

Aromatherapy

G. Sudha Rani*, Shirisha Yadav, P. Sirisha, V. Praveena Devi

*Department of Pharmacy,
Joginpally B.R. Pharmacy College,
Yenkapally (V), Moinabad (M), Hyderabad- 500075*

***Corresponding author**

*G. SUDHA RANI
Assistant professor
Department of Pharmacognosy
Joginpally B.R. Pharmacy College,
Hyderabad- 500075*

Abstract: Aromatherapy is derived its name from the word aroma, which means fragrance or smell and therapy which means treatment, and the main objective of this aromatherapy is that the inhalation of essential oils stimulates the part of the brain connected to smell - the olfactory system; a signal is sent to the limbic system of the brain that controls emotions and retrieves learned memories. Because of their versatile character of antibacterial, antiviral, anti-inflammatory nature along with immune booster body with hormonal, glandular, emotional, circulatory, calming effect, memory, is well documented by many scientists. Therefore essential oils are known for their energy specific character, as their potency is not lost with time and age. It is one of the complementary therapies which use essential oils as the major therapeutic agents to treat several diseases. They are extracted from the bark, fruits, steam, flowers, leaves, roots, and other parts of the plants, this therapy is a natural way of healing a person's mind, body and soul. Inhalation and the external application of these oils for the treatment of mental and physical balance are the very basics of aromatherapy and Complementary and alternative medicine [CAM] plays major role in health care system. Patients with chronic pain condition including headache, backache, chronic neck headache [including insomnia, depression and anxiety] there were high use of CAM therapy at present yoga and meditation in the effort of reduce anxiety levels. Therapists use essential oils that may include specific oils for various purposes and special blends that are designed for specific purposes, such as stress relief or relief from flu-like symptoms.

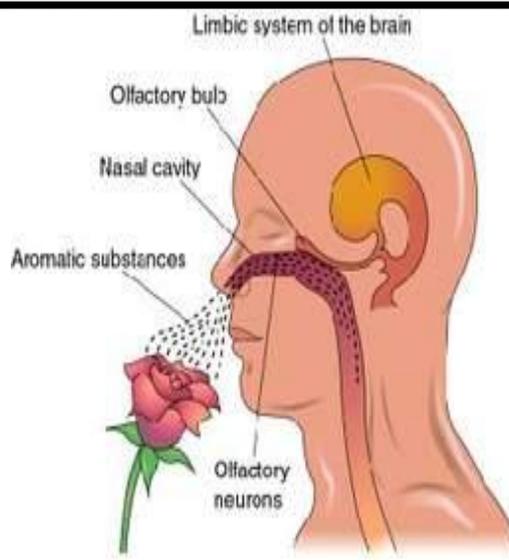
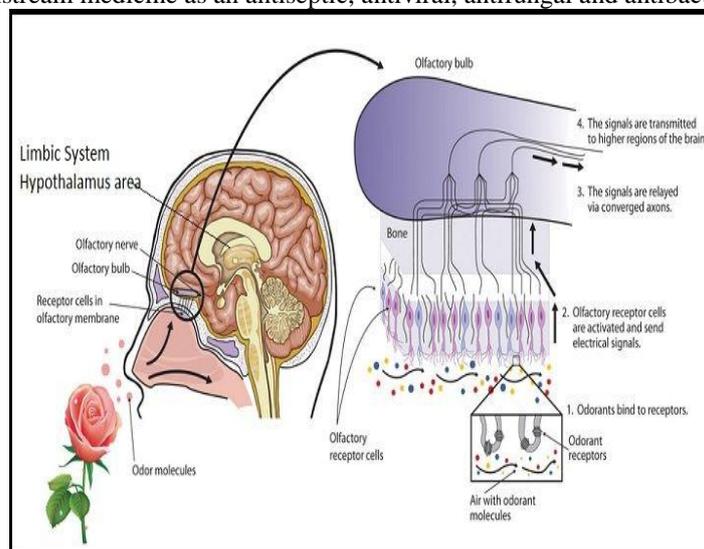
Keywords: Theory, Aromatherapy work, Methods, Anxiety disorder & Application, Techniques, Benefits, Negative effects, Side effects,

