Dear Lisa and Roger,

My mother had Alzheimer's disease for eight years. We used essential oils (at first rosemary then some combination of rosemary, clove, bay laurel, sage, thyme, and oregano) to treat her for five of those years. She recognized her home again (sometimes coming up the driveway), felt comfortable around her brother (who she used to think was an impostor), slept through the night, could recite the alphabet and count numbers, called a rose a rose, asked if that was sugar in a container, and was much more alert and aware than before.

Attached are clinical trials using essential oils to treat Alzheimer's disease, the use of these oils in care facilities, and a brief explanation for why certain essential oils can be used to treat Alzheimer's disease.

Essential oils high in eugenol neutralize (scavenge) peroxynitrites (the toxin that causes Alzheimer's disease) and partially reverse the damage they do to critical receptors, transport systems, and enzymes in the brain, including those affecting short-term memory.

Potomac Homes in New Jersey and Ecumen in Minnesota are two of the largest memory care facilities using aromatherapy to help their patients with Alzheimer's disease. The following video is my favorite.

#### http://www.youtube.com/watch?v=sKN3DGxl06o

I think that the work done at these facilites could serve as a model for Alzheimer's care throughout the country.

Please contact me with any questions or if you would like me to speak briefly at your last meeting.

Best Regards,

Lane

P.S. Thank you Roger for your help.

EXHIBIT M – Alzheimer's Document consists of 10 pages. Entire document provided. Meeting Date 09-12-12

Salvia officinalis extract in the treatmen... [J Clin Pharm Ther. 2003] - PubMed - NCBI

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For complete article see US National Library of Medicine: http://www.ncbi.nlm.nih.gov/pubmed/12605619

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J Clin Pharm Ther. 2003 Feb;28(1):53-9.

## Salvia officinalis extract in the treatment of patients with mild to moderate Alzheimer's disease: a double blind, randomized and placebo-controlled trial.

Akhondzadeh S, Noroozian M, Mohammadi M, Ohadinia S, Jamshidi AH, Khani M.

Roozbeh Psychiatric Hospital, Tehran University of Medical Sciences and Institute of Medicinal Plants, Iranian Academic Centre for Education, Culture and Research, Tehran, Iran. s.sakhond@neda.net

#### **Abstract**

**BACKGROUND:** Alzheimer's disease is characterized by a slow, progressive decline in cognitive function and behaviour. Acetylcholine esterase inhibitors are the only agents approved by the Food and Drug Administration for the treatment of Alzheimer's disease. All other agents prescribed for the treatment of Alzheimer's disease are used on an off-label basis. Current research into new drugs is focused on agents that will prevent, slow down and/or halt the progress of the disease process. Salvia officinalis has been used in herbal medicine for many centuries. It has been suggested, on the basis of traditional medicine, its in vitro cholinergic binding properties and modulation of mood and cognitive performance in humans, that Salvia officinalis might potentially provide a novel natural treatment for Alzheimer's disease. The objective of this study was to assess the efficacy and safety of Salvia officinalis extract using a fixed dose (60 drops/day), in patients with mild to moderate Alzheimer's disease, over a 4-month period.

**METHODS:** This was a 4-month, parallel group, placebo-controlled trial undertaken in three centres in Tehran, Iran. Patients with mild to moderate Alzheimer's disease aged between 65 and 80 years (n = 42, 18 women) with a score of > or = 12 on the cognitive subscale of Alzheimer's Disease Assessment Scale (ADAS-cog) and < or = 2 on the Clinical Dementia Rating (CDR) were randomized to placebo or fixed dose of S. officinalis extract. Over the 16 weeks, the main efficacy measures were the change in the ADAS-cog and CDR-Sum of Boxes scores compared with baseline. In addition, side-effects were systematically recorded throughout the study using a checklist.

**RESULTS:** At 4 months, S. officinalis extract produced a significant better outcome on cognitive functions than placebo (ADAS-cog: F = 4.77, d.f. = 1, P = 0.03) (CDR-SB: F = 10.84, d.f. = 1, P < 0.003). There were no significant differences in the two groups in terms of observed side-effects except agitation that appears to be more frequent in the placebo group (P = 0.09).

#### **CONCLUSIONS:**

The results of this study indicate the efficacy of S. officinalis extract in the management of mild to moderate Alzheimer's disease. Moreover, S. officinalis may well reduce agitation of patients but this needs to be confirmed.

PMID: 12605619 [PubMed - indexed for MEDLINE]

**Publication Types, MeSH Terms, Substances** 

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Melissa officinalis extract in... [J Neurol Neurosurg Psychiatry. 2003] - PubMed - NCBI Page 1 of 1

For complete article see: Journal of Neurology, Neurosurgery & Psychiatry with Practical Neurology: http://jnnp.bmj.com/content/74/7/863.abstract

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**Display Settings** ✓ Abstract



J Neurol Neurosurg Psychiatry. 2003 Jul;74(7):863-6.

