Reviewer’s report

Title: Rest-activity Rhythms in Small Scale Homelike Care and Traditional Care for Residents with Dementia.

Version: 1 Date: 24 Feb 2017

Reviewer: Hans Hobbelen

Reviewer’s report:

The authors address an important topic in the field of dementia care. The study design is adequate to enable insight in the effect of an enriched environment on daily activity patterns in dementia patients.

I would suggest to explain more in-depth what rest-activity rhythm disturbances are in the introduction as this is the leading subject of this research.

The method section needs attention as it is mixed with results. Please start with your study design followed by the in-exclusion criteria and the procedure with the used assessment instruments. All numbers of eligible participants and differences between groups is result!

It would help the reader if in the resultsection the effect sizes (or the most important effect sizes) are mentioned. Please add to the text.

The discussion section needs attention too; It is too superficial. The authors are surprised in the negative results which I understand as they indicate in the introduction that environmental enrichment in several studies had positive results. I would expect a more in-depth analysis of the differences with these other studies. Moreover I would suggest a more in-depth analysis of the intervention itself. Small scale Units are often in contrast with regular nursinghome dementia wards a more intimate environment however also with limited space to be active in (in contrast with long corridors or spacious rooms). Furthermore it is of interest to reflect on the changes in daily routine of care personnel, although they are trained in psychosocial treatment as stated in the introduction (not known if they the nurses in this trial were trained too, this is not mentioned), it could be that they were not trained enough in this trial and that they still cared instead of stimulate the patient into action.

Please reflect also on the length of the the follow-up period of this trial.

I'm a bit puzzled reading the limitations after line 39 in the discussion section. You state 'A limitation........, despite the relative high percentages of participating subjects;....' This I find very strange as you started with 145 eligible participants and ended up with just 80 of which only 58 with valid actiwatch data. Please explain and discuss possible effect on your results.

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.
No

**Does the work include the necessary controls?**
If not, please specify which controls are required in your comments to the authors.

Yes

**Are the conclusions drawn adequately supported by the data shown?**
If not, please explain in your comments to the authors.

Yes

**Are you able to assess any statistics in the manuscript or would you recommend an additional statistical review?**
If an additional statistical review is recommended, please specify what aspects require further assessment in your comments to the editors.

I am able to assess the statistics

**Quality of written English**
Please indicate the quality of language in the manuscript:

Acceptable

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