Author's response to reviews

Title: Successful aging defined by health-related quality of life and its determinants in community-dwelling elders

Authors:

Chia-Ing Li (a6446@mail.cmu.edu.tw)
Chih-Hsueh Lin (d5496@mail.cmu.edu.tw)
Wen-Yuan Lin (wylin@mail.cmu.edu.tw)
Chiu-Shong Liu (d3350@mail.cmu.edu.tw)
Chin-Kai Chang (d13652@mail.cmu.edu.tw)
Nai-Hsin Meng (d6351@mail.cmu.edu.tw)
Yi-Dar Lee (tcli@mail.cmu.edu.tw)
Tsai-Chung Li (tcli@mail.cmu.edu.tw)
Cheng-Chieh Lin (ccclin@mail.cmu.edu.tw)

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Author's response to reviews: see over
Sep 5, 2014

Dear Editor:
Thank you for your communication dated Aug 27, 2014 regarding my manuscript, "Successful aging defined by health-related quality of life and its determinants in community-dwelling elders". Your comments and reviewers’ critique are very helpful.
We would like to response to reviewers’ comments point by point, and indicate the changes in red color characters.
Please feel free to contact me if you have any further question or critique.

With best wishes,

Cheng-Chieh Lin, MD, PhD.
Dept. of Family Medicine
China Medical University Hospital
NO 2, Yuh-Der Road, Taichung, Taiwan 404
Reviewer 1

Response to reviewer 1 (Nancye May Peel):

Minor Comments:
1. In Abstract (Results) last line page 1, the age group should be 71-75, not 70-75.
   
   Ans:
   Thank you for pointing out our mistake. We have modified the description of elders aged 71-75 in result of abstract and in discussion. The modified sentences are listed and marked as below.

   **Abstract**
   **Results**: The prevalence of successful aging was 10.4% in elders. A higher proportion of successful aging was found in non-frail (16.9%) and pre-frail elders (7.2%) than in frail elders (0.9%). Multivariate logistic regression showed pre-frail elders to be associated with lower prevalence of successful aging relative to non-frail elders (OR: 0.45; 95% CI: 0.24–0.84). Relative to those aged ≤70 years, elders aged 71–75 years were associated with a lower prevalence of successful aging (OR: 0.27; 95% CI: 0.13–0.58). Successful aging was also more likely among those able to visit relatives and friends (OR: 3.86, 95% CI: 1.09–13.61) and among those without a history of falling (OR: 4.95; 95% CI: 1.79–13.74), pain (OR: 4.04; 95% CI: 2.18–7.50), or sleep disorders (OR: 2.36; 95% CI: 1.30–4.27).

2. The term "shrinking" as a component of the Fried frailty phenotype is unscientific and should be replaced with "unintended weight loss" or "sarcopenia".

   Ans:
   Thank you for your valuable comments. The sentence is modified and marked as below.

   **Frailty status and chronic illness and problems**
   We adopted the definition of frailty proposed by Fried et al. [11], consisting of five components: unintended weight loss, weakness, poor endurance and energy, slowness, and low physical activity level. In this study, unintended weight loss was defined as weight loss ≥3 kg over the course of the previous year; weakness was defined as grip strength in the lowest quintile at baseline, based on the subgroups of
gender and body mass index. Poor endurance and energy were evaluated by self-reported exhaustion and by two questions from the Center for Epidemiological Studies-Depression scale [12]… (skip)

**Quality of written English:** Needs some language corrections before being published.

*Ans:*
Thank you for your suggestion. Our manuscript has been English-edited by Normal Editing service, Edanz (www.edanzediting.com/bmc1), which was recommended by BioMed Central.
Reviewer 2

Response to Reviewer 2 (Francisco Felix Caballero)

Reviewer's report:
I have only a minor comment. In "Statistical Analysis" (page 11) is said that “The cut-off point of both PCS and MCS to define successfully aging was changed from the highest tertile to the 70th percentile and quartile”. I think that "and quartile" makes no sense in the expression. By definition, the only quartiles are the first, second, third and fourth.

Ans:
Thank you for your valuable comments. The sentence in Method section is modified and marked as below.

Statistical Analysis
Continuous variables were reported as mean ± standard deviation (SD), and categorical variables were reported as numbers and percentages. Student’s t-test was used to compare the eight dimensions and the two component summaries of SF-36 among elders who were and were not aging successfully. Univariate logistic regression was used to explore the associations of sociodemographic factors, psychosocial support, visual and hearing capacities, health-related practices, and chronic health problems with successful aging. Variables found to be statistically significant by univariate logistic regression analysis were selected to further evaluate their relative contributions using four multivariate logistic regression models. First, the sociodemographic and psychosocial support factors were evaluated by multivariate logistic regression. Health-related practices and visual and hearing capacities were then added to the second model; chronic illness and fall history were then added to the third model; and pain, sleep disorders, and frailty were finally added to the fourth model. All calculations were repeated for sensitivity analysis. The cutoff point of both the PCS and the MCS for defining successful aging was changed from the highest tertile to the seventieth percentile and the fourth quartile. All reported p-values were those of two-sided tests; significance was defined as \( p < 0.05 \). All analyses were performed using SAS version 9.2 statistical software (SAS Institute Inc., Cary, NC, USA).