Author's response to reviews

Title: Physical activity in Iranian older adults who experienced fall during the last 12 months

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Author's response to reviews: see over
Dear Dr. Helbostad,

MS: 1405054127131351
Physical activity in Iranian older adults who experienced fall during the last 12 months

Thank you for your e-mail forwarding the reviewers’ comments to us. We found their comments very helpful and thus in addition to some amendments we have made the following point-by-point changes to the manuscript:

Reviewer: Dr. Elisabeth Boulton
Major Compulsory Revisions
1. Background, paragraphs 1 & 2: The references 1, 3, 4, 5 and 6 are over 10 years old and the authors should reference more recent work on falls and falls prevention. For example:
Thank you. Done.

2. Background, paragraph 3: Reference 9 is 20 years old. There are many more recent studies, publications and policies regarding the advantages of physical activity that should be referenced, such as:
Thank you. Done.

3. Methods, paragraph 2 (sampling): The authors need to be clearer about inclusion and exclusion criteria. Who uses the centres? What are their characteristics?
This was revised and further explained to comply with recommendation:
The study sample was recruited from the elderly centers in Tehran, Iran. There are 40 elderly centers located in different geographical areas in Tehran. The centers are affiliated to municipality offering free services to old adults who become a member. Both male and females could become a member. The only criterion for membership is that the members should have at least 60 years old. A multistage sampling method was used to recruit the study sample. First Tehran was divided into north, south, west and east. Then within each geographical location proportional to the number of centers the units of sampling were identified. Finally within each unit (elderly centers) from the list of members individuals were invited for the study. The individuals who did not
agree to take part in the study, those who had a history of hospitalization or were suffering from serious illness or experienced surgical operation (up to 3 months before the date of data collection) were excluded.

4. Methods, paragraph 6 (Perceived benefits and barriers): I am not clear what the authors mean in the second sentence. Was the 16-item questionnaire used in ten focus groups? Were ten focus groups held with 20 people in each, or 20 in total? Or was the questionnaire developed from the focus groups? This section needs to be clearer. What was the role of the focus groups?

This was revised for clarification as suggested:
We developed a 16-item questionnaire for the advantage and disadvantage of physical activity. In fact the questionnaire was derived from the Decision Balance Scale [20] and two focus group discussions with 20 elderly Iranians who experienced at least one fall during the last year (10 people in each group). It contained two subscales: the Benefits of PA subscale and the Barriers to PA subscale.

5. Methods, paragraph 7 (Additional measures): Was a validated tool used? If so, which one? If not, why not?

Yes, Further explanation and the relevant reference [22] was provided. However, as recommended we acknowledged this as limitation.

6. Discussion, paragraph 2: Reference 20 is 12 years old. More recent work should be referenced, such as: Baert et al. (2011) Motivators and barriers for physical activity in the oldest old: A systematic review. Ageing Research Reviews, 10: 464-474.


Thank you. Done

7. Discussion, paragraph 3: Reference 22 is 16 years old. More recent research on fear of falling should be referenced, such as:


Thank you. Done.

8. Discussion, paragraph 4: “Lack of accompany “ was the third top barrier as well 30’ This sentence needs revising. “lack of accompany” does not match the categories in Table 2. Are the authors referring to “I don’t have anyone to exercise with”? This also raises another issue: in the survey, the term
‘exercise’ is used, yet in the article the authors refer to physical activity. The two terms have different definitions. See ACSM reference: American College of Sports Medicine (2005) ACSM’s guidelines for exercise testing and prescription. Lippincott, Williams and Wilkins and Chief Medical Officers (2011) Start Active, Stay Active. Department of Health (UK).

Thank you. We meant physical activity. These all were corrected. What are the authors writing about? Physical activity or exercise. Clarification is needed on what the participants were being asked about in the survey. This was clarified as recommended.

9. Discussion, paragraph 4: Reference 25. Why has this reference been used? Do the authors mean to say that the current research reinforces the work referenced here? Be explicit about why the references are made.

Yes. The sentence was revised as recommended:

Similarly a study on sedentary behaviors among elderly Mexican and European Americans also found that companionship was a predominant barrier to physical activity [30].

10. Discussion, paragraph 5: Here the authors are talking about activities of daily living, yet the categories in Table 2 are about exercise. Again, clarity needed about how physical activity is being defined and if this is being regarded the same as, or different from, exercise.