Introduction

The term aromatherapy was first coined by Rene Maury Gall Fosse in the early 29th century⁷⁰ by many ancient civilizations like Egypt, China and India have used this as a popular complementary and alternative therapy from at least 6000 years^{2,3}. The name aromatherapy is derived from the word aroma which means smell and therapy which means treatment. This therapy is a natural way of healing a person's mind, body and soul,¹ it refers to medical or therapeutic use of essential oil absorbed through the skin and have an antioxidant property which improves lymph circulation and detoxifies the body. They are derived from plants and are used to treat illness as well as to enhance physical and psychological wellbeing⁷⁰, this type of therapy in holistic medicine has taken a long leap within a couple of years⁴. These oils have various applications such as massage, inhalation, compress, and baths⁵ some research teams have found that using aroma inhalation can reduce anxiety, stress and have a synergistic effect with the drugs used in the treatment of central nervous system disorder⁶⁻⁸. Essential oils are concentrated lipophilic extracts of aromatic terpenoid constituents. They are able to transverse cell membrane and exhibit pharmacological effects at Nano molar concentration make the drug and the oil have been demonstrating for remarkable results in treatment of anxiety⁵¹, Olfactory nerves from nose to the brain are the site of action for these essential oils⁷⁰. They begin from a small molecule combined with an acceptor peculiar to each specific odour. These small molecules pass along the nasal cavity and adhere to the olfactory epithelium. And stimulus is transmitted to the hippocampus or cerebral limbic system and amygdaloid body through the olfactory nerve system. Recently conventional medicine regarded as pseudoscientific due to lack of compelling evidence and supporting its effectiveness⁶⁹. Moreover lavender oil has been reported to improve the sleep disorder,^{52,53} and lemon oil affects the antioxidant action of vitamin E and improves the state of blood vessels near the skin.

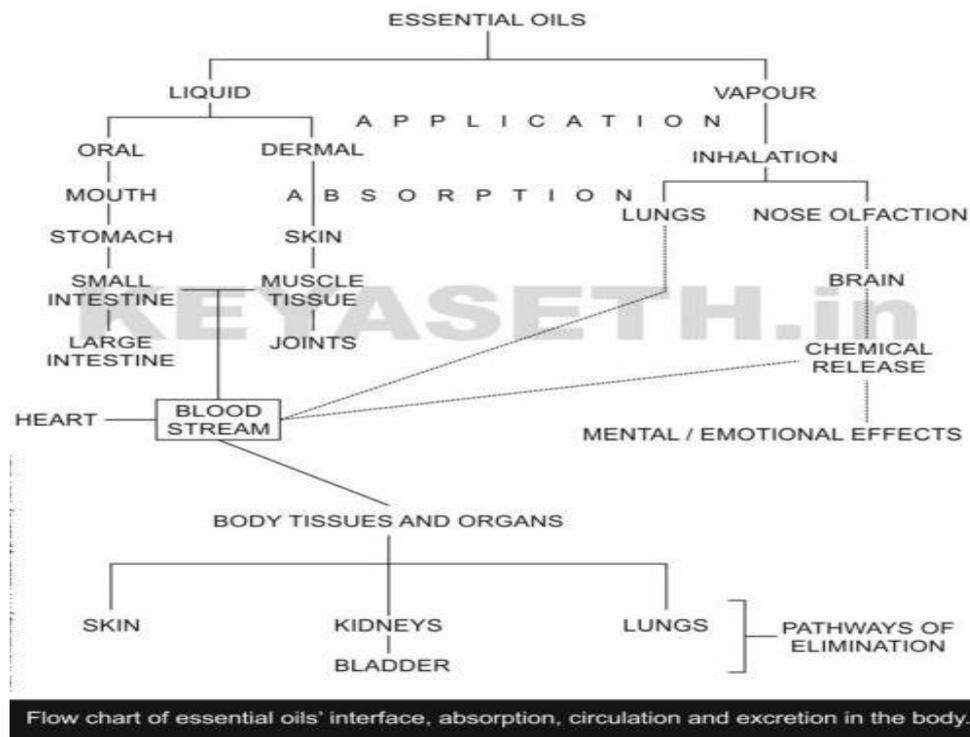
Theory and Basic Concept of Aromatherapy:

The theory behind aromatherapy, is believed that the inhalation of essential oils stimulates the part of the brain connected to smell - the olfactory system; a signal is sent to the limbic system of the brain that controls emotions and retrieves learned memories. This causes chemicals to be released which make the person feel relaxed, calm, or even stimulated. The essential oils are said to have a direct pharmacological effect, when applied topically (Onto the skin), they activate thermal receptors and destroy microbes and fungi. Internal application may stimulate the immune system (generally in prescribed form). Western Europe aromatherapy is incorporated into mainstream medicine as an antiseptic, antiviral, antifungal and antibacterial⁶.



