Author's response to reviews

Title: Recruitment Methods in Alzheimer's disease Research: General Practice versus Population based Screening by Mail. The Northern Norwegian Dementia Study Group

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Author's response to reviews: see over
To the BioMed Central Editorial Team,

Dear Editor

Thank you for a thorough review of our manuscript. We highly appreciate the positive feedback from the reviewers. Please find enclosed our detailed reply to the reviewers regarding manuscript number 9742051093597863 - “Recruitment Methods in Alzheimer's disease Research: General Practice versus Population based Screening by Mail.” by Andersen F, Engstad TA, Straume B, Viitanen M, Halvorsen DS, Hykkerud S and Sjøbrend K.

The following section contains our point-by-point response to the comments made by the reviewers:

**Reviewer 1, Howard Fillit.**

1. Reviewer 1 questions whether the study populations differ from commonly employed recruitment (by CROs for example) through advertising and via visits and referrals to experts in specialised clinics. To our knowledge, the literature focusing on and comparing different recruitment strategies in Alzheimer’s disease (AD) is non-existent and therefore difficult to comment. We assume that populations recruited through advertising may be similar to our group of individuals recruited by mail and that referrals to specialized clinics may include individuals with more advanced AD disease, similar to our findings.

**Reviewer 2, Hein van Hout.**

Reviewer 2 comments that Figure 1 is somehow confusing encompassing 3 groups instead of two groups. We agree that the accompanying text is not clear.

The study consists of two main groups, one group of AD patients recruited from general practitioners (n=87) and one group of patients recruited through mailed questionnaires (n=100) within the same geographic area. The main focus of the paper was to compare clinical and demographic characteristics between the two groups. Figure 1 shows the flowchart of the population based screening. Among the respondents with no self reported cognitive impairment, we randomly selected individuals who underwent cognitive testing, defined as the reference group. The reference group was established in order to comment on the discriminatory ability of the screening questions and to involve these individuals in future research.

To clarify the text, we have added a paragraph in the middle of page 5 under “Recruitment by population based screening” describing how the reference group was established. Further, we have rewritten the second paragraph under Results, describing the selection process in more detail.

Reviewer 2 wants comments on study limitations in light of internal and external validity. The internal validity of a study refers to whether the results are representative, true or valid for the source population (Rothman KJ. Biases in study design. In: Rothman KJ (ed), *Epidemiology* –
an introduction. Oxford University Press Inc. New York. 2002; 94-112). If the questionnaires are imprecise, information bias may threaten the internal validity of a study like this. The screening questions in our study are based on the Cambridge Cognitive Examination, a widely accepted and reliable screening tool (Lolk A et al, CAMCOG as a screening instrument for dementia: the Odense study. Cambridge Cognitive Examination. Acta Psychiatr Scand 2000 Nov; 102(5):331-5). This is reference number 11 in our manuscript.

Based on the screening questions in our study, individuals with no self reported cognitive impairment (= reference group), had significantly higher MMSE score than persons with self reported cognitive impairment (28.6 and 24.4 respectively), illustrating the screening tool’s ability to identify individuals with lower MMSE score and early AD.

Study findings are generalizable (external validity) if the results are applicable to other populations. The age and sex distribution reflects the elderly population in Northern Norway, and are not substantially different from other Western populations. We do not know the exact prevalence of AD in Norway, but we assume the prevalence is similar to Denmark (Andersen K et al, Prevalence of very mild to severe dementia in Denmark, Acta Neurol Scand 1997; 96:82-87) and other European countries (Lobo A et al, Prevalence of dementia and major subtypes in Europe: a collaborative study of population based cohorts, Neurology 2000 (Suppl 5);54:S4-9). In our opinion, it is likely that the results are valid for western populations with similar demographics and co-morbidities.

We have included a new paragraph on page 10, where these issues are discussed briefly.

**Editorial requests**

The running title is deleted from the title page
The title page is revised according to the template
The abstract is structured into Background, Methods, Results and Conclusions
Key words and key points are deleted on page 3
Section headings, competing interests and authors’ contribution are revised
Changes in the manuscript are underlined
Figure 1 and Appendix 1 are uploaded both in the main manuscript and as separate files whereas Table 1 only is found in the main manuscript.

Kind regards,

Fred Andersen