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# Aromatherapy: Short overview

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Aromatherapy is the practice of using volatile plant oils, including essential oils, for psychological and physical wellbeing. Aromatherapy is a therapeutic remedy that has helped millions of people down the years. Aromatherapy has a variety of helpful properties, which include antibiotic, antiseptic, anti-inflammatory, antifungal agents and so on. Essential oils, unlike prescription drugs, work only on those areas that are 'broken,' which means they do not go on the healthy tissues and work there. They travel around the body, look for illnesses and target those alone. Aromatherapy is often used in conjunction with massage therapy, acupuncture, reflexology, herbology and other holistic healing therapies.

**Key words:** Essential oils, steam distillation, inhalation

## INTRODUCTION

Aromatherapy is a therapy based on the systematic use of essential (concentrated) plant oils distilled from flowers, trace roots, herbs, fruits, resins or bark and other aromatic compounds from plants to maintain and promote physical, physiological and spiritual wellbeing. The oils are not concentrated from whole plant parts unlike herbal medicines but are extracted generally by steam distillation (Al and Balchin, 2005).

Oils may be massaged into the skin in diluted form, inhaled, placed in baths or applied on and around the body. These oils are highly concentrated and, when extracted, can be used either in its pure form or diluted and blended with other oils to produce the required strength. Two basic mechanisms are offered to explain the purported effects. One is the influence of aroma on the brain, especially the limbic system through the olfactory system. The other is the direct pharmacological effects of essential oils (Prabuseenivasan *et al.*, 2006). While precise knowledge of synergy between the body and aromatic oils is often claimed by aromatherapists, the efficacy of aromatherapy remains to be proven. However, some preliminary clinical studies show positive effects (Kim, 2007; Rho *et al.*, 2006).

Most of them are at least 50 times more potent than the herbs from which they are derived. The term aromatherapy was coined in 1928 by the French chemist Rene Maurice Gattefosse to describe the therapeutic use of aromatic substances, especially

essential oils, in wound-healing. Aromatherapy is often used in conjunction with massage therapy, acupuncture, reflexology, herbology and other holistic healing therapies (Kathe *et al.*, 1969).

## MATERIALS OF AROMATHERAPY

- 1. Essential oils:** Fragrant oils extracted from plants chiefly through distillation (e.g. Eucalyptus oil) or expression (Grapefruit oil). It is also occasionally used to describe fragrant oils extracted from plant material by any solvent extraction.
- 2. Absolutes:** Fragrant oils extracted primarily from flowers or delicate plant tissues through solvent or supercritical fluid extraction (e.g. rose absolute). It is also used to describe oils extracted from fragrant butters, concretes and effleurage pomades using ethanol.
- 3. Phytoncides:** Various volatile organic compounds from plants that kill microbes. Many terpene-based fragrant oils and sulfuric compounds from plants in genus *Allium* are phytoncides, although the latter is less commonly used in aromatherapy due to their disagreeable smells.
- 4. Herbal distillates or hydrosols:** The aqueous byproducts of the distillation process (e.g. rose water). Many herbs are used to make herbal distillates, which have culinary uses, medical uses and skin care uses. Common herbal distillates are rose, lemon balm and chamomile.
- 5. Infusions:** Aqueous extracts of various plant materials (e.g. infusion of chamomile) for use on the skin (e.g. sweet almond oil) (Prabuseenivasan *et al.*, 2006).

## WHAT ARE ESSENTIAL OILS?

An essential oil is a natural product extracted from a single plant species. Essential oils are volatile whereas they easily transfer from a liquid to gaseous state at room temperature or higher. The amount of essential oil found in most plants is 1-2%, but can contain amounts from 0.01 to 10%. The composition may vary according to the part of the plant. For example, orange trees produce neroli oil in their blossoms, orange oil in the citrus and petit grain oil in their leaves. Essential oils are also very concentrated and extremely potent and sometimes 75-100 times more concentrated (Stewart, 2005).

## EXTRACTION OF ESSENTIAL OILS

The most popular method for extraction is steam distillation, but with technological advances more efficient and economical methods are being developed. Essential oils can be extracted using a variety of methods.

### Steam Distillation

The plant material is placed into a still where pressurized steam passes through the plant material, which ruptures the oil gland and releases the oil. The essential oil vapour and the steam then pass out of the still into water-cooled pipe where the vapours are condensed back to liquids. At this stage, the volatile oils are separated from the water content. This process generates two products: the volatile oil, which contains oil soluble molecule, and a hydrosol, which contains a water-soluble molecule, e.g. rose water (Wolfson *et al.*, 1992).

### Maceration

The plant material is soaked in vegetable oil, heated and strained. This process actually creates more of infused oil, rather than an essential oil. These oils can be used for massage (Balchin, 2005).