Thank you. These all were changed to physical activity:

Table 2: Frequency of responses to survey questions regarding the benefits and barriers of physical activity

<table>
<thead>
<tr>
<th>Perceived benefits</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical activity improves my mental health</td>
<td>19</td>
<td>10.5</td>
</tr>
<tr>
<td>Physical activity make me feel better in general</td>
<td>29</td>
<td>16.1</td>
</tr>
<tr>
<td>Physical activity improve my balance</td>
<td>24</td>
<td>13.3</td>
</tr>
<tr>
<td>Physical activity improve my flexibility</td>
<td>26</td>
<td>14.4</td>
</tr>
<tr>
<td>Physical activity reduce risk of falling</td>
<td>17</td>
<td>9.4</td>
</tr>
<tr>
<td>Physical activity helps me sleep better at night</td>
<td>24</td>
<td>13.3</td>
</tr>
<tr>
<td>I will live longer if I were physically active</td>
<td>55</td>
<td>30.5</td>
</tr>
<tr>
<td>I have a more positive outlook on life with physical activity</td>
<td>27</td>
<td>15</td>
</tr>
<tr>
<td>Physical activity lets me keep in contact with friends</td>
<td>73</td>
<td>40.6</td>
</tr>
<tr>
<td>Physical activity is fun for me</td>
<td>65</td>
<td>36.1</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Perceived barriers</th>
<th>No.</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>I fear of falling</td>
<td>67</td>
<td>37.2</td>
</tr>
<tr>
<td>I am too sick to be physically active</td>
<td>81</td>
<td>45</td>
</tr>
<tr>
<td>I have lack of motivation</td>
<td>51</td>
<td>28.3</td>
</tr>
<tr>
<td>I am too exhausted to do physical activity</td>
<td>47</td>
<td>26.1</td>
</tr>
<tr>
<td>I don’t have anyone to do physical activity with</td>
<td>67</td>
<td>37.2</td>
</tr>
<tr>
<td>I don’t have secure environment to be physically active</td>
<td>67</td>
<td>37.2</td>
</tr>
</tbody>
</table>

11. Discussion, paragraph 6: reference 27 is 12 years old. More recent work should be referenced, such as:

12. Discussion, paragraph 7: How do the elderly differ? Can you explain this in more detail? For example, is their socioeconomic status higher or lower than the general older population?

This was further explained as recommended:
These elderly might differed from others in terms of family cohesiveness, and social support. In fact they seemed to have higher socioeconomic status than the general older population.

13. Conclusion, paragraph 1: The conclusion needs more content. What else do the results indicate? What do the findings mean for further research, policy and practice? What are the implications of the research?

The conclusion was amended as suggested:
The results of this study indicated that perceived benefits was the most significant predicting factor for physical activity among elderly regardless of number of falls, self-reported health and daily living activities. However, we observed inverse association between number of falls and physical activity. Indeed the findings suggest that we should reinforce benefits exist when designing programs to increase physical activity among elderly population.

Minor Essential Revisions
14. See grammatical and spelling corrections in ‘minor issues not for publication’.

Thank you for corrections. These all were attended.


Done.

Discretionary Revisions
16. Results, paragraphs 2 & 3: Could the authors put the tables into this section, rather than situating them at the end of the article? This would improve the readability of the article.

Done

Minor issues not for publication
17. Abstract, background, paragraph 1: ‘risk of fall’ should read ‘risk of falling’.

Thank you. This was corrected.

18. Abstract, background, paragraph 1: ‘prevent this population to show interest for physical activity’ should read ‘prevent this population from showing interest in physical activity’.

Thank you. This was corrected.

19. Abstract, background, paragraph 1: ‘barriers of physical activity’ should read ‘barriers to physical activity’

Thank you. This was corrected.

20. Background, paragraph 1: ‘among alder adults’ should read ‘among older adults’.

Thank you. This was corrected.

21. Background, paragraph 1: ‘experience fall’ should read ‘experience a fall’.

Thank you. This was corrected.

