Author's response to reviews

Title: Prevalence and persistent use of psychotropic drugs in older adults receiving domiciliary care at baseline

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The cover letter has been uploaded as a "supplementary file", but its content is pasted in below:

Dear Editor,

Please find attached a revised version of the manuscript "Prevalence and persistent use of psychotropic drugs in older adults receiving domiciliary care at baseline", which we hope you will consider for publication in the BMC Geriatrics.

We are grateful for the review and the opportunity to revise the manuscript and resubmit it to the journal. Detailed comments to all requests and suggestions made by the editor and reviewers are included below. During the revision we have also discovered some minor linguistic and layout problems. Changes regarding these are described under “additional changes”.

Sincerely yours,

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Editorial comments:

1. Page 4, line 1. We have changed the name of the heading “introduction” to “background” in line with the submission guidelines.

Page 20, line 14-16. We have added funding as a subheading under declarations, and moved the information about funding from the acknowledgement subheading.

Page 6 line 25, page 7 line 8, 12, 15 and page 8 line 7, 13, 17. Regarding marking of headings and subheadings: Headings are marked by underlining. Subheadings are marked with bold text. We have changed the outlining of the first words in each paragraph under subheading “measures” from underlining to cursive. In that way we hope that there will be no confusion between them and the headings.

Lastly we have added line-numbers.

2. Page 32, line 19-23. We have added the heading “Additional files” where all additional files to the articles have been listed and described. As a result of this, the subheading “figures” under the heading “declarations” was removed, and some of the information was moved to the “additional files” heading. Figure 1 and Table 1-5 is considered a part of the article and are therefore not listed under this subheading.

Reviewer 1:

1. Page 18, line 7-8. The reviewer suggested to mention the inclusion criteria that participants had to have a next of kin that saw them every week as a limitation of the study. This has now been done.

2. Page 18, line 9-12. The participants’ medical records were the only source for drug use, participants and their next of kin did not contribute to this information. A sentence about this has been added as a limitation of the study.

3. Page 8, line 18. The word “at” is removed from the sentence. This was a spelling mistake, as indicated by the reviewer.
4. Page 13, line 14. As suggested by the reviewer we have removed the two sentences "Generally, there was a high prevalence of use of antipsychotics, with a higher prevalence in those with dementia than in those without dementia at all time-points. A great proportion of the antipsychotics used in those with dementia was traditional antipsychotics.”

5. Page 15, line 1-4. Regarding the sentences ”This is interesting as antipsychotics, because of the mentioned side-effects, should only be used for a short period of time in people with dementia [18]. Also, it is well known that antipsychotics may have a limited effect on NPS in dementia [17, 18].” As requested by the reviewer, we have removed Gustafsson et al. as a reference for these sentences. Beers criteria and Reus guidelines have been added as references for the first sentence, while Masopust and Tampi have been added as references for the second sentence. Beers criteria have been removed as a reference for the last sentence [1-3].

6. Page 15, line 10-12. Regarding the sentence “Other studies have found that antipsychotics might be discontinued without a significant increase in NPS”. The Cochrane review by Van Leeuwen et al. was added as a reference after advise from the reviewer. Declerc and Ballard have been removed as references [4].

7. Page 15, line 16-17. The reviewer suggested to add “In Norway” in the beginning of the sentence, or adding international studies as references. We have added “In Norway” to the beginning of the sentence.

8. Page 17, line 13. “Describing” has been changed to “prescribing”. This was a spelling mistake, as pointed out by the reviewer.

9. Table 1. The missing percentages have been added to the table.

10. Table 2. We decided to change the layout on table 2 so that we could put in numbers, as well as the percentages as requested by reviewer 1. In the process of doing so, we discovered that we had put in wrong numbers for dementia/no dementia at time-point A2 and A3. The numbers in the table were dementia status at baseline, not at the assessed time-point. In the analysis, we had used dementia status at each time-point. The only numbers that have been changed is D/nD at time-point A2 and A3. The percentages were correct.

