Abstract:

Objective: Dementia with agitated behaviour is common and can be very distressful to the cares, but the use of either conventional or atypical antipsychotic to treat these symptoms can create even more undesirable effects. Aromatherapy has been proved to be an effective and safe alternative treatment option in the Western Society, such evidence is lacking for the local Chinese. In this pilot study, the effectiveness of aromatherapy in alleviating the BPSD in Chinese elderly suffering from moderate to severe grade dementia was examined.

Methods: This is a double-blind randomized control trial. From 3 randomly selected residential homes, 20 patients were divided into the treatment and control group, the all suffered from moderate to severe dementia and significant BPSD and they were all ethnic Chinese. The treatment group would receive 8 sessions of massage with Melissa oil over 4 weeks whereas the control would have massage with the base oil only. Their baseline cognitive function was assessed by the Chinese version of Mini-Mental State Examination (CMMSE), and their agitation level was measured by the Chinese version of Cohen-Mansfield Agitation Inventory (CCMAI) and the Chinese version of Neuropsychiatry Inventory (CNPI). The changes in the severity of their behavioural symptoms would be compared and analyzed at the end of the treatment.

Results: All the patients were old age home residents. They are majority female (90 %). The mean age was 85.8 years (SD=7.81). There was a wide range of the length of stay, from a minimum of 4 months to a maximum of 77 months. The demographical differences between the treatment and control groups were analyzed and found to be comparable (Chi-square: gender, X_2 = 6.4, df=9, p=0.58. Analysis of variance: age, F=0.779, p=0.469; length of stay, F=0.681, p=0.513). The baseline score of CMMSE ranged from 0 to 13. There was also no significant difference in the baseline scores of CCMAI and CNPI between the two groups (Analysis of variance: baseline CMMSE, F=1.332, p=0.219; baseline total CCMAI, F=2.165, p=0.059; baseline CNPI, F=2.18, p=0.057). 40% of participants of both groups fulfilled the ICD-10 diagnostic criteria for Vascular Dementia. 70% of treatment group was on concurrent antipsychotic treatment as compared to 90% of control group. For both groups, there was no change in the medication and dosage within the study period. For the participants receiving active treatment, a 30.84% reduction in the total CCMAI score was recorded, compared to a 5.65% reduction in the control group. By comparing the two groups over the 4-weeks trial, patient receiving active treatment had a significantly greater extent of improvement in the CCMAI score than the placebo group (Mann-Whitney U test Z=2.387, P=0.017).The improvement was mainly reflected by the reduction in physical aggression score (Mann-Whitney *U* test Z=2.54, p=0.011). Similarly, the treatment group showed significant improvement in the total CNPI score (Mann-Whitney *U* test Z=3.48, p<0.0001) and carer distress score (Mann-Whitney *U* test Z=2.84, p=0.004) by comparing with the control group. For the candidates receiving treatment, the improvement was comparable no matter the

specific diagnosis of dementia (Alzheimer or vascular) and whether the patient was taking

antipsychotic or not.

Conclusion: Aromatherapy has been proved to be an effective and safe alternative

treatment option for the local Chinese for alleviating the BPSD in moderate to severe grade

dementia. It was especially effective in the domains of physical aggression. In addition, it was

effective in alleviating caregivers' distress. It was effective in Alzheimer's disease and

vascular dementia. The use of concurrent psychotropic medication was not found to have any

influence on the effect of the aromatherapy. The positive results yielded made the conduction

of a larger scale study worthwhile.