Author’s response to reviews

Title: Low patient activation levels in frail older adults: a cross-sectional study

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Author’s response to reviews:

Revision of manuscript entitled “Low patient activation levels in frail older adults: a cross-sectional study” (BGTC-D-17-00137)

Dear Dr. Vivian Lou,

Thank you for your letter of the 22nd of September 2017. We are happy that our manuscript is potentially acceptable for publication. We greatly appreciate the opportunity to submit a revised version.

Appended to this letter is our response to the one remaining comment raised by one of the reviewers. We found this comment very useful and aimed to response to it well in the revised version of our manuscript. Based on the instructions provided in your letter, we have uploaded the revised manuscript on the journal’s website.
If you have any questions concerning our revision or might need further information, please do not hesitate to contact us. We would like to thank you very much for considering our work and we are looking forward to your response.

Yours faithfully, on behalf of all authors,

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RESPONSE TO REVIEWER’S COMMENTS

MANUSCRIPT ID: BGTC-D-17-00137

"Low patient activation levels in frail older adults: a cross-sectional study"

Reviewer reports:

Suman Kundu, DSc (Reviewer 1): I thank you the authors for providing a detail response for some of the previous queries.

Though, couple of the queries were not addressed appropriately which I would recommend to consider.

- Categorization of a continuous variable is generally not a good option. There are numerous publications advocating against using categorization. If you have an indication that a continuous variable (for example, PSQ score) is non-linearly associated with an outcome, then using a spline function (such as restricted cubic spline) seems more appropriate rather than categorization which implicitly assumed homogeneity in each categories-an assumption which is often not true. Using a spline function you have a set of estimation instead of a single point estimation, which can be easily explain by drawing a spline plot. Likewise, you can consider the PAM-13 in its original scale as a continuous variable.
Response authors:

We thank the reviewer for this suggestion. Using R, we have now conducted the analysis as recommended for the PSQ-score; the continuous variable that was non-linearly associated with the outcome. The resulting spline plot has now been added to the materials ("Figure 2"). The analysis showed that the association of the PAM and the PSQ was significant (p < 0.001). We therefore now included PSQ in the multivariate model and have run that analysis again, this time in R. We have adapted Tables 3 and 4 accordingly. As a consequence we now report the effect of associations instead of B.

As the reviewer indicates, PAM-13 can be considered as a continuous scale, and that is exactly what we already did. The PAM score was normally distributed.

The following text has been added to the manuscript:

Methods (p.8):

Lines 184-6: If continuous variables appeared to be non-linearly associated with the outcome we used a spline function to assess the association between that variable and the outcome (PAM).

Lines 190-1: Analyses were performed using IBM SPSS statistics V.22 and using R.

Results (p. 10):

Lines 211-4: Since the quadratic term of the PSQ score (subscale “General Satisfaction”) was significant, indicating a non-linear association between the PAM score and the PSQ score, we calculated a spline function (see Figure 2), which showed a significant relationship of the PSQ and the PAM.

Lines 225-31: Being community dwelling (compared to care home residents; Effect: 2.74, CI: 0.12 – 5.36, p=0.04), the degree of mental capacity (Effect: 0.57, CI: 0.06 – 1.07, p=0.03), physical health (Effect: 0.20, CI: 0.07 – 0.33, p=0.004) and mental health (Effect: 0.27, CI: 0.15 – 0.40, p<0.001) were positively associated with PAM scores. Education level (Effect: -4.74, CI: -9.28 – -0.21 for high educated adults compared to low educated adults, p=0.05) and frailty (Effect: -1.64, CI: -2.24 – -1.04, p<0.001; Table 2) were negatively associated with PAM scores (Table 3).