Aromatherapy Working:

These aroma molecules are very potent organic plant chemicals that make the surroundings free from disease, bacteria, virus and fungus^{9,10}, their versatile character of antibacterial, antiviral, anti-inflammatory nature along with immune booster body with hormonal, glandular, emotional, circulatory, calming effect, memory, is well documented by many scientists^{11,12}. These oils are known for their energy specific character, as their potency is not lost with time and age, the stimulation properties of these oils lay in their structure which are closely in resemblance with actual hormones¹³. The mechanism of their action involves integration of essential oils into a biological signal of the receptor cells in the nose when inhaled, the signal is transmitted to limbic and hypothalamus parts of the brain via olfactory bulb. These signals cause brain to release neuro messengers like serotonin, endorphin etc., to link our nervous and other body systems assuring a desired change. Feeling of relief Serotonin, endorphin and noradrenalin are released from calming oil, euphoric, and stimulating oil respectively to give expected effect on mind and body.^{2, 14}



Aromatherapy Session:

The Aromatherapy Session and the needs of each client are different and the aromatherapy sessions are tailored to your particular needs. The following are some of the most common forms of aromatherapy:

- Massage
- Inhalations
- Soaks
- Compresses
- Liniments
- Salves

These forms of aromatherapy may be administered individually or in combination, but commonly you are given a combination of treatments. The type of massage you will receive will depend greatly on the training of the aroma therapist and from the assessment of your needs to begin you, start you aromatherapy session by having a discussion on your medical history and any personal issues that may be affecting you. It is highly important that you are thorough and specific in disclosing the medical history, which includes illnesses, injuries, and allergies. If the aroma therapist wishes to do any form of bodywork on you, for example, she will need to know about your problem areas.

Visiting aroma therapist:

If your main objective in visiting the aroma therapist for stress relief, treatment for depression or other psychological or emotional difficulty, you do not need to "bare your soul" to her, but you should let her know the kind of relief you are asking and whether you are on medications or not.

Your aroma therapist will decide on the best form of treatment you will receive based on your initial conversation or from the form you are asked to fill out. She will then discuss to you what the treatment she feels that is best suited for you and will depends greatly on the training of the aroma therapist and from the assessment of your needs. The aroma therapist may use essential oils that may include specific oils for various purposes and or special blends that are designed for specific purposes, such as stress relief or relief from flu-like symptoms.

The essential oils used in the session do have the "magical" ability to soothe weary muscles, minds and spirits.⁶⁷

Classification of Aromatherapy:

Cosmetic aromatherapy:

This therapy utilizes certain essential oils for skin, body, face and hair cosmetic products. These products are used for their various effects as cleansing, moisturizing, drying and toning. A healthy skin can be obtained by use of essential oils in facial products. On a personal level, cosmetic aromatherapy of full-body or foot bath will be a simple and an effective way to have an experience. Similarly, few drops of appropriate oil give a rejuvenating and revitalizing experience¹⁵.

Massage aromatherapy:

Combining aromatherapy with massage is a great way to relax and ease stress. However, it's important not to apply essential oils directly to the skin. Instead, make sure to mix them with massage^{16, 17}.

Medical aromatherapy:

The founder of modern aromatherapy “Rene-Maurice” and “Gattefosse” has used essential oils to massage patients during surgery, thus utilizing the medical aromatherapy knowledge of the effect of essential oils on promoting and treating clinically diagnosed medical ailments¹⁸.

Olfactory aromatherapy:

Inhalation of essential oils has given rise to olfactory aromatherapy, where simple inhalation has resulted in enhanced emotional wellness, calmness, relaxation or rejuvenation of the human body. The release of stress is welded with pleasurable scents which unlock odor memories.^{19, 20}

Psycho-aromatherapy:

In psycho-aromatherapy, certain states of moods and emotions can be obtained by these oils giving the pleasure of relaxation, invigoration or a pleasant memory. The inhalation of the oils in this therapy is direct though the infusion in the room of a patient. Psycho-aromatherapy and aroma ology, both deal with the study and effects of aroma are it natural or synthetic²¹.

