Reviewer's report

Title: A randomised controlled trial of the use of aromatherapy and hand massage to reduce disruptive behaviour in people with dementia

Version: 2 Date: 9 October 2012

Reviewer: Hilde Verbeek

Reviewer's report:

This manuscript is well written and contains relevant and interesting information on a psychosocial intervention to reduce disruptive behaviours in people with dementia in long-term care facilities. The questions posed by the authors are well defined and the methods well described. The intervention is described in detail, which is of high value for everyday practice and future research. Data are sound and trustworthy. Title and abstract accurately convey what has been found. I have the following concerns and suggestions for improvement of the manuscript.

Major revisions:

p.5 Why do the authors have inclusion number 5, i.e. currently under physical and/or chemical restraint for agitation and aggression? It is not clear why the intervention should be used only in this group? Furthermore, how is it assessed whether residents were restrained specifically for agitation or aggression? Physical restraints are often used in practice for example to prevent falls. How is this distinction made? Furthermore, how did the authors define physical restraints (i.e. only use of belts or also twosided bedrails?) and how was this measured?

Method

p. 10, first line. The data was split based on participant age. Please provide the rationale for this split up of data. Splitting data on age creates very small subgroups and it is unclear why the authors expect a priori differences in effect based on age category?

Method (p.10 statistical analyses) / Results.

The authors have included residents from three facilities. Why do the authors choose to analyse the data with repeated measures ANOVA? Data from residents are nested within facilities and it is know from the literature that (disruptive) behaviour has an environmental correlate: i.e. prevalence of disruptive behaviour is not similar for residents across wards, even when corrected for potential confounding factors such as disease severity. Could the authors provide more information on the variation in scores per facility? And did the authors consider a multilevel hierarchical analyses or at least an ANCOVA analyses correcting for facility type? Furthermore, it is unclear whether the authors have corrected in the analyses for disease severity of residents in their regression models. It would be helpful to explain this in further detail.
Results p.12
The first paragraph describes results comparing outcomes in two groups based on cognitive impairment. Are these differences significant? Please add p-values and tests for these results.

Minor revisions:

Results
The order in which the results are currently presented might be confusing for readers. It would be helpful to structure the results section according to the research questions. Furthermore, the results section contains information that should be presented in the method section (e.g. p.12 ‘two-dimensional linear regression analyses’ and the part on the Kruskall-Wallis test and additional testing of interaction effect)

Results, p.10
‘nearly 90% relied on nursing staff to assist them with daily activities’. Could the authors clarify in the method section how this was measured? (i.e. which scale was used?)

Discussion, p. 16.
The second paragraph (participants with severe cognitive impairment…. ) describes results which have not been presented in the section results. Please add this.

Discretionary revisions:

Introduction
p.4 CCMAI scores show a reduction from 24.68 to 17.77. Is this correct? In the original CMAI scoring 29 is the minimum score. Maybe scores of the CCMAI are mixed with the CNPI, since this sample shows very high scores of NPI (reduction from 63.17 to 58.77). This is a very high score for NPI in my opinion, and scores of 24 to 17 are more common I believe.

Method
p.9 Please change the wording of the section ‘outcomes’. In my opinion this does not reflect the information correctly. It is more related to statistical analyses perhaps.

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

Quality of written English: Acceptable

Statistical review: Yes, and I have assessed the statistics in my report.
Declaration of competing interests:

I declare that I have no competing interests