Author’s response to reviews

Title: Dog ownership, dog walking, and leisure-time walking among Taiwanese metropolitan and nonmetropolitan older adults

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Author’s response to reviews:

Editor-in-Chief, BMC Geriatrics

Re: Dog ownership, dog walking, and leisure-time walking among Taiwanese metropolitan and nonmetropolitan older adults (Manuscript ID: BGTC-D-17-00551)

The authors wish to thank the Editor and the Reviewers for their constructive feedback. The quality of our manuscript has certainly been improved as a result of these comments. We have followed the editorial changes and the technical requirements to revise the manuscript substantially. Our responses and the necessary changes are included here and within the revised manuscript. We list the comments from each reviewer followed by our responses. The revised and new sentences are highlighted in red in the revised manuscript.

Thank you for considering this revision.

Yours sincerely,

Yung Liao (on behalf of co-authors)

Department of Health Promotion and Health Education, National Taiwan Normal University.
Technical Comments:

- Point-by-point response to the reviewer: We have received your manuscript, however, it has come to our attention that no cover letter/response to reviewers report included in your submission. Please could you re-submit your manuscript with cover letter by clicking the 'Cover letter' tab in the submission system. Press 'Continue' at the bottom of this page and then proceed to the 'Upload' page. Here you will need to upload your manuscript file again so that you can click the 'Submit new version' button.

Response: Thank you very much for your reminder. We will re-submit our manuscript with cover letter and response to reviewers report.

Please include List of Abbreviations after Conclusion.

Response: Thank you for your suggestions. We have added the list of abbreviations after Conclusion accordingly (page 12, line 272-274).

Editor Comments:

The authors added the issues of small sample size (N=40) and its subgroup analysis as limitations of the current study. However we are still afraid that a subgroup analysis of 40 cases is not enough to draw a definite conclusion.

Response: Thank you very much for your comments. There are several explanations for the issues of small sample size in this study. First of all, this study is the first to provide evidence for the prevalence of dog ownership and dog walking among Taiwanese older adults using representative sample size. However, it is unexpected that the prevalence of dog walking (3.7%) in Taiwanese older adults is quite lower than Japan or U.S and thus this small sample size of dog walking may reflect the exact situation of dog walking among Taiwanese older adults. The results of this study may provide a preliminary evidence and conclusion on this issue. As a result, it is reasonable to list this issue (small sample size) to be a major limitation of this study. Thus, it is expected that future studies using larger sample size should further investigate these associations in this context. Therefore, we have added the explanation in the limitation. (page 11, line 248-251)

First, the limited sample size for subgroup analysis may decrease the statistical power of our findings. However, the small sample size of subgroup analysis may reflect current situation of dog walking among Taiwanese older adults. Thus, future studies using prospective design with larger sample size should further investigate these associations in this context.
Responses to the Reviewer #1 Masami Akai, M.D., Ph.D.

In this revised manuscript, the pointed issues to be answered in the previously submitted article were;

(1) Sample size

I am still afraid that a subgroup analysis of 40 cases is not enough to draw a definite conclusion.

Response: Thank you very much for your comments. There are several explanations for the issues of small sample size in this study. First of all, this study is the first to provide evidence for the prevalence of dog ownership and dog walking among Taiwanese older adults using representative sample size. However, it is unexpected that the prevalence of dog walking (3.7%) in Taiwanese older adults is quite lower than Japan or U.S and thus this small sample size of dog walking may reflect the exact situation of dog walking among Taiwanese older adults. The results of this study may provide a preliminary evidence and conclusion on this issue. As a result, it is reasonable to list this issue (small sample size) to be a major limitation of this study. Thus, it is expected that future studies using larger sample size should further investigate these associations in this context. Therefore, we have added the explanation in the limitation. (page 11, line 248-251)

First, the limited sample size for subgroup analysis may decrease the statistical power of our findings. However, the small sample size of subgroup analysis may reflect current situation of dog walking among Taiwanese older adults. Thus, future studies using prospective design with larger sample size should further investigate these associations in this context.

(2) Statistics

Is it able to overcome the above-mentioned issue by forced-entry adjusted logistic regression?

The authors have just mentioned that the above two issues were treated as the limitation of the current study.

I am not sure whether the authors' response to put it into the limitation is valid or not. I am afraid that their response did not satisfy the reviewers' inquiry.

Response: Thank you very much for your comments. To the best of our knowledge, the issue of small sample size may not be overcome by forced-entry adjusted logistic regression. Therefore, we have further performed the post hoc power analysis by G-Power software and found 65% power to our results. Although the power is low, this could be possible explained by above-mentioned explanation, which the small sample size may reflect exact situation of dog walking
among Taiwanese older adults. Thus, it is reasonable that we have listed this as a major limitation of this study.

(3) Preference for dog breeds

Considering authors' response to Reviewer 2 together, the authors well responded to our comments.

The responses to other reviewers' comments and questions, in which several similar concerns were included such as dog size or dog type, were well-organized and persuasive.

Response: We thank for your positive comments.