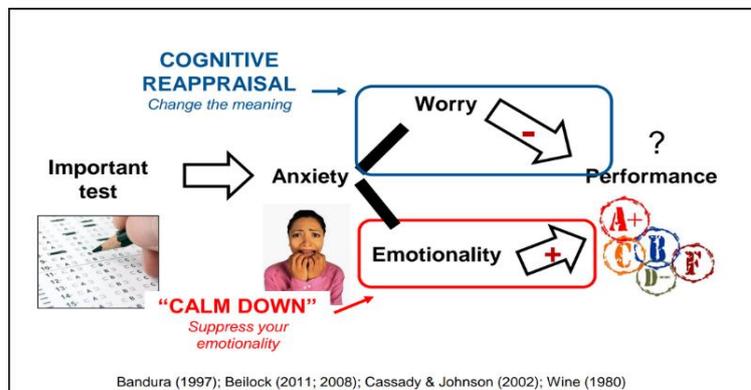
Use of essential oil as a complementary treatment for anxiety

It is estimated that about 20-26% of the population will suffer by mental disorder at least once in their life time.

Anxiety disorder:

The term anxiety disorders include that shares features of excessive fear, anxiety, and related behavioral diseases.

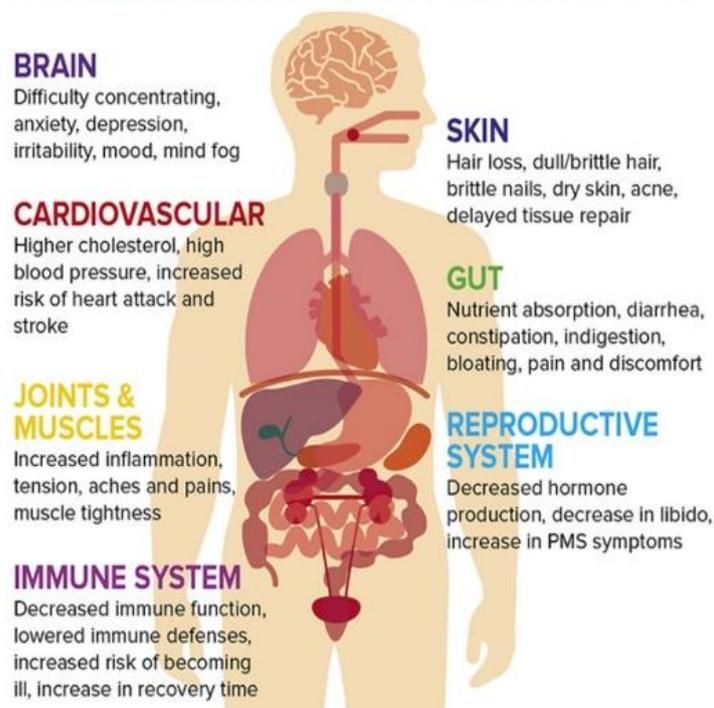
Fear is the emotional response to real perceived imminent threat whereas anxiety is anticipation of future treat these two states overlap but they are differ²² generally speaking , anxiety disorder are most common mental disorder mainly it seems that women’s lead to be more affected by them compared to men²³



Anxiety encloses various categories included such as panic attacks, social phobia²³⁻²⁴ and these are inversely proportional to the perception meaning the high level that one has the less awareness on multidimensional phenomena that affect the body, cognitive functioning behavior as well as emotional & social states of person.²⁵

During the last year research into phenomenology, pathophysiology & neurobiology has been grown that result translatable into clinical practices²⁶. Complementary and alternative medicine [CAM] plays significant role in health care system. Patients with chronic pain condition including chronic neck, backache, headache [Including insomnia, depression and anxiety] there were high use of CAM therapy at present yoga pet's medication in the effort of reduce anxiety levels²⁷.