11. Table 4 and page 9-10, line 23-24 and 1-2. As described in Data analysis section, the model for each psychotropic drug was adjusted for pre-defined covariates measured at baseline. The list of covariates, now included in the text, was the same for each drug however the models were reduced for excessive covariates by applying Akaike’s Information Criterion, a statistical criterion used for model reduction. This is the reason why the list of covariates the models are adjusted for is varying from drug to drug. We have slightly adjusted the text regarding model reduction and included the reference to the criterion, please see the manuscript.
We have included number of users at baseline, A2 and A3 into table 4. The number of those using certain drug at baseline and A2 as well as at baseline and A3 correspond to persistence and are to be found in table 2.

12. Page 7, line 4-5. We defined the user of a specific drug as persistent if he/she uses drugs at one time point given that he/she also used the same drug at the previous time point. For example, there were 17 participants using antipsychotics at baseline and A2, and 13 using antipsychotics at A2 and A3. Those participants are included as persistent users into the analyses presented in table 5. They are coded as 1, while participants only using antipsychotics at one of two consecutive time points or not using antipsychotics at all are coded with 0. In this way we are able to assess the characteristics associated to the odds for persistent use of antipsychotics as compared to non-persistent use.

N=954 refers to the total number of participants used in the analyses. The dependent variable is persistent use of a specific drug from baseline to A2 and from A2 to A3, defined in long format. As there were no missing values in drug use in data set, N was the same for all four drugs assessed. We added a sentence to explain there was no missing information about drug use.

We hope this answer gives more insight to the way the model was set up.

13. Page 18, line 15-16. As pointed out by the reviewer, low prevalence in users of some psychotropic drugs might limit the power of persistency analyses. This has been mentioned in the limitations of the study.

14. Indeed, the total study sample size is N=1001 at baseline. There were 599 participants still present at A2 and 453 at A3. The data has to be rearranged into long format for assessing longitudinal data. With no missing observations present on covariates, this would result in 2053 data points altogether. Excluding cases with at least one missing value on covariates in the model, we end up with 1942 data points. Just as above, there were no missing observations on use of drugs.

15. All included covariates are presented in Appendix Table 1. There was no model reduction applied for these analyses, just as described in Data analysis part. The tables below in the appendix are only included to help for interpretation of interaction term in the same model as presented in Appendix Table 1. We cannot see that it is necessary with more details in this document.

Reviewer 2:

1. Page 5, line 1-3. As requested by the reviewer, we have added a sentence about the difference between traditional and atypical antipsychotics, and also possible side-effects related to atypical antipsychotics, in the introduction [5-7].
2. Page 6, line 12-14. The reviewer asked why we chose participants over the age of 70 and not 65. Among older adults living at home we have experienced that very few are recipients of domiciliary care before the age of 70 years. For this reason, we have chosen an age limit that seems reasonable when knowing that the recipients of domiciliary care often are 70 years and older. In Norway, and internationally, it has been discussed changing the limit for being an “older adult” from 65 years or older to 70 years or older [8].

3. Page 18-19, line 18-25 and 1-3. The reviewer requested a specification of the clinical consequences of our study. We have added the subheading ”clinical implications” under the heading ”discussion”. Our findings did, unfortunately, not surprise us as the situation in nursing homes is quite well know. We had hoped to see a different situation among older adults living at home, and especially those with dementia. Our hope is that this research article will contribute to the work towards less prescription of psychotropic drugs, and to discontinuation of this kind of treatment if it does not have the desired effect.

Additional changes:

Page 7, line 3, 4, 5, 9 and page 19, line 12. In the process of revising the manuscript we noticed that the consistent use of the word “drug” instead of “medication” had slipped in these paragraphs. For consistency purposes we have changed the word “medication” to “drugs” in these two paragraphs and in the conclusion.

Page 13, line 3. We changed the “t” in “Appendix table 1” to a capital letter.

Table 1. In the footnotes, we have added a space between the numbers 4-9 and the first letter of the footnote. This is also for consistency purposes.

Table 2. We added a footnote in table 2, explaining why the number of persistent users of traditional APs plus the number of persistent users of atypical APs does not equal the number of persistent users of any antipsychotics.

Tables 1-5. Tables have been moved to the end of the manuscript file as requested in the submission guidelines. By doing so, tracing of the changes done in the tables disappeared. If wanted, we can also send the file with only the tables (where the tracing of the changes is still present).

References added during revision:


