
Efficacy of aromatherapy in the treatment of symptoms caused by dementia disorders

By: Randi Thon

More than 35.6 million people suffer from a dementia disorder worldwide with an estimated 7.7 million new cases diagnosed a year. An estimated \$604 billion was the global estimated cost of dementia care in 2010 (World Health Organization, 2012). Pharmacological treatments have minimal effect on progression of the diseases or symptom management. In fact, some pharmacological interventions have been shown to have adverse effects and increase mortality for those suffering from dementia. The use of aromatherapy as a complementary therapy to manage dementia symptoms as well as the behaviors that accompany the progression of the disease is of great interest as many pharmacological treatments prove to be ineffective or harmful.

Dementia is a broad classification of disorders, including Alzheimer's and Parkinson's diseases, in which the primary characteristic is development of multiple cognitive deficits (Price & Price, 2012). Dementia can occur at any time for a variety of reasons but typically emergence of the disorder is noticed in those 60 years and older. Memory impairment is the leading indicator but diagnosis must include one or more of the following cognitive disturbances: aphasia, apraxia, agnosia or executive dysfunction (Diamond, et al., 2003). Initially, progressive loss of memory and decreased ability to perform cognitive functions occurs but as symptoms progress the ability to perform instrumental and basic activities of daily living become increasingly impaired. Common onset symptoms include apathy and withdrawal, frequent memory loss, confusion and the decreased ability to perform everyday task and daily living skills.

Cognitive deficits are often focused upon though more than half of sufferers also experience emotional, behavioral and psychological symptoms. It has been documented that more than 90% of people with a dementia diagnosis will develop behavioral, psychological or neuropsychiatric symptoms during the

course of the illness (McClive-Reed & Gellis, 2011). Behavior and personality changes include: verbal and physical aggression; delusions; depression; hallucinations; irritability, anxiety and suspicious; loss of normal inhibitions; restlessness; tendency to shout or become noisy; and, a tendency to wander. These symptoms cause further stress and distress for dementia sufferers and caregivers.

The development of anxiety disorders and related symptoms is common for dementia sufferers. This class of symptom is a concern as the presence of anxiety in cognitively impaired people has been linked to increase levels of behavior and psychological disorders such as insomnia, night wandering, sexual misconduct, hallucination, verbal threats, physical abuse, depression, irritability, overt aggression, mania and pathological crying (McClive-Reed & Gellis, 2011). Not only are these symptoms and the unpredictability they bring stressful for the sufferer, they are also difficult for those caring for them to understand and deal with. It has been noted in the literature there are high levels of stress, distress and psychological illness in family caregivers with the incidence of depression in caregivers ranging from 18-47% (Ouldred & Bryant, 2008).

While there are no known pharmacological or medical treatments to stop the progression of dementia disorders, there are pharmacological interventions for symptoms such as memory loss, disorientation, cognitive decline, depression and anxiety. It has been well documented in the literature that adverse effects of medications to help with symptoms of dementia are often too disturbing for the geriatric patients and often contraindicate the disease process (Nguyen & Paton, 2008). Neuroleptics are the class of drugs used to treat the symptoms of agitation, aggression and psychosis. These drugs are generally poorly tolerated by those with dementia because of extrapyramidal effects such as Parkinsonism, drowsiness, falls, accelerated cognitive decline and increased mortality. They also have a

negative impact on key indicators of quality of life including activities, well-being and social interaction (Ballard, O'Brien, Reichelt, & Perry, 2002). While the use of neuroleptics is empirical, the supporting evidence base is poor and concerns about extrapyramidal effects and the association between typical antipsychotics and increase cognitive decline led clinicians to look elsewhere for treatments (Nguyen & Paton, 2008).

Guidelines state that people with dementia who develop behavior or psychological issues should only be offered pharmacological interventions if they are severely distressed or there is an immediate risk of harm to self or others (National Institute for Health and Clinical Excellence, 2006; amended 2012). In a population of patients not served by mainstream drugs with great efficacy, psychosocial treatments are recommended and a better option. Psychosocial therapies fall into the four categories of emotion-oriented therapies, psychotherapies, individualized psychosocial interventions and sensory stimulation therapies. Sensory stimulation therapies include the use of stimulating music, lights, aroma and objects which are offered to the dementia patient in non-sequential and unpatterned fashion so as not to place intellectual stress on the patient. Aromatherapy is considered a type of sensory stimulation therapy and compared to antipsychotic medications have a better influence on the quality of life of patients with dementia.

Aromatherapy has long been used for the treatment of behavior and psychological disorders to improve sleep, reduce disturbed behavior and facilitate desirable behaviors. (Holt, Birks, Thorgrimsen, Spector, Wiles, & Orrell, 2009). This form of therapy appears to have fewer adverse effects than traditional pharmacotherapy used to treat behavioral and psychological disorders. In addition, several small controlled trials have reported statistically significant reductions in agitation following exposure to

aromatherapy. In the studies and reports I examined a variety of essential oils were trialed to treat an array of symptoms. The most commonly trialed essential oils used in the treatment of dementia symptoms were lemon balm (*Melissa officinalis*), lavender (*Lavendula officinalis*), and sweet orange (*Citrus sinensis*). Lemon balm was tested to treat the symptoms of excitability, restlessness, anxiety, stress and insomnia. Lavender was trialed most often because it is thought to have far-reaching effects on the brain and central nervous system that serve to relieve nervous tension, decrease exhaustion, lift depression, release anger and regulate mood swings. Sweet orange was used due to its potential to trigger familiar and positive associations, to act as an antidepressant with mild sedative qualities, to relieve nervousness, tension and stress while encouraging energy, to counter worry and to balance physical and mental response. Studies examined reported mixed outcomes on the effectiveness of aromatherapy though positive effects included improved cognitive functioning, improved independence on activities of daily living, and reduction in the frequency of behavioral and psychological disorders in patients with dementia.