22. Background, paragraph 1: ‘Fall might result fear of subsequent fall’ should read ‘Falling might lead to fear of subsequent falls’.
Thank you. This was corrected.
23. Background, paragraph 2: ‘of old population’ should read ‘of the older population’.
Thank you. This was corrected.
24. Background, paragraph 2: ‘proportion of older’ should read ‘proportion of the older’
Thank you. This was corrected.
25. Background, paragraph 2: ‘high prevalence of fall’ should read ‘high prevalence of falls’ or ‘high prevalence of falling’.
Thank you. This was corrected.
26. Background, paragraph 3: ‘risk of fall in elderly’ should read ‘risk of falls in the elderly’.
Thank you. This was corrected.
27. Background, paragraph 3: both instances of ‘fear of fall’ should read ‘fear of falling’
Thank you. This was corrected.
28. Background, paragraph 3: ‘researches’ should read ‘researchers’.
Thank you. This was corrected.
29. Background, paragraph 3: ‘barriers of PA’ should read ‘barriers to PA’.
Thank you. This was corrected.
30. Methods, paragraph 1: ‘October 2011, and June’ should read ‘October 2011 and June’
Thank you. This was corrected.
31. Methods, paragraph 2 (sampling): ‘locating’ should read ‘located’.
Thank you. This was corrected.
32. Methods, paragraph 5 (Physical Activity Scale for Elderly): ‘reneges’ should read ‘ranges’.
Thank you. This was corrected.
33. Methods, paragraph 6 (Perceived benefits and barriers): ‘of questionnaire’ should read ‘of the questionnaire’.
Thank you. This was corrected.
34. Methods, paragraph 6 (Perceived benefits and barriers): ‘barriers of physical activity’ should read ‘barriers to physical activity’.
Thank you. This was corrected.
35. Methods, paragraph 7 (Additional measures): ‘12-items’ should read ‘12-item’.
Thank you. This was corrected.
36. Discussion, paragraph 1: ‘low physical activity’ should read ‘low levels of physical activity’.
Thank you. This was corrected.
37. Discussion, paragraph 3: all instances of ‘fear of fall’ should read ‘fear of falling’.
Thank you. This was corrected.
38. Discussion, paragraph 3: ‘in current study’ should read ‘in the current study’.
Thank you. This was corrected.
39. Discussion, paragraph 4: all instances of ‘fear of fall’ should read ‘fear of falling’.
Thank you. This was corrected.
40. Discussion, paragraph 4: ‘didn’t’ should read ‘did not’.
Thank you. This was corrected.
41. Discussion, paragraph 4: ‘is significant correlation’ should read ‘is a significant correlation’.
   Thank you. This was corrected.
42. Discussion, paragraph 6: ‘risk factors more effective’ should read ‘risk factors are more effective’ or ‘risk factors can be more effective’.
   Thank you. This was corrected.
43. Discussion, paragraph 7: ‘Further study needed’ should read ‘Further study is needed’ or ‘Further studies are needed’.
   Thank you. This was corrected.
44. Conclusion, paragraph 1: ‘indicated’ should read ‘indicate’.
   Thank you. This was corrected.

**Additional Editorial Comments:**
Thank you for submitting your paper to BMC Geriatrics. Two reviewers have not given their comments to your paper. Reviewer 2 had few comments to your paper. Reviewer 1 had several, and has also given a detailed feedback on a need for more updated references and has given examples here. Please follow the advices from the reviewer carefully.

**Thank you. All recommendations by reviewer 2 were attended.**

In addition to the reviewers, I also have some comments to the paper that needs to be addressed: I would suggest that you highlight the finding that physical activity was associated with falls, as this is an important finding that has not always been highlighted earlier.

**This was highlighted as requested:**
   a. In Abstract
   b. In Results and,
   c. In Conclusion

The rationale for using perceived barriers, activities of daily living and perceived benefits, self-reported health and number of falls as independent variables in the regression analysis needs to be explained.

**This was explained as recommended:**

The inclusion of these variables in the model was due the fact that perceived benefits and perceived barriers are the main components of the health belief model. It is believed that this model is one of the most appropriate models that could explain and predict health-related behaviors [23].

Page 7: indicate that PASE scores are given as Mean and 95% CI. Why is sometimes SD given and sometimes 95% CI given? Choose 95% CI when possible.

**Thank you. Done**

Page 7: it is not clear what is meant by the sentence "The participants suffered from one type of chronic disease (78.89%)".

**The sentence was corrected in the context:**

The majority of participants were married (53.2%), suffering from chronic diseases (78.8%), and experienced two or more falls during the last year (54.5%).

I will also ask you to be consistent on number of decimals, e.g. in the abstract: 65.89 ± 6.108 years. One decimal seems to be sufficient for presentation of the percentages and the means and SDs.

**Thank you. This was corrected.**
Most of the information has been collected through questionnaires developed by the authors, meaning that these have not been validated. For example ADL is assessed by a self-constructed ADL questionnaire even if there are several validated questionnaire available. The authors need to argue why they have not used existing questionnaires and the limitations by using self-constructed questionnaires.

The following sentences were included in limitation section:

In addition since we could not find well-validated Iranian version of instruments we needed for this study, most of the information has been collected through questionnaires developed by the authors. Thus, further studies are needed for evaluation of lifestyle in a larger and more diverse group of elderly using well-validated measures.

You have to add a paragraph on limitations in the discussion, highlighting this and other aspects of the study.

Done.

I hope you find the corrections satisfactory.
I wish you all the best.
Kind regards
Ali Montazeri