HOW STRESS & ANXIETY AFFECTS YOUR BODY



The CAM is used for depression by patients with mental illness is estimated to range between 16% & 44%. According to Canadian network for mood & anxiety treatments SAME [sadenosylmethionine] is recommended as second line adjuvative treatment for depression disorder⁵⁴, and naturally occurring derivative of l-methionine and act as methyl donor in the production of neurotransmitter, increases brain level of serotonin & epinephrine.⁵⁵ 5HTP is a precursor to serotonin that can be extracted from African plant known as Griff onia Simplicifolia.⁵⁶

Adverse effects associated with 5HTP & same include insomnia, anxiety induction of mania tremor, & headache.⁵⁷⁻⁶⁰

Essential oil of lavender in anxiety disorder:

Essential oil of lavender Leo [Lavandula angustifolia] is purported to be antibacterial, antifungal as well as to have beneficial immunomodulatory effect on wound healing.^{34, 35, and 36}

Lavender oil and aromatherapy:

Historically essential oil has been delivered as aromatherapy via inhalation or topical route, may exert psychological effects because the olfactory bulb has limbic imputes in the amygdala and hippocampus that are associated with emotion,³⁷ this form of emotional memory is exemplified by state anxiety associated with characteristic smell of the dentist office has been reduced by LEO.³⁸ Studies of aromatherapy pose significant challenge highly rigorous research because of the inability to blind investigators & participants from the scents of the essential oil or topical massage.³⁹⁻⁴³

Mechanism of action:

Lavender essential oil in anxiety related condition which appears to be related to inhibition of voltage gated calcium channel [VGCCS] reduction of 5HT1A receptor activity and increased parasympathetic tone, psychological mechanism has been in the case of LEO. Anxiolytic effects because anomic mice displaces inhibition of marble burying after LEO inhalation⁴⁴, pharmacokinetic data after topical application in healthy

human being demonstrated the ability of LEO constituents . Linalool and lineally acetate to rapidly penetrate cell membrane there by reach to serum concentration⁴⁵.

Pharmacokinetic:

Linalyl acetate is a carboxylate ester and metabolized to linalool by beta esterase's which are mostly found in hepatocytes but found in the periphery primarily metabolized through conjugation with glucuronic acid & is excreted in urine via feces and in expired air.⁴⁷

Drug interaction:

It has been conducted using SLO one was conducted in 16 healthy volunteer who were administered SLO160 mg for 11days in double blind. Randomized, placebo-crossover fashion.⁴⁸

Safety and tolerability:

Lavender essential oil has been granted generally recognized as safe status by the food and drug administration.⁴⁹LEO is well tolerated in this regard and is often applied topically in an undiluted form reports in vivo contact dermatitis &in vivo cytotoxic effect on skin especially mucous membrane, and regarded as well tolerated in this regard and is often applied topically or orally in an undiluted form reports of in vivo contact dermatitis and invert cytotoxicity exist warranting caution..⁵⁰⁻⁵¹

Mode of Application:

Essential oils interact with the body through the nose and they are also absorbed through the skin. There is also a benefit in just surrounding yourself with the energetic value of the oil.

They are of 2 types

- Topical applications
- Inhalation

Inhalation:

Sprinkle a few drops of aromatherapy oil onto a handkerchief or tissue, and inhale as required, alternatively add three drops of your essential oil to a bowl of steaming water. Cover your head with a large towel, close your eyes, put your face above the water and inhale deeply. Repeat as required, mix the essential oil in a teaspoon of honey. Then dilute with warm water until the honey is dissolved.

Techniques:



Diffuser:

Essential oils are placed in this device, sometimes with water (be sure to read the directions), and sometimes with heat so they evaporate. This is a good way to add the scent of an essential oil to a room.

For example to add lavender if you want to enhance relaxation in a yoga session or class. Essential oils should never be directly burned as the chemical structure is dramatically changed with incineration (Buckle, 2003).

Dry evaporation:

Several drops of essential oil are placed on a cotton ball or tissue and allowed to evaporate into the air. If you want an intense dose, sniff the cotton ball. If a milder, more constant exposure is desired, simply keep the cotton ball in your immediate vicinity (for example, Leave it sitting on your desk next to your computer).



Steam

Drops of essential oil are added to a bowl of steaming water, which quickly vaporizes the oil. Place a towel over head and over the bowl of water with essential oil drops and breathe deeply, this method is very direct and potent the use of more than 1-2 drops may be overwhelming. It is important keep the eyes closed when using this method. The use pf eucalyptus essential oil in this way can feel helpful with upper respiratory and sinus infections.

Note: this is not recommended for children younger than 7 years old. A child's older than 7 can use swimming goggles to protect their eyes.