## Melissa officinalis extract in the treatment of patients with mild to moderate Alzheimer's disease: a double blind, randomised, placebo controlled trial.

Akhondzadeh S, Noroozian M, Mohammadi M, Ohadinia S, Jamshidi AH, Khani M.

Roozbeh Psychiatric Hospital, Tehran University of Medical Sciences, Tehran, Iran. s.akhond@neda.net

#### **Abstract**

**OBJECTIVE:** To assess the efficacy and safety of **Melissa officinalis extract** using a fixed dose (60 drops/day) in **patients** with **mild** to moderate Alzheimer's disease.

**DESIGN:** A four month, parallel group, placebo controlled trial undertaken in three centres in Tehran, Iran.

**METHODS:** Patients with mild to moderate Alzheimer's disease aged between 65 and 80 years (n = 42; 18 women, 24 men) with a score of >or= 12 on the cognitive subscale of Alzheimer's disease assessment scale (ADAS-cog) and <or= 2 on the clinical dementia rating (CDR) were randomised to placebo or fixed dose of **Melissa officinalis extract**. The main efficacy measures were the change in the ADAS-cog and CDR-SB scores compared with baseline. Side effects were systematically recorded.

**RESULTS:** At four months, **Melissa officinalis extract** produced a significantly better outcome on cognitive function than placebo (ADAS-cog: df = 1, F = 6.93, p = 0.01; CDR: df = 1, F = 16.87, p < 0.0001). There were no significant differences in the two groups in terms of observed side effects except agitation, which was more common in the placebo group (p = 0.03).

**CONCLUSIONS: Melissa officinalis extract** is of value in the management of **mild** to moderate Alzheimer's disease and has a positive effect on agitation in such **patients**.

PMID: 12810768 [PubMed - indexed for MEDLINE] PMCID: PMC1738567 Free PMC Article

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For complete article see Japanese Psychogeriatric Society: http://184.73.219.23/ rounen/english/english.htm

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#### **Keywords:**

Alzheimer's disease; aromatherapy; cognitive function; dementia; elderly people; non-pharmacological therapy

## **Abstract**

**Objective:** Recently, the importance of non-pharmacological therapies for dementia has come to the fore. In the present study, we examined the curative effects of aromatherpay in dementia in 28 elderly people, 17 of whom had Alzheimer's disease (AD).

**Methods:** After a control period of 28 days, aromatherapy was performed over the following 28 days, with a wash out period of another 28 days. Aromatherapy consisted of the use of rosemary and lemon essential oils in the morning, and lavender and orange in the evening. To determine the effects of aromatherapy, patients were evaluated using the Japanese version of the Gottfries, Brane, Steen scale (GBSS-J), Functional Assessment Staging of Alzheimer's disease (FAST), a revised version of Hasegawa's Dementia Scale (HDS-R), and the Touch Panel-type Dementia Assessment Scale (TDAS) four times: before the control period, after the control period, after aromatherapy, and after the washout period.

Effect of aromatherapy on patients with Alzheimer's disease - JIMBO - 2010 - Psychogeriatrics - Wiley O... Page 3 of 3 **Results:** All patients showed significant improvement in personal orientation related to cognitive function on both the GBSS-J and TDAS after therapy. In particular, patients with AD showed significant improvement in total TDAS scores. Result of routine laboratory tests showed no significant changes, suggesting that there were no side-effects associated with the use of aromatherapy. Results from Zarit's score showed no significant changes, suggesting that caregivers had no effect on the improved patient scores seen in the other tests.

**Conclusions:** In conclusion, we found aromatherapy an efficacious non-pharmacological therapy for dementia. Aromatherapy may have some potential for improving cognitive function, especially in AD patients.

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## **Healthy Living**

# Aromatherapy in the Treatment of Alzheimer's Disease

Lane Simonian History Instructor Western Nevada College

In the eighteenth century, John Hill wrote in the Family Herbal: "Sage will retard the rapid progress of decay that treads upon our heels so fast in latter years of life, will preserve faculty and memory more valuable to the rational mind than life itself"

Hill's comment reveals two somewhat remarkable facts: though Alzheimer's disease wasn't "discovered" until the early twentieth century, knowledge of dementia has existed for a very long time and secondly through centuries of observations Europeans (and others) knew that aromatic plants were useful in treating dementia.

Now scientific knowl-

edge and historical observations have begun to merge, as we come to understand the chemical processes by which the essential oils used in aromatherapy help combat dementia. Specifically, essential oils prevent and partially reverse the damage done to memory by oxidants, most notably by peroxynitrites.

Peroxynitrites are the chief cause of memory impairment in Alzheimer's disease, as they prevent the formation of acetycholine, the main compound involved in memory retrieval. The chemicals in essential oils convert peroxynitrites into nitrogen dioxide and water. They also add hydrogen back to choline transport systems, muscarinic receptors (involved in the uptake of choline), and choline acetytransferases (the enzyme

that puts acetylcholine together), thus increasing the production of acetylcholine and thereby partially reversing memory deficits.

