls and injurious falls can be deleted.

We have added the adjusted results to table 2. The 95% CIs have been removed to allow enough space.

1-5. Table 3, "Rate ratios adjusted for a combined risk score composed of the characteristics in Table1. "Please state the variables.

We have included in the footnote of Table 3 the list of the variables used in the composite risk score.

1-6. Abstract

Adjusted results should be written on the abstract.

We respectfully request that adjusted rate ratios not appear in the abstract, as the purpose of this paper is to present fall rates and rate ratios as they are actually occurring in our community. Adjusting for characteristics that differ between men and women is an interesting exercise in “if all else were equal what would the gender differences be?” that is to establish sex as an independent risk factors. The
The current paper focuses on why the two sexes differ, and how we can use the information to improve future preventive interventions. Men and women do differ in strength, activity patterns, etc., and the crude rate ratios capture those differences. We discuss the effect of adjustment for gender differences briefly in the paper merely to elucidate the sources of fall rate differences. To include adjusted rate ratios with all of the crude ratios in the abstract would clutter the findings and distract from the purpose of the manuscript.

1-7. Results, Adjusted results should be written.

As per our comment above, adjusted results did not differ substantially from the crude results, and thus are of less importance in this paper. However, brief paragraphs addressing them have been added to the results section on page 8, and 10 and all adjusted values have been added to Table 2 and 3. We have also added further comment to the discussion on page 14. We prefer to accurately describe what happened in the study population, and then use the adjusted RRs as confirmations. However, if the editor believes that this is absolutely necessary per the journal’s guideline, we will be happy to revise the manuscript again to include the adjusted rate ratios.

Dr. Wenjun Li, the senior author of this manuscript, is a senior biostatistician experienced in analyzing falls and injury data. It is his opinion that for simplicity and clarity of the presentation, it is more effective to present the straightforward crude rate ratios. This will help the readers focus on the data we actually observed but not divert their attentions to what and how other risk factors should be adjusted for. As we have pointed out, the adjustments for a larger number of known risk factors did not make material differences in the results. We hope the editors consider our request.

Minor Essential Revisions
Table 1 "Recreational (hours/week) 1.3+2.4 0.9+1.7" unnecessary under bar should be deleted from the SD.

We have deleted the unnecessary under bar in table one on the SD for Recreational (hours/Week).

3. Page 8 "Rates of falls are reported as falls per 100 person years."
This should be "Rates of falls among men and women are reported as falls per 1000 person years."

Following this suggestion, we present Rates of Falls as number of per 1000 years (see Table 2).

4. Page 8 "Women reported significantly more time spent doing light household chores (229 (84.2) vs. 431 (98.0), p<0.001), and garden chores (113 (41.2) vs. 148 (32.0), p=0.01) in the past week "Correct "past". Add "%" and n can be deleted.

We have corrected the word "pas" to "past", added the percentages and removed the numbers on page 9 as suggested by the reviewer.

The description is opposite; the men had significantly higher prevalence of doing Lawn/garden chores in the past week, according to table 1.

We thank the reviewer for noticing this error, we have adjusted the results section on page 9 to accurately describe our findings.

Since you do not present data about the "time" spent but only prevalence, the description of "time spent" in results and discussion should be accurately corrected.

We have adjusted the results (page 8) and discussion (page 11) section to more accurately discuss the findings without referring to the time spent in specific activities except when referring to the findings from the PASE questionnaire which refers to time spent in activities of daily living.