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Aromatherapy for the treatment of Alzheimer's disease

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Abstract

While essential oils from plants have been used therapeutically for centuries to improve physical and mental health, there is little confirmed scientific proof of their efficacy. A limited number of clinical trials have concluded that they provide a potentially effective and safe treatment for psychiatric disorders, including Alzheimer's disease and related dementias, but further research is needed.

Professor Perry is currently involved in a multicentre trial of aromatherapy for people with Alzheimer's disease and agitation, and also new laboratory studies on the mechanism of action of the essential oils, funded by the Alzheimer's Society.

Introduction

Aromatherapy uses essential oils from plants, either applied in a lotion and absorbed by the skin or inhaled and absorbed into the lungs and nasal passages, to improve physical and mental health. Aromatic oils from plants have been used for over 5,000 years: ancient Egyptians used them as perfumes and there are many references in the Bible to their use in mental and physical healing. Modern aromatherapy, which began in Germany during the 16th century, was also used successfully to treat wounded soldiers in the two World Wars.

Aromatherapy is the fastest growing complementary therapy amongst nurses. In the USA it has recently been recognised as a legitimate part of holistic nursing. Yet there is very little confirmed scientific evidence to prove its value in the modern world. A limited number of clinical trials have concluded that essential oils do provide a potentially effective treatment for psychiatric disorders, including Alzheimer's disease and related dementias. However, judging by the clinical trials' literature, the use of aromatherapy is only rarely considered by the medical profession. Moreover, controlled

trials of its use in the field of psychiatry have been conducted only in relation to dementia. This may reflect the lack of prescription drugs for this disorder (until recently), and the particular need for treatments for some of the symptoms that accompany the advanced stages of dementia.

Trials of aromatherapy in dementia

Controlled clinical trials of aromatherapy in dementia were initiated following promising results from open trials of historical medical remedies. In folklore linen bags were filled with lavender flowers and placed under pillows in order to facilitate sleep: one trial showed that use of lavender increased sleep patterns of dementia patients who were in residential care.[1] In a trial involving 122 non-demented patients in intensive care, massage aromatherapy using lavender oil was well received, the greatest improvements being in mood and reduction in anxiety.[2] In another trial, lavender, geranium and mandarin essential oils in an almond oil base were applied to the skin of 39 patients over an unspecified period. This resulted in increased alertness, contentment and sleeping at night; and reduced levels of agitation, withdrawal and wandering.[3] In a recent open-labelled trial on people with dementia, the use of a range of essential oils, including ylang ylang, patchouli, rosemary, peppermint and others, produced a marked decrease in disturbed behaviour in the majority of participants. This led to a reduction in prescribed conventional medicines, thereby delivering cost savings.[4]

Results of placebo-controlled clinical trials using Lavendula (lavender) and Melissa Officinalis (lemon balm) for the treatment of residential care residents with advanced dementia

1. Lemon balm and lavender aroma were introduced to six patients and compared to a control group using sunflower oil for one week. The treatment increased functional abilities and communication, and decreased difficult behaviour.[5]
2. Lavender aroma and massage with 21 patients were compared to aroma or massage alone for one week. Aromatherapy with massage significantly reduced frequency of excessive motor behaviour.[6]
3. Lavender aroma oil was given to 15 patients and placebo (water) on alternate days for ten days. The aromatherapy significantly reduced agitated behaviour (as assessed using the Pittsburgh Agitation scale) versus placebo.[7]
4. Lemon balm (Melissa) lotion was applied to the face and arms of 36 patients, whilst another 36 patients had sunflower oil applied. Melissa was associated with highly significant reductions measured on the Cohen-Mansfield Agitation Inventory (CMAI) and social withdrawal, together with an increase in constructive activities (dementia care mapping).[8]
5. Lavender, marjoram, patchouli and vetivert were applied as a cream to the body and limbs of 36 patients and compared with inert oil. The essential oil combination significantly increased the Mini Mental State Examination (MMSE) but also increased resistance to care (considered to be due to increase in alertness), compared to inert oil.[9]

What is remarkable is that all treatments resulted in significant benefit, including (in most instances) reductions in agitation, sleeplessness, wandering and unsociable behaviour.

How does it work?

It might be thought that aromatherapy works by providing a pleasing smell, but many patients with advanced dementia have lost their sense of smell.

According to Snow et al, a purely olfactory form of lavender aromatherapy had no effect on agitation in people with dementia, while application as a skin lotion is effective.[10] A recent study from Korea also reported that lavender hand massage reduces aggression.[11]

Safety and efficacy

In general, the essential oils chosen for use in aromatherapy are those that are known to be least harmful, with fewest potential risks for users. Lavender is considered to be the safest, along with others such as basil, chamomile, coriander, lemon, lemon balm and neroli. Essential oils should be used with the same precautions as any other type of medication, in this instance on the advice of a qualified aromatherapist, medical herbalist, or practising physician experienced in this type of treatment.

Widespread current use of aromatherapies, together with contemporary clinical data, indicate that if these oils are used carefully within the directions suggested, they can provide treatment for Alzheimer's disease, dementia and other psychiatric disorders, without any of the adverse effects associated with some of the conventional drugs already in use. Aromatherapy may therefore be a much safer option than conventional drugs such as antipsychotics or SSRIs, which are often used to treat agitation or other non-cognitive symptoms that accompany dementia.

Challenges for further research

There are many challenges for further research into the use of essential oils for treating psychiatric disorders.

Standardisation

There is a need for trials to facilitate standardisation of commercial preparation, type of application and dose delivery, and developing other criteria to establish clinical effectiveness.

Contraindications

Since aromatherapy potentially affects all systems in the body, it is vital to develop awareness of which essential oils do, or do not, have contraindications that interact with other medications, and assess adverse reactions that are likely to occur.

Convincing health professionals

There is a pressing need for more scientific evidence, clinical trial data and relevant pharmacology, in order to persuade general practitioners and nursing staff to consider using aromatherapy (either on its own or alongside conventional medicine) wherever appropriate when dealing with psychiatric disorders. Such information could usefully be included in medical student education.

Chemical investigation

From a basic scientific view, there is the need to discover how the chemicals in the essential oils relieve symptoms. There is already evidence that some of these chemicals (terpenes) have effects on receptor molecules in the brain. More research is needed here, both to encourage acceptance of

aromatherapy as a valid treatment in the 21st century, and to promote investigation into chemicals with novel mechanisms of action that could provide new drug treatments in the future.

Conclusion

It may not be possible to fully assess the clinical value of aromatherapy in psychiatry without knowing the general (systemic and beyond the central nervous system) effects of the oils that contribute to general physical well being. However, based on the relevant neuropharmacological and limited clinical evidence so far available, it may be a treatment with major but unexplored potential in the field of clinical psychiatry. While lavender is the most widely used essential oil, there is great scope for exploring other oils that may help with the treatment of various clinical aspects of disease, such as Alzheimer's disease and dementia in general, in order to give people the chance to make an informed choice between conventional medicine and aromatherapy, based on reliable evidence.

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