Reviewer’s report

Title: Refining caregiver vulnerability for clinical practice: Determinants of self-rated health in spousal dementia caregivers

Version: 0 Date: 05 May 2018

Reviewer: Ibrahim Abdollahpour

Reviewer's report:

It's a well-written cross-sectional study aiming to determine the predictors of SRH in caregivers of patient with dementia.

My most important concern is related to the study analysis. There is a considerable possibility of sparse data when fitting the multinominal logistic regression model. The reason is the insufficient sample size remained in the highest category of SRH. As it's shown in Table 2, there are apparent evidence of sparse data considering the estimated wide confidence interval for several point estimates (including; OR= 3.56 (0.19, 66.64) or OR= 10.01 (1.10, 91.14)). For removing the possibility of sparse data, I strongly recommend fitting a logistic model instead of multinominal logistic regression model. For this, the authors should use SRH as a binary outcome.

Several minor points are listed below.

As cited by the authors, the caregiver burden has been shown as the strongest predictor of SRH in Abdollahpour et al. study. However, here, inconsistently perceived burden was not associated with SRH. It would be useful for readers to see this comparison as well as the possible explanation for this controversy in the discussion.

Introduction

Although the authors reasonably discussed about the reliability of SRH, there is not similar reference approving the validity of SRH.

The introduction is somewhat large and hard to follow.

It seems that the references 23 (Psychiatric and Physical Morbidity Effects of Dementia Caregiving: Prevalence, Correlates, and Causes) is not relevant for the following 2 phrases;

* "About 30% of caregivers rate their own health as fair or poor".
"However, the determinants of poor/fair SRH versus the other categories of at least good SRH have received little attention in caregivers 23."

METHODS

- Again, there is not information regarding the study methodology in the method section.

- Any information regarding the representativeness or coverage of the source of patients (UCSD Alzheimer's Disease Research Center,)?

- It's necessary to inform the readers regarding the validity and reliability indices of the utilized version of SRH. Citing a reference indicating these indices would be useful.

- The attainable score of the utilized scales should be mentioned throughout the paper e.g. in the tables and method section.

- The authors have summed the number of positive items to reflect medical comorbidity. Is there any reference for this approach?

- Please indicate that which of the predictors were selected based on the reference 20 i.e. "Jylhä M. What is self-rated health and why does it predict mortality? Towards a unified conceptual model. Soc Sci Med. 2009;69:307-16"

- What is the authors explanation for the following finding; "Rather unexpectedly, the likelihood of ever smoking was lower in caregivers with poor/fair SRH than in those with excellent health."

Abstract

- Please replace multivariate with multivariable.

- In the method, please clarify the design of the study.

- Please add SRH to the article keyword.
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.

Yes

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

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Acceptable

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