### Expression

This method is also known as cold pressing; this process is used to extract volatile oils from citrus fruits such as lemon, orange, grape, etc. The rinds are separated from the fruit, ground and then pressed. The result is a watery mixture of essential oil and liquid, which can be separated (Buchner, 2002).

### Supercritical CO<sub>2</sub> Extraction

In supercritical CO<sub>2</sub> extraction, carbon dioxide is used as a solvent. It is added and eliminated to produce a high-grade extract that is very close to the composition of natural raw material. CO<sub>2</sub> extracts are different from distilled oils in that they contain a wider range of the chemical molecules found in the plant material (Buchner, 2002).

### Extraction

In this process, a hydrocarbon solvent is added to the plant material, which helps in dissolving the volatile oil. The solution is filtered and concentrated by distillation. A substance containing resin (resin oil) or a combination of wax and essential oil (concentrate) remains. Pure alcohol is used to extract the volatile oil from the concentrate. After evaporation of alcohol, the oil is left behind (Buchner, 2002).

### Enflurage

The enflurage method is called pomade. This method is not used much anymore, as it is expensive and time-consuming. Pomade was obtained by the use of layers of fat onto which the petals of flowers such as tuberose and jasmine were laid down and left to dry. The fat layer collects the essential oils, which are later extracted. This process has now been replaced by solvent extraction (Buchner, 2002).

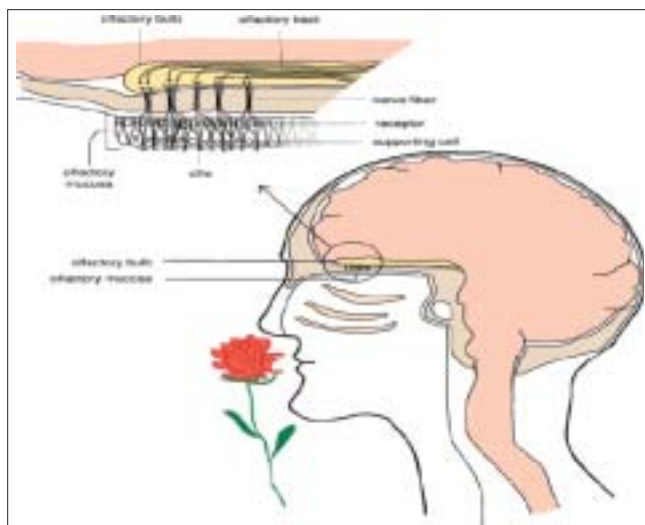
## BASIC PRINCIPLES OF AROMATHERAPY

Aromatherapy works by synergistically using the properties of all the chemicals in essential oil for their correct application.

Aromatherapy works through:

(A) **Inhalation** - The vapour formation of an essential oil is very minute and passes through the lungs from where they diffuse across tiny air sacs (alveoli) into the surrounding blood capillaries and eventually find their way into the systemic circulation from where they exert their therapeutic effect.

(B) **Skin absorption** - The skin is a two-way road capable of both absorption and excretion; for example, rub a small piece of cut garlic on the soles of your feet, within 5 min you will have garlic breath. The tiny molecules of essential oils pass through the hair follicles, which contain sebum,



an oily liquid to which essential oils have an affinity. From here, the oils diffuse into the blood stream or are taken up by the lymph or interstitial fluid (a liquid surrounding all body cells) to other parts of the body (Price *et al.*, 1985).

## METHODS OF AROMATHERAPY

There are different ways of using essential oils therapeutically.

### Inhalation

Steam inhalation is an excellent way to treat sinus, coughs, colds, sore throats, nasal allergies like hay fever, and for cleansing the skin. There are different ways of inhalation.

- Straight from the bottle treats headache, memory problems, nausea, etc.
- Oil burners kill airborne bacteria thereby preventing colds from spreading to others, insomnia, stress, etc.
- Droplets on a tissue or cotton ball treat colds, coughs, migraine, etc.
- Droplets (3-4) in a bowl of hot water treats respiratory infection, colds, catarrh (runny nose), etc. (Price *et al.*, 1985).

### Bath

Bathing with pure essential oils is one of life's greatest pleasures. The warmth of a bath not only relaxes a person, but also enables the skin to absorb the essential oil better. They are of different types:

- Hot or warm bath treats colds, muscle cramp, stiffness, etc. (use 10 drops maximum).
- Foot bath treats athlete's foot, aching feet, arthritis, etc. (use 5 drops maximum).
- Shallow bath treats thrush, piles, etc. (Price *et al.*, 1985).

### Massage

The most pleasant, relaxing and therapeutic way of using essential oils is through aromatherapy massage. Actually, friction produced by massage helps the penetration of oils through skin. Oils used in massage include almond oil, sesame and olive oil (Davis *et al.*, 1988).