Suzanne Gray and Alicia Ann Clair conducted a study at two residential-care facilities to determine the influence of aromatherapy on residents with a history of confusion and resistance to medication administration. Thirteen participants from the two facilities were exposed to the following four aroma interventions during the study: *Lavendula officinalis*; *Citrus sinensis*; *Melaleuca alternifolia*; and no aroma. Twenty minutes before medication administration, cotton balls containing an unspecified amount of essential oil were taped to the collar of each participant's shirt. Medication administrations were videotaped with taping turned off when medication has been received or rejected. Video data was analyzed and collected to determine the duration of medication administration in seconds. None of the

four conditions yielded statistically significant differences in frequency of resistant behaviors or in the duration of medication administration.

A study conducted by Clive G. Ballard, et al. tested the use of lemon balm to control agitation in people with severe dementia. Seventy-two residents living in National Health Services (U.K.) facilities participated in this study. Participants were identified as those who suffer from clinically significant agitation as a result of dementia. These individuals were randomly assigned to aromatherapy with lemon balm or the placebo, sunflower oil. The lemon balm and sunflower oil were combined with a base lotion and applied to residents' faces and arms twice a day by caregivers. Results of this study showed 60% of those receiving the lemon balm and 14% of those receiving the placebo experienced an improvement in agitation. Quality of life indices also improved more for participants receiving the lotion infused with lemon balm.

Acceptance of aromatherapy as a treatment option in dementia will be viewed with skepticism by the medical profession until successive trials can prove its effectiveness. Aromatherapy as a treatment should be individualized based on the person not the symptoms displayed. The responses of individuals to aromas differ due to their backgrounds and experiences which, in turn, influence their associations with a scent and can trigger positive or negative behavioral responses (Gray & Clair, 2002). Because of the subjective nature of the therapy, trials proving the effectiveness of one essential oil to treat one class of symptoms will be difficult to achieve.

Another challenge to the establishment of aromatherapy as an effective treatment option for dementia sufferers, especially those who are elderly, is due to olfactory changes that occur as the human body ages. It is well established that olfactory changes occur as the human body ages and the sense of smell declines. Considerable evidence exists to show that dementia sufferers have a greater prevalence of degrees of anosmia, the loss of the sense of smell. However, older people maintain the ability to perceive aroma even when identification of the smell is impaired by dementia (Gray & Clair, 2002). The challenge exists in the differing thoughts that aromas illicit reactions based on scent and memories versus the chemical reaction of the body to odor molecules.

Despite its frequent use, the rationale for the use of aromatherapy is based on anecdotal rather than scientific evidence (Holt, Birks, Thorgrimsen, Spector, Wiles, & Orrell, 2009). While many trials have been conducted showing some degree of success, the evidence in the literature is not sufficient enough to make claims to the effectiveness of aromatherapy. Further research studies should be cognizant of the subjective nature of the therapy and place emphasis on research design components such as larger sample sizes and more control over methods of administration. Even though the effectiveness of aromatherapy cannot be conclusively determined, it is my opinion essential oils should be promoted for individualized aromatherapy for dementia patients as it was not proven to cause harm in the studies reviewed.

Works Cited

- Ballard, C. G., O'Brien, J. T., Reichelt, K., & Perry, E. K. (2002). Aromatherapy as a Safe and Effective Treatment for the Management of Agitation in Severe Dementia: The Results of a Double-Blind, Placebo-Controlled Trial with Melissa. *Journal of Clinical Psychiatry*, 553-558.
- Diamond, B. J., Johnson, S. K., Torsney, K., Morodan, J., Prokop, B. J., Davidek, D., et al. (2003). Complementary and Alternative Medicines in the Treatment of Dementia. *Drug Aging*, 981-998.
- Gray, S. G., & Clair, A. A. (2002). Influence of aromotherapy on medication administration to residential-care residents with dementia and behavioral challenges. *American Journal of Alzheimer's Disease and Other Dementias*, 169-174.
- Holt, F. E., Birks, T. P., Thorgrimsen, L. M., Spector, A. E., Wiles, A., & Orrell, M. (2009). Aroma therapy for dementia (Review). *Cochrane Database of Systematic Reviews*, 1-20.
- McClive-Reed, K. P., & Gellis, Z. D. (2011). Anxiety and Related Symptoms in Older Persons With Dementia: Directions for Practice. *Journal of Gerontological Social Work*, 6-28.
- National Institute for Health and Clinical Excellence. (2006; amended 2012). *Dementia: Supporting people with dementia and their carers in health and social care*. National Institute for Health and Clinical Excellence.
- Nguyen, Q.-a., & Paton, C. (2008). The use of aromatherapy to treat behavioral problems in dementia. *International Journal of Geriatric Psychiatry*, 337-346.
- Ouldred, E., & Bryant, C. (2008). Dementia Care. Part 2: understanding and managing behavioural challenges. *British Journal of Nursing*, 242-247.
- Price, S., & Price, L. (2012). *Aromatherapy for Health Professionals*. Edinburgh, London, New York,: Elsevier.
- World Health Organization. (2012, April). *Dementia Fact Sheet*. Retrieved September 10, 2013, from World Health Organization: <http://www.who.int/mediacentre/factsheets/fs362/en/>