Author's response to reviews

Title: Nutritional status among older residents with dementia in open versus special care units in municipal nursing homes: an observational study

Authors:

   Carine Aukner (carine@amh.no)
   Helene D Eide (h.d.eide@gmail.com)
   Per O Iversen (poiversen@hotmail.com)

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Author's response to reviews: see over
Changes in the manuscript have been marked with red font.

Reviewer Nobili

Major
1. We have now included more information about the randomization process (page 6, 1st paragraph).

2. Socio-demographic data were difficult to obtain for the residents, partly because we had restricted access to the nursing homes’ records according to our ethical approval, and partly because these records usually lacked relevant information concerning e.g. education and subsequent profession, and marital status. Then, since many residents were diagnosed with dementia or cognitive impairment, reliable information was hard to obtain directly from them, and relatives/families were usually not available to ask during the visit. This was of course disappointing, but it reflects the real situation in the nursing homes. We have though added some more information on page 9, 1st paragraph (starting from “The residents in…”). With regard to clinical information, we had only ethical approval to retrieve data whether they had dementia /cognitive impairment. Other diagnoses were thus not disclosed to us.

3. We assume the Reviewer refers to table 1 as we only have one table in the manuscript. In that table we had broken down the individual measurements of nutritional status according to whether the residents lived in open or special care units.

Minor
1. The main aim of our study was not to perform an evaluation of these diagnoses per se, but to examine whether residents actually living in open versus special care units had different nutritional status. Although some of the residents may have been misclassified in terms of diagnosis, our data concerns the nutritional status of those actually living in these two types of units. Hence we believe that these data are valid in terms of whether the two forms of units provide different nutritional care.

We agree, however, with the Reviewer that the issue of correct diagnosis of a dementia condition/cognitive impairment is important. All the included participants had their diagnoses of dementia/cognitive impairment given in the nursing homes’ records. The diagnoses were made either prior to admission to the nursing home or after admission. The nursing homes’
records did not always give sufficient data concerning the diagnostic procedures/tests. According to the staff, the diagnosis of dementia should be based on the International Classification of Diseases (ICD) version 10. Of note, a criterium for living in a special care unit is a verified diagnosis of dementia. Hence, any diagnostic uncertainty would most likely affect the participants living in the open somatic units. Collectively, this reflects the real situation in these nursing homes and demonstrates the lack of sufficient resources in the care of this vulnerable patient group. We have now expanded this section in the text (page 6, line 10 and page 15, 2nd paragraph).

2. We have now provided the total number of units and the separate numbers of SCU and OU on page 9, 1st paragraph. Since the participating residents were randomized from the included units, we believe that the study sample is representative for this patient group.

3. We agree that the word “relevant” created confusion and we have thus removed it as we simply meant all units in this context.

4. We have now added this number (page 9, 1st paragraph). As stated in the text (page 15, 2nd paragraph) we had no information as to why they refused to participate.

5. We have now provided this information (page 15, 2nd paragraph, line 3 from bottom). Unfortunately a calculation error was made in the first version, the correct percentage is 72 and not 81, we apologize for this, however, it does not change the meaning of the context.

6. The proposed limitation of small sample size has now been included (page 15, 2nd paragraph, line 1).

Discretion Revisions

1. We did not include residents receiving enteral/parenteral nutrition.

2. We agree that such information clearly would have been valuable, however, such detailed information was not available to us.

Thank you for the valuable inputs.
Changes in the manuscript have been marked with red font.

Reviewer Selbæk

Major
The main aim of our study was not to perform an evaluation of these diagnoses per se, but to examine whether residents actually living in open versus special care units had different nutritional status. Although some of the residents may have been misclassified in terms of diagnosis, our data concerns the nutritional status of those actually living in these two types of units. Hence we believe that these data are valid in terms of whether the two forms of units provide different nutritional care.

We agree, however, with the Reviewer that the issue of correct diagnosis of a dementia condition/cognitive impairment is important. All the included participants had their diagnoses of dementia/cognitive impairment given in the nursing homes’ records. As the Reviewer points out the validity of these diagnoses among clients in Norwegian nursing homes may be incomplete. We had no way of performing a renewed assessment of the degree of cognitive performance among the included participants in our study.

The diagnoses were made either prior to admission to the nursing home or after admission. The nursing homes’ records did not always give sufficient data concerning the diagnostic procedures/tests. According to the staff, the diagnosis of dementia should be based on the International Classification of Diseases (ICD) version 10. Of note, a criterium for living in a special care unit is a verified diagnosis of dementia. Hence, any diagnostic uncertainty would most likely affect the participants living in the open somatic units. Collectively, this reflects the real situation in these nursing homes and demonstrates the lack of sufficient resources in the care of this vulnerable patient group. We have now expanded this section in the text (page 6, line 10 and page 15, 2nd paragraph).

Minor
P.3: We have now deleted this sentence and ref# 7.

P.3: We have now clarified why we used the term “variable results” (page 3, last line).

P.4: We have modified this statement and included a paper (now ref#14) available from PubMed by the same authors which we think is the same report as suggested by the Reviewer.

P.4: These criteria were given on page 4, 2nd paragraph, line 10.
**P.4:** We have added the term “in Oslo” to specify that the entry-criteria apply to Oslo only (page 4, 2\textsuperscript{nd} paragraph, line 11).

**P.4:** We have now included an appropriate reference (#12).

**P.4:** We have now included relevant information regarding units and an appropriate reference (#12).

\textit{Methods}

We have now added this information on page 9, 1\textsuperscript{st} paragraph. None was excluded because of agitation.

\textit{Results}

**P.7:** This information has now been included on page 10, 1\textsuperscript{st} paragraph, last line.

**P.7:** We have chosen to have the demographic data in the text in order to facilitate the reading.

**P.7:** We refer to our response given above under the heading \textit{Major}.

**P.8:** Due to physical impairments we were unable to record length and/or weight and hence calculate BMI for some participants.

**P.10:** This information has now been provided.

\textit{Discussion}

The section concerning strengths and weaknesses of the study has now been placed before the Conclusion section.

Thank you for the valuable inputs.