Author’s response to reviews

Title: Prevalence and determinants of frailty in the absence of disability among older population: A cross sectional study from rural communities in Nepal

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Author’s response to reviews:

Editors/Reviewers comments

Authors response

The term "elderly" should not be used. The terms "older adult" or "older person" would be more adequate. Please see the article: Avers D, Brown M, Chui KK, Wong RA, Lusardi M. Use of the term "elderly". J Geriatr Phys Ther 2011;34(4):153-4. I also propose to read "Out with "the old", elderly, and aged", published in the BMJ. I would ask to avoid such terms along the manuscript.

I would like to propose the authors to refer to "depressive symptomatology or depressive symptoms" better than "depression" along the manuscript since Geriatric Depression Scale is a self-report instrument of depression symptomatology, it is not intended as a clinical diagnostic tool.

Thanks much, we have replaced term elderly by older adult throughout the paper. We considered depression symptoms in our revised piece.

Since the manuscript is also focusing the research in social factors as determinants of frailty, it would be helpful that authors include also social factors associated with frailty, please see an example in de Labra et al. (2018) published in BMC Geriatrics 2018;18:66.

Page 3, lines 105-106, please specify the setting of this referenced population
Thanks for your recommendation but, we have added literature in line with our study objectives sufficiently.

A welfare Centre was the study setting and is added in the revised piece.

The exclusion criteria are defined in a too general way, it would be helpful to know how the researchers define each aspect, for example, seriously ill (do they have a list of diseases to establish this aspect?) or mentally disabled (legally disabled or through a diagnostic tool?). "memory concentration problems in last 30 days" or if not, this last one is missed, and ADL is twice. I would like to know how memory concentration problems are assessed. It is a very important limitation the self-report of diseases, establishing the comorbidity by this method, it would be emphasized in the Limitations section.

The exclusion criteria included residing in nursing care, being mentally disabled (clinically proved schizophrenia, bipolar mood disorder), being seriously ill (terminal illness like cancer, chronic kidney disease), having a hearing disability or being unable to communicate.

Regarding concentration, question was asked if they fail the recall the location of materials, money, drugs or checklist of work in last 30 days?

Self-report of conditions is one of the important limitation of our study and have mentioned in the paper.

Please, specify or provide a detailed description of the establishment of these exclusion criteria.

Please, list the independent variables in the corresponding section (page 4, lines 146-150) in the same order that included in table 2. In this list of measured variables neither in table 2 is included the support from family. Besides, it is not clear for me the sentence "concentration status Barthel's scale measuring activities of daily living-ADL" if refers to the variable Independent variable included age group; gender; ethnicity; religion; marital status; living arrangement; literacy status; occupation; monthly personal income; smoking habit; alcohol drinking habit; tobacco chewing habit; physical activity; presence of any co-morbidities; depressive symptoms; activities of daily living; Memory concentration problems in last 30 days ;; and getting enough support from family members/caregivers. These co-variates are described in the published paper authored by Yadav et.al( Yadav UN , Tamang MK, Paudel G, Kafle B, Mehta S, Chandra Sekaran V, Gruiskens JRH. The time has come to eliminate the gaps in the under-recognized burden of elder mistreatment: A community-based, cross-sectional study from rural eastern Nepal. PLoS ONE. 13(6): e0198410; doi: https://doi.org/10.1371/journal.pone.0198410 )
Sorry, the sentence is corrected as: Barthel’s scale measuring activities of daily living was used to assess daily living activities.


Regarding the translation method of the English versions of the survey, I would like to know if in this forward-backward translation sequence different researchers were participating for each translation step or even if a focus group was developed to discuss the final version to ensure accuracy and understanding among the older population.

Have added the original paper as reference. Thanks for your look.

The forward-backward translation method was adopted by different researchers and final version was checked for accuracy and understanding with 20 participants.

The statistical analysis section should be more detailed. Important analysis and descriptions are missed, for example, the normality of the data, the between-group comparisons using the chi-square test to compare categorical variables in table 2. If categorical variables were converted to dummy variables for inclusion in the multivariate models. It would be better to establish the cut-off value less than 0.5, avoiding the 0.5. P values are not available and therefore, I am not able to know if there is a reason to include this value. It would be helpful if you detail the regression model included (enter, stepwise forward, backward…).

