Reviewer's report

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

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Reviewer: Geir Selbak

Reviewer's report:

This is an interesting addressing an important field of research. Research studying the association between undernutrition and dementia in nursing home patients is scarce. The article describes the methods for assessing undernutrition well, but the description of dementia and cognitive impairment is less well conducted, as will be my main objections.

Major Compulsory Revisions

The definition of dementia or cognitive impairment is poorly described. Relying on a diagnosis made by nursing home staff as part of their clinical practice may not be valid. A previous study from Norwegian nursing homes (Selbæk et al Int J Ger Psych 2007) showed that only 55% of nursing home patients had a diagnosis in their medical records. Furthermore, the level of dementia should be included in the analysis as this may differ between the types of ward and probably be associated with food intake and possible undernutrition. Other important factors, such as level of functioning, drug use, neuropsychiatric symptoms and unit size (as the authors point out in the discussion) should have been reported and included in the analysis. Unless these issues can be addressed I conclude that the article is not suitable for publication. However, the authors may have access to data that could compensate for these flaws.

Minor Essential Revisions

Background

P. 3: Reference nr 7 is not appropriate for giving information on the prevalence of dementia in nursing homes. It does not report data on the prevalence of dementia in nursing homes. Furthermore, I am not aware of any studies showing that ¾ of residents in Norwegian nursing homes have dementia of moderate or severe degree. I assume that the prevalence of moderate to severe dementia is considerably lower.

P.3: (last line) which variable results?

P.4: The following sentence is inaccurate: “The average proportion of places in special care units in Norway is 12/1,000 residents, while the corresponding number in Oslo is 150/1,000 [13].” Other surveys indicate that the proportion of places in special care units is lower in Oslo than in the rest of the country. I suggest that the authors instead should refer to the recently published report by Eek and Kirkevold “A national survey of care for people with dementia
P.4.: The authors correctly state that the criteria for how special care units in Norway should be designed and administered are vaguely defined. However, I would suggest that they cite the criteria which has been defined by the authorities.

P.4: The criteria for nursing home placement referred to only apply to Oslo

P.4: This sentence requires a reference: “Special care units are designed and adapted to people with dementia, and often have professional staff with special knowledge of this patient group, and there are usually more carers per resident than in a regular nursing home unit.”

P.4: How is a unit defined? Information about the units is lacking (size)

Methods

How many were eligible (as a proportion of the total population in these wards)? How many declined participation? I am particularly interested in how many was excluded because they were agitated.

Results

P.7: This sentence should be more specific - what is meant by “more frequently”? “Standing measurements of height and weight could be performed more frequently among residents in special care units (data not shown).”

P.7: Demographic data could be presented in a table

P.7: How had the diagnosis of dementia been assessed? According to which criteria? What about “cognitive impairment”?

P.8: Why could not MUST be scored in 14% of the residents?

P.10: Please report the actual proportion of people with a hand-grip strength over 85%

Discussion

I suggest that the Discussion section is restructured so that the comparison with other studies comes after the summary of the results so that the limitations of the study come at the end of the Discussion section.

Level of interest: An article whose findings are important to those with closely related research interests

Quality of written English: Not suitable for publication unless extensively edited
Statistical review: No, the manuscript does not need to be seen by a statistician.

Declaration of competing interests:

I have given lectures at symposia sponsored by pharmaceutical companies. There are no other conflicts of interest.