Spray:

Drops of essential oils are placed in a water-based solution, shaken, and sprayed into the air in order to deodorize a room or set a mood. An example might be spraying an aqueous solution of pine or citrus oils to enhance holiday feelings or a solution of peppermint oil to stimulate alertness; you might also want to use a solution of water and your favorite essential oil as a yoga mat cleaner. It is important to shake the bottle before spraying in order to spray the solution and not just water .⁶³

Topical applications:

Massage oils, and bath and skin care products are absorbed through the skin, massaging the area where the oil is to be applied can boost circulation and increase absorption. Essential oils are never applied directly to the skin. They must always be diluted with carrier oil. Usually, a few drops of essential oil to an ounce of carrier oil is the concentration, most common carrier oils are sweet almond oil or olive oil. Always do an allergy test before trying a new essential oil. To do an allergy test:

Dilute the essential oil in carrier oil at twice the concentration you plan to use

Rub the mixture into an area the size of a quarter on the inside of the forearm, if there is no allergic response within 24 to 48 hours, it should be safe to use. Some people report developing allergies to essential oils after using them many times before. If a new allergic response appears, the individual should stop using it immediately and avoid its smell.

To achieve a 0.5 to 1 percent dilution, use 3 to 6 drops of essential oil per ounce of carrier. For a 5 percent dilution, add 30 drops to one ounce of carrier, a maximum concentration of 5 percent is generally considered safe for adults. Ingesting, or swallowing, essential oils are not recommended. Taken by mouth, the oils can damage the liver or kidneys, they can also lead to interactions with other drugs, and they can undergo unexpected changes while in the gut. To achieve a 0.5 to 1 percent dilution, use 3 to 6 drops of essential oil per ounce of carrier. For a 5 percent dilution, add 30 drops to one ounce of carrier .They can also lead to interactions with other drugs, and they can undergo unexpected changes while in the gut .⁶²

They are used in many ways:

Foot and Hand Bath:

When your feet feel good, you feel good all over - and the feet are a very important area in aromatherapy. This is both because of their reflex points that affect every area of the body, and because the skin on the feet absorbs essential oils rapidly.

Compress:

A compress is a clean, damp, folded cloth that has been infused with essential oils and is then applied to the problem area. A compress can be either cold or warm, depending on the purpose. Fill a small bowl with water; add 2-5 drops of essential oil. Stir briskly, soak the cloth, wring, and apply, repeat this procedure as needed.

Mouthwash:

The antiseptic and antibacterial effect of aromatherapy essential oils can be perfect for freshening the breath and to help maintain healthy gums, etc. Simply add a few drops of an essential oil to a cup of water, and swirl around the mouth. Do not swallow.

Gargle:

Gargle with a small amount and spit out. Use 1-2 drops per 30 ml of warm water.⁶¹

Aromatherapies applications in anxiety

- Essential oil were blended with Lavender, Roman chamomile, Neroli with a 6:2:0.5 ratio suppress the heart stimulation and lowers blood pressure.²⁸
- It is used in the treatment of heart acceleration and high blood pressure²⁸
- Anxiety can be reduced by neroli, Lavandula, Rosmarinus officinalis.²⁹
- Piper methysticum and bicepmoniker are associated with anxiolytic activity in humans.³⁰
- Essential oil applied by massage session was shown to have a positive effect on both levels of anxiety and relaxation over a short period of time³¹

- In case of stress tension can cause protein to be released from cells. These proteins elements of the immune system, cause allergic that result in symptom of atopic derma ties³²
- A connection also exists between dermatitis and a deficiency of essential dietary fats also thought to produce anxiety³²
- For example anxiety symptoms cansee in cancer patients as a psychological effect of their r severe illness in many cases in which a complementary treatment could be used to address the symptom³³.

