Aromatherapy: a systematic review
Cooke B, Ernst E

Authors' objectives
To summarise the randomised intervention studies that have been carried out on the use of aromatic plant extracts (essential oils) for a variety of conditions. The authors also examine the use of aromatherapy massage for anxiety in a health care setting.

Searching
The authors searched MEDLINE, EMBASE, the British Nursing Index, CISCOM and AMED (from the date of origin of each database to June 1999) using the terms 'alternative medicine', 'massage', 'essential oils', and 'aromatherapy'. The authors also searched their personal files and consulted colleagues with knowledge of the subject area to find additional relevant studies. There were no language restrictions.

Study selection
Study designs of evaluations included in the review
Randomised controlled trials (RCTs). Trials were excluded if they had no control group or were not randomised.

Specific interventions included in the review
For the aromatherapy intervention (with no independent replication, i.e. only 1 trial for each intervention) participants received either:

1. Inhalation of vaporised aromatic mixture or water,
2. Oral administration of aromatic liquid or placebo.
3. Dummy cigarette with black pepper smell, or menthol smell or no treatment.
4. Bath water with natural or synthetic lavender oil or another synthetic oil with a smell.
5. Inhalation of steam plus aroma or steam alone.
6. Daily massage of carrier oil into scalp with or without a mixture of essential oils.

For the massage intervention (with independent replications, i.e. more than one trial for each intervention) participants received various forms of massage with or without the addition of oils or aromas to the foot, limbs, head, 'areas available to the therapist', or full body. Other interventions for the massage group were: routine care, no treatment, undisturbed rest, or a 20-minute chat. The frequency and duration of interventions varied between studies.

Trials were excluded if they pertained to studies of local effects such as the antiseptic effects of tea tree oil.

Participants included in the review
For the aromatherapy intervention (with no independent replication), healthy adults with common cold, chronic bronchitis patients, male smokers, post-partum women, healthy volunteers, or patients with alopecia areata. In the trials for anxiety (with independent replications), participants were cancer patients and post-operative patients (following cardiac surgery) being treated in a hospital setting and a mixed group of patients in an intensive therapy unit.

Trials were excluded if they were pre-clinical studies of healthy volunteers.

Outcomes assessed in the review
Anxiety, well-being, symptom scores, and stress measured using questionnaires such as the Speilberger State-Trait
Anxiety Inventory or the Rotterdam Symptom Checklist.

How were decisions on the relevance of primary studies made?
Two authors independently performed the selection of papers for inclusion.

Assessment of study quality
The authors used the 5-point (0-5) Jadad scale to assess the validity of included studies (see Other Publications of Related Interest no.1). Two authors independently assessed the validity of the included studies.

Data extraction
Two authors independently performed the data extraction using a standardised, pre-determined data extraction form.

Data were extracted for the categories of: study identification and year of publication, condition under investigation, participant characteristics, interventions, main conclusions, and statistically significant (yes or no).

Methods of synthesis
How were the studies combined?
The authors determined that the studies were too heterogeneous for a meta-analysis to be performed.

The authors combined the studies in a narrative synthesis, discussing the overall results of the studies for each of the two groups of studies.

How were differences between studies investigated?
The authors do not state a method for assessing heterogeneity.

Results of the review
For the aromatherapy in general interventions (without independent replications), six RCTs were included with 1,011 participants.

For the massage/aromatherapy interventions (with independent replications), six RCTs were included with 452 participants.

The highest Jadad score was 2 points out of a possible score of 5 points.

In the six studies of aromatherapy (with no independent replication), the results were positive in five out of six of the studies (a small improvement in pulmonary function (common cold); a small tendency towards fewer relapses (bronchitis); pepper seemed to reduce craving for cigarettes; inhalation of geranium oil reduced anxiety; and topical treatment of alopecia areata with the oils used was more effective than placebo). There was no statistically significant differences between treatments for relief of perineal discomfort in post-partum women.

In the six studies of aromatherapy massage, two studies were statistically significant, one was not statistically significant, one was statistically significant for anxiety only, and two were statistically significant (in favour of aromatherapy) for some measurements but not all.

Authors’ conclusions
The authors state that, despite the small size of the original studies and their methodological flaws, the results seem to support a belief that aromatherapy massage can be helpful for anxiety reduction for short periods. The data do not undermine a hypothesis that aromatherapy massage is pleasant, slightly anxiolytic, and often enjoyable for patients in stressful situations. However, the data do not support a hypothesis that there may be legitimate clinical indications for the prescription of aromatherapy massage in a health care setting; it seems to have no lasting effects, good or bad.
The authors have clearly stated the research question and inclusion and exclusion criteria. The literature search was thorough. There were no language restrictions.

The quality of the included studies was formally assessed and the authors have also reported how the articles were selected and who performed the validity assessment and the data extraction. Study details are reported in tables with summaries presented and discussed in the text. The authors also extensively critique, and list the drawbacks of, the included studies. However, the authors do not give details of the results of studies beyond a determination of significant or not significant.

Heterogeneity was assessed since the authors decided against a meta-analysis of the studies, but the method was not stated.

The authors’ conclusions appear to follow from the results but the authors state that these should be viewed with caution because of the methodological limitations of the original studies.

**Implications of the review for practice and research**

Practice: The authors state that the use of aromatherapy massage as a medical intervention is probably best considered as a pleasant diversion for those who can afford it and are prepared to pay for it.

Research: The authors state that national guidance on the use of aromatherapy and other complementary therapies within the health service is needed to inform purchasing decisions and to offer a rationale that can be passed on to patients.

**Bibliographic details**


**PubMedID**

10962794

**Other publications of related interest**


**Indexing Status**

Subject indexing assigned by NLM

**MeSH**

Anxiety /therapy; Aromatherapy /methods; Clinical Trials as Topic; Humans; Massage /methods; Oils, Volatile /therapeutic use; Treatment Outcome

**AccessionNumber**

12000008595

**Date bibliographic record published**

30/04/2001

**Date abstract record published**
30/04/2001

**Record Status**

This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.