The statistical analyses were performed using the Statistical Package for Social Sciences (SPSS 23.00). Normality of the data was assessed using both visually (histogram with normal curve) and normality test (Shapiro-Wilk test). An association between the categorical variables was checked using Chi-square test. Variables that were significantly associated (p-value ≤ 0.05) with the outcome variables in univariate analysis were considered in the stepwise multivariable analysis. The generalized estimating equation (GEE) was used to identify the factors associated with frailty in absence of disability among the older population.

Table 1, please add a column with the number of participants selected from each Ward to see the distribution of the sample according to the population.

Table 2 please include if the significance of the differences between both groups, with parametric or non-parametric analysis depending on the normality of your data. Please ensure
that all variables add 100% and not 99.9% or 100.01%. Regarding smoking and drink habits, it is not clear if those participants with smoking or drinking history are actual or past smokers/drinkers. Authors should explain the amount of alcohol considered to establish a person as a drinker or not, amount, type… of alcoholic drink? Same consideration in the case of doing physical activity, how the authors establish that a participant makes exercise, kcal consumed, minutes of exercise per day…? Please change the Dependent term to "Dependence".

Table.1 is revised based on your remarks.

Data was normal and test is used based on normality assumptions. We have rounded up the percentage to 100%.

The quantity of smoking and alcohol drinking was not measured, rather we asked if they have history of alcohol and smoking use. Same applied for physical activity. Practically, it’s very hard to collect the detailed information from the participants in the community setting of Nepal within limited finding. The details of this measurement are mentioned in the above-mentioned paper published by our team.

Table 3 should be deleted; no extra information is providing. P values should be also included in table 4, besides the value of % correctly predicted cases with the proposed model. Tables should be modified according to previous comments.

Dear Reviewer, table 3 provides the detail picture of frailty condition in Nepal and we feel this is required for the paper, as authors can get the matter in a glance.

P-value is assessed in table 4 and tables are modified in line with your valuable remarks.

The discussion is appropriate, but some references should be included to justify the proposals made by the authors. For example, page 6, lines 222-226, the authors justify the outcomes because the nutrition, but other aspects are linked to economic status, such as less health status, less education…

Lines 227-232, authors should include a bibliography to justify the aspects mentioned.

This remark is highly appreciated, and justification is added based on authors observation and critical analysis of the real ground and we could not find references to support this fact. However, we strongly say this is ground reality.

Reference is added for: Higher castes in Nepal have the highest per capita income as compared to lower castes

Thanks for recommending wonderful scientific piece and was very interesting.

Please, check the reference format according to the submission guidelines. There are a lot of mistakes. For example, journal titles and page numbers abbreviated and not abbreviated, articles with and without doi or doi link. Please, follow the instructions.

We have revised all the references mentioned in this piece.

Reviewer 2

Line 157 and Table 4: It took me a moment to guess (and find in Table 3) the reason why the analysis is on 516 patients. It turns out that they were "frail non-disabled". But in Table 4 we have an analysis to answer the question what affects the fact that the patient is "frail non-disabled". So there can be only patients "frail non-disabled"....

Lines 180-186: GEE (generalized estimating equation) is used here. And it's cool. This is a good method when we have data somehow grouped (and here we have a division into Districts and Branches). Just be careful with interpretation: parameters from the GEE model are interpreted at the level of the population and not at the level of individual patients. Let's take the best example: let's take the exercise from Table 4. aOR is 1.22. If it was a simple regression we would say that failure to exercise increases the risk of fragility on average by 22% (in the sense: if a single person stops exercising, the risk will increase by 22% on average). In GEE, the interpretation applies to entire populations and not to individuals: 22% more people with frailty than those exercising (same age, gender, etc.) can be expected among unskilled people.

This is a delicate distinction, but I write it because I have the impression (or my imperfect English has such) that in lines 180-186 this first interpretation is rather given.

Small units:

Thanks much for your note. I have revised the sample number that we used, that was typo error.
Dear reviewer, much appreciated for providing your insights regarding interpretation of the results of GEE and have tried our best to interpret in your line.

Table 2: It would be useful to add in the header how many people were in the group "Yes" and how many in "No".

Have added as per your remarks.

To,
The Editor
Date: 10 May/2019
BMC Geriatrics

Subject: rebuttal letter

Dear Sir,

First of all, I would like to thank you to your and your reviewer panel for valuable remarks. We authors have tried every best to address your remarks as possible.

Looking forward to having your support as always.

Warm regards,
Uday Narayan Yadav
FHRD, Nepal