Shirley Price said, "Nevertheless, where stress and depression are a major cause of a health imbalance, then, in my opinion, a full aromatherapy body massage is the best complementary therapy treatment available." (Price *et al.*, 1985) It is also an excellent prophylactic treatment to ensure continuation of good health (Rhyman *et al.*, 1989; Sheppard *et al.*, 1994).

Massage therapy has been shown to be highly beneficial (Pelletier *et al.*, 2002). It can affect the autonomic nervous system and calm down the 'fight or flight' response, reducing the level of harmful stress hormones in the body

(Price, 1994). It is an excellent way of reducing stress. Massage stimulates blood circulation, increasing the supply of nutrients and oxygen to the cells. Massage stimulates lymphatic flow, improving tissue drainage and the immune system (Buckle, 2001).

During a massage, much of the volatile oils will be inhaled and some absorption is likely through the mucous of the nose and mouth (Tlmlberger, 2001).

Different ways of massage therapy includes:

- Massage with diluted oil on the affected area treats varicose veins, strain, constipation, muscle aches, etc. (Smallwood *et al.*, 2001).
- Massage with diluted oils all over the body treats stress, insomnia, anxiety, etc. (Berwick, 1996).

### Compresses

Depending on the ailment, a hot or cold compress is an effective way of treating many local complaints.

- Droplets of essential oil in cold water for cold compress treats fever, swelling, etc.
- Droplets of essential oil in hot water for hot compress treats headache, menstrual cramps, skin infection, rheumatism, strains, sprains, backache, etc. (Price *et al.*, 1985).

### Burners and Vaporizers

These can be used to deodorize, fumigate or simply create a special atmosphere. Inhaling the vapors can be therapeutically beneficial (Berwick, 1996).

### Internal Use

Some essential oils such as the oils of peppermint and cinnamon can be used to make teas or mouthwashes or mixed with a glass of honey and water and gulped (Berwick, 1996).

### Directly to the Skin

Only four essential oils - lavender, sandalwood, tea tree and chamomile - may safely be applied directly onto the skin. The oil should be applied only on the affected area, i.e. a cut or burn (Berwick, 1996).

### Skin/Hair Tonics

The essential oils are applied only on an oily scalp by mixing with isopropyl alcohol. (Berwick, 1996).

## SAFETY PRECAUTIONS IN AROMATHERAPY

For many medical conditions, some essential oils are contraindicated. Essential oils can interact with prescription and non-prescription drugs; depending on the oil and the drug, the drug action may be either increased or reduced.



## Main Safety Considerations

1. Avoid essential oils deemed hazardous.
2. Keep all essential oils out of the reach of children.
3. Keep flammable oils away from fire.
4. Always consult your health care professional before starting any therapies with essential oil.
5. Dilute essential oils as recommended to avoid irritation.
6. Never take essential oils internally as many of them are poisonous.
7. Keep essential oils away from heat and light sources.
8. Always test essential oil on a skin patch first.
9. Use only genuine, authentic, therapeutic essential oils.

## Mixing and Using Safely

1. Always wash hands before and after using essential oils.
2. Make sure you are in a well-ventilated area.
3. Avoid mixing when the client is near.
4. Use recommended dilution at all times.
5. Use small quantities for babies, children and the elderly.
6. Handle oils carefully to prevent contact with skin and cross-contamination.
7. Prevent contact with the eyes.
8. Avoid prolonged or excessive exposure.
9. Take frequent breaks.
10. When prescribing oils for a clients' home use, ensure that they understand the instructions well.
11. Keep accurate records of treatment and blends.
12. Lavender and tea tree are the only oils that can be applied directly on to the skin undiluted.

## Contraindications

Pure essential oils are very strong and should only be used in the recommended dilution and application. Some oils are toxic, some are skin irritants. Many oils have contraindications to their use and may exacerbate the existing health problems. These must be identified, and preliminary consultation is required before any oil is used on a client.

1. Local contraindications are localized areas on the body that should be avoided
2. Recent operations, fractures or sprains
3. Severe bruising
4. Swelling
5. Varicose veins
6. Cuts, new scar tissue
7. Infectious skin conditions

## General Contraindications

1. Fever
2. Influenza
3. Migraine

4. Infectious skin disorders
5. Deep vein thrombosis
6. High or low blood pressure
7. Epilepsy
8. Diabetes
9. Major system dysfunction (renal, hepatic, digestive, etc.)
10. Nervous system dysfunction
11. Fatal illness (cancer, etc.)
12. Recent severe hemorrhage
13. If client is on medication or homeopathic preparations

Special care is needed for:

1. Allergies and skin disorders
2. Pregnancy
3. Babies, children and the elderly
4. Sensitive skin
5. People with disabilities (Millet, 1981)

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