Carrier oil:

Organic and cold-pressed carrier oils are preferred, and examples include sweat glandal mond oil, apricot kernel oil, grapeseed oil, jojoba oil, or avocado oil. These oils do not have a strong smell of their own. They should be kept refrigerated until used and should be discarded, if they smell rancid. For example, true lavender essential oil (*Lavandula angustifolia*) can be used on the skin for cuts and minor burns, and it can be inhaled to promote relaxation and sleep. Lavender is one of the few essential oils that can be used undiluted on small areas of the skin.⁶³



Effects of essential oils on the human body

some health issues, effect on mood and mental status	effect on skin
fatigue: <i>Angelica archangelica, Citrus aurantium, Coriandrum sativum, Cymbopogon nardus, Eucalyptus radiata, Juniperus communis, Mentha spicata, Pelargonium graveolens, Pinus sylvestris, Rosmarinus officinalis, Salvia sclarea, Zingiber officinale</i>	antibacterial activity: <i>Melaleuca alternifolia, Leptospermum scoparium, Rosmarinus officinalis, Lavandula officinalis</i>
insomnia: <i>Angelica archangelica, Cananga odorata, Citrus aurantium, Cistus ladaniferus, Citrus bergamia, Citrus limon, Citrus reticulata, Citrus sinensis, Cuminum cyminum, Juniperus communis, Lavandula angustifolia, Litsea cubeba, Melissa officinalis, Myrtus communis, Ocimum basilicum, Origanum majorana, Valeriana officinalis</i>	antifungal activity: <i>Melaleuca ericifolia, Melaleuca armillaris, Melaleuca leucadendron, Melaleuca styphelioides, Mentha piperita, Brassica nigra, Angelica archangelica, Cymbopogon nardus, Skimmia laureola, Artemisia sieberi, Cuminum cyminum</i>
anxiety, agitation, stress: <i>Angelica archangelica, Cistus ladaniferus, Citrus aurantium, Citrus aurantium, Cymbopogon martinii, Eucalyptus staigeriana, Lavandula angustifolia, Litsea cubeba, Ocimum basilicum, Origanum majorana, Pelargonium graveolens, Pogostemon patchouli, Valeriana officinalis</i>	anti-inflammatory action: <i>Melaleuca alternifolia, Citrus limon, Lavandula officinalis, Pogostemon patchouli, Rosmarinus officinalis, Santalum album</i>
mental exhaustion, burnout: <i>Mentha piperita, Ocimum basilicum, Helichrysum angustifolium</i>	strengthening vascular walls: <i>Pelargonium graveolens Citrus amara, Rosmarinus officinalis, Rosa damascena</i>

68

Benefits of Aromatherapy

Aromatherapy has an array of benefits. It's said to:

- manage pain
- improve sleep quality
- reduce stress, agitation, and anxiety
- soothe sore joints
- treat headaches and migraines
- alleviate side effects of chemotherapy
- ease discomforts of labor
- fight bacteria, virus, or fungus
- improve digestion
- improve hospice and palliative care
- boost immunity.⁶⁴

Therapeutic effects of essential oil:

- Mood changes
- Behavioral issues
- Appetite and sleep
- Wounds, infections
- cold, weight maintenance & flu

Negative Effects of Aromatherapy

Toxicity:

There are many essential oils that should never be used in aromatherapy because they are potentially toxic "Aromatherapy: An A-Z" those toxic oils can cause damage to your liver, kidneys and nervous system. Some oils to avoid because of toxicity include: camphor, mug wart, thug, wintergreen, sage, thyme and eucalyptus.

Photosensitizing:

Some essential oils used in aromatherapy produce a negative side effect from prolonged direct sun exposure. "The Illustrated Encyclopedia of Essential Oils" that you should not use oils like angelica root, bergamot, cumin, lemon or orange on any part of your body that is going to be exposed to the sun as you will easily get sunburn.

Skin Irritation:

One of the most common negative side effects in aromatherapy is using oils that can cause skin irritation. Oils with skin irritant properties can cause rashes, itching and burning sensations. While there are some oils that should never be used on the skin, there are others such as peppermint and lemon that can be used safely if diluted sufficiently. If you are using an essential oil in aromatherapy that may act as a skin irritant, be cautious and use the oil in a very low concentration--about 1 percent.

Some Oils Mimic Estrogen:

Oils like fennel, aniseed, sage and clary-sage, have estrogen-like compounds that mimic natural estrogen in the body. Other oils such as lavender and tea-tree oils also have estrogen-like properties. For this reason, those with breast or ovarian cancer should not use these oils, as these cancers are hormone based. Small children and those undergoing puberty should also avoid these oils, as they can cause excessive breast growth in boys, according to the National Cancer Institute.

Avoid aromatherapy during pregnancy:

Breastfeeding mothers should also