Reviewer’s report

Title: A randomized, controlled cross-over trial of lavender (Lavandula angustifolia) oil as a treatment of agitated behaviour in dementia

Version: 3 Date: 15 April 2013

Reviewer: Siobhan Howard

Reviewer’s report:

A randomized, controlled cross-over trial of lavender oil as a treatment of agitated behaviour in dementia

Major Compulsory Revisions

This article presents a controlled trial of the efficacy of lavender oil as a treatment of agitated behaviour in dementia, using massage as means of application.

The background presents a review of the literature in this area, although some statements require citations to support the argument. There are sections that could be summarised more succinctly; however, in addition, critique of the methodologies used in some of the studies showing positive results are absent. In particular, the small sample sizes used in these studies require consideration.

Further consideration should be given to the means of application of lavender oil in the present study and in previous studies. Should there be a difference in observed effects (or not) when lavender is administered topically via massage or via olfactory mechanisms?

The methodology appears sound, with a relatively large sample size for this type of study. There is no issue with power to detect effects. The attempt at control through use of blinding and the inclusion of a placebo scent are methodological strengths in this research.

The Results section should have more detail on the statistical analyses conducted, as well as the statistical results. Some of the data referred to in the tables could be included in the text.

The Discussion requires some revision. Specifically, the strengths of the present study in its methodological design are not stressed adequately. However, equally the limitations of the present study should be justified; specifically, the lack of a double-blind procedure where the rater was also blinded to treatment condition.

I also find the conclusion that the lack of effects in this study “does not mean that aromatherapy massage….. lacks efficacy” questionable. This suggests that there is evidence for aromatherapy massage as a treatment over massage alone, which is not undoubtedly the case. Indeed, this question could not be tested in the present study, as a non-aromatherapy massage condition was not included in the design. Consequently, I think the authors need to revise their Conclusion.
paragraph, drawing from the data they collected and analysed, and using their findings to support their conclusion.

**Level of interest:** An article of importance in its field

**Quality of written English:** Acceptable

**Statistical review:** Yes, and I have assessed the statistics in my report.