Author’s response to reviews

Title: Cross-sectional study of prevalence of dementia, behavioural symptoms, mobility, pain and other health parameters in nursing homes in Austria and the Czech Republic: Results from the DEMDATA project

Authors:
Stefanie Auer (stefanie.auer@donau-uni.ac.at)
Margit Höfler (margit.hoefler@donau-uni.ac.at)
Elisabeth Linsmayer (eelisabeth.linsmayer@mas.or.at)
Anna Beránková (anna.berankova@fhs.cuni.cz)
Doris Prieschl (Doris.Prieschl@mas.or.at)
Paulina Ratajczak (paulina.ratajczak@donau-uni.ac.at)
Michal Štefl (steffl@ftvs.cuni.cz)
Iva Holmerová (iva.holmerova@gerontocentrum.cz)

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Author’s response to reviews:

Dear Dr. Meyer,

Thank you very much for considering our manuscript to be published in BMC: Geriatrics. We also thank the reviewers for the second review and for their again helpful comments.

Here our response in detail:

Reviewer 1 (Prof. Halek)

1. Section “Test Instruments used” page 8 and following: Indicators for reliability and validity have been added, for most of them it is not clear what the source is- Please add the citations

Response: We reworked this section and added and/or clearly referenced reliability and validity studies to each test instrument used in the study to the revised manuscript.
2. Discussion: page 22, line 520 and following- there are large differences in BPSD between data from the current study and data from existing studies (56.7% versus 27.5%). Do you have any idea how these differences can be explained?

Response: We discussed this issue on page 20 in the revised manuscript. These substantial differences can probably be explained by the different assessment methods applied in the different studies. The other reason could be that the samples assessed differ in their severity of cognitive impairment due to state regulations with respect to the access to nursing homes. We intend to address this issue in a subsequent publication.

3. Discussion: You state that the QoL data are above average in your study. It is very interesting because at the same time your study population has high prevalence of BPSD, high limitations in ADL and high limitations in cognition. This contradicts the previous assumptions that these aspects reduce the quality of life. Please discuss the interesting finding.

Response: We thank Prof. Halek for this important comment and we added the following sentence to the discussion (page 21): “How this result, especially in the light of high prevalence rates for BPSD, ADL impairment and impaired cognition, should be interpreted is difficult. On the one hand studies demonstrated a high negative correlation between Quality of life and these parameters (Torisson et al 2016; [39]), on the other hand cultural differences may be responsible for higher or lower ratings in Quality of life within European countries (Bökberg et al, 2017; [50]).”

4. Please check the English language.

Response: We proof read the manuscript for stylistic features and reworked some sentences.
Reviewer 2: (Dr. Fleischer)

Reviewer #2: I all my comments were addressed appropriately. There is only one thing left that should be clarified.

1. I do not understand the rationale for the sample size calculation. Did you use a procedure based on effects or confidence intervals or something else? A little more information about the assumptions of the sample size calculation would be great.

Response: We thank the reviewer for this comment and clarified this issue by adding the following sentence on page 6 of the revised manuscript:

“In the literature, prevalence rates between 60% and 80% are reported (e.g., Lithgow et al. [11], Røen et al. [12]). This information was used for the sample size calculation. We applied the formula for sample size calculation in descriptive studies for proportions by Cochran (see ([17, Cochran], p. 226). Using a 60% prevalence rate, a precision value of 0.05 and a Z-value of 1.96, the formula yielded a minimum sample size of 369 persons per site (country).”