Reviewer’s report

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

Version: 1 Date: 26 Feb 2017

Reviewer: Nele Spruytte

Reviewer’s report:

Dear authors,

The scope of your study has a high theoretical and clinical relevance. The paper is interesting, however, I think that the concepts, hypotheses and explanations needs to be more explicit. The measurements are technical and for the readers of the journal it would be better to have more insight in the validity and relevance of the findings for clinical practice as well.

My main remark is thus to revise the manuscript by offering more clarification in the introduction, methods, results and discussion section.

1. Introduction

The core concepts 'enriched environment' and 'rest-activity' are taken for granted, while not all readers are familiar with these concept. I suggest you add a definition or operationalization of these concepts.

Why would small scale SCU offer better rest-activity rhythms than traditional SCU? It is unclear to me whether you attribute this to the material environment (smaller resident groups, more single bedrooms) either to the caring environment and cultural aspects (person-centred or individualized care) or both.

2. Method

Building on the former comment: I thought selection was done in nursing homes but I read 'mental health hospital'. I suggest the authors are more precise on the setting and SCU that were selected for participation. Table 1 should include some of the different characteristics between the 'small scale' and 'traditional' SCU. In nursing home care I think the situation of bedrooms of 5 or more persons together is nowadays more exceptional, my hypothesis is that the hospital context is a different setting and this might be stressed more.

Could the authors offer more explanation on the different indicators, especially the measures of intradaily variability and of interdaily stability. I think adding graphical material would be very helpful to fully understand the results.
3. Results

Suggestion to include graphical material

4. Discussion

Could the authors offer suggestions for an explanation of the results?

Eg in the experimental group the IV drops but at follow-up is again at the same level as initial - might there be a general effect of relocation instead of an effect of the environment itself?

Idem for the interaction effect on IS

What would the authors suggest to investigate further?

It is good that it is stated that wearing the autograph might have an impact in itself. This type of research is very difficult to perform and this might be stressed as well. The strength of this study is that it is performed in real-life situations.

Finally some minor comments:

p4 patients: prefer perhaps the word residents? (cfr hospital versus nursing home)

p.5 was informed consent also asked from the persons with dementia themselves (whenever possible)?

p.6 49 Valid data, unclear the bold V

p.7 I am no statistician and not familiar with the partial eta square t-test, perhaps an argumentation why this measure was used is necessary?

p.8 51-56 what does this variability in amplitude and daytime activity imply for practice?

p.16 51 well-being instead of wel-being

Are the methods appropriate and well described?
If not, please specify what is required in your comments to the authors.

Yes

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 recommend additional statistical review

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