Case studies of improvement in language skills, awareness, alertness, and short-term memory in Alzheimer's patients using aromatherapy are now being bolstered by a series of small-scale clinical trials. To quote from one of these trials: "In conclusion, we found aromatherapy an efficacious non-pharmacological therapy for dementia. Aromatherapy may have some potential for improving cognitive function, especially in AD patients" (Effect of aromatherapy on patients with Alzheimer's disease). In this trial, the essential oils used were rosemary, lavender, orange, and lemon.

A review of clinical trials

involving sage and lemon balm similarly concluded: "These herbal treatments may well provide effective and well-tolerated treatments for dementia, either alone, in combination, or as an adjunct to conventional treatments" (The psychopharmacology of European herbs with cognition-enhancing properties).

Historical observations, case studies, and clinical trials indicate that the chemicals contained in essential oils are surprisingly effective in the treatment of Alzheimer's disease. Perhaps, modern medicine despite its emphasis on expensive synthetic drugs with harmful side effects will one day come to the same conclusion that John Hill did more than two hundred years ago.

### Ask the Doctor

attack or other acute conditions. Loss of pain sensation is a particularly serious problem for people with diabetes, contributing to the high rate of lower limb amputations among this population.

Autonomic nerve dysfunction can become life threatening and may require emergency medical care in cases when breathing becomes impaired or

when the heart begins beating irregularly. Common symptoms of autonomic nerve damage include an inability to sweat normally, which may lead to heat intolerance; a loss of bladder control, which may cause infection or incontinence; and an inability to control muscles that expand or contract blood vessels to maintain safe blood pressure levels. A loss of control over blood 8 pressure can cause dizzi-

ness, lightheadedness, or even fainting when a person moves suddenly from a seated to a standing position.

Gastrointestinal symptoms frequently accompany autonomic neuropathy. Nerves controlling intestinal muscle contractions often malfunction, leading to diarrhea, constipation, or incontinence. Many people also have problems eating or swallowing if certain autonomic nerves are

affected.

Until recently there were very few medical treatments that could alleviate symptoms. New, pioneering nerve decompression medical treatments are now available to restore sensation in your hands and feet.

For more information, contact your primary care physician or University Health System, at the University of Nevada School of Medicine at www.UHSNevada.org.

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By Dr. Bill Thomas

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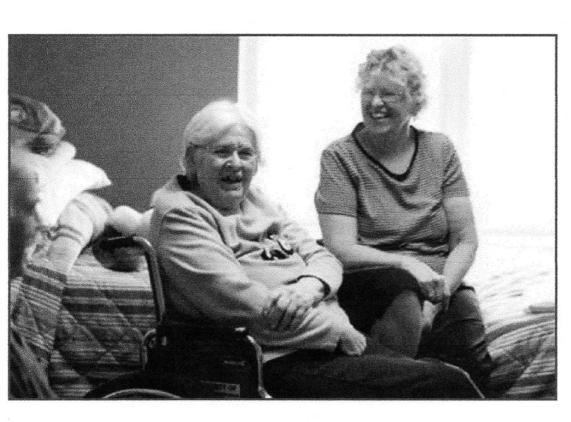
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## <u>Drug-Free Dementia Care — Ecumen Shows It</u> Can Be Different

By Kavan Peterson, Editor, Changing Aging.org on September 19, 2011



Hazel Eng, 89, who lives at the Ecumen nursing home in North Branch, Minn. (AP)

<u>Ecumen</u>, a long term care provider in Minnesota, recently completed one of the first ever trials to reduce psychotropic drug use among 10 patients. Not only was the program 100 percent successful in eliminating psychotropic drugs without adverse behavioral effects, but the patients all showed increased engagement and social interaction. Last week the AP filed this inspiring report:

By Madeleine Johnson | Posted March 1, 2011

Posted in: Health

Tags: aging, alternative medicine, aromatherapy, elderly people

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Benjamin Pearce, president of a chain of assisted living homes for people with dementia, puts his hand in a cardboard box, and in a split second has a string of rainbow-colored flowers around his neck. Here he stands in his office on a Monday morning, intense pale blue eyes set in a stern face, now wearing a white dress shirt, a tie — and a lei. "We use this sometimes as a delivery system," he says, without cracking a smile. In a flash, the Hawaiian garland is back in the box.

The lei is one way Pearce delivers aromatherapy to the elderly residents in his 12 New Jersey facilities. He also instructs his staff to spritz lavender on their pillows and mix six drops with their bathwater. Other natural oils, such as citrus blends and rosemary, are added to humidifiers, massaged into patients' skin or pumped into the air via diffusers. "I'm the most pragmatic person you'll ever meet, and I am totally sold on aromatherapy," Pearce says.

Aromatherapy is becoming an increasingly accepted treatment option for a group that frequently does not get the care it deserves: elderly, institutionalized dementia patients. Zoned out, without any appetite, dementia patients are sometimes agitated, violent, and driven to wander. They are often given sedatives or antipsychotics. But these drugs have serious side effects, including an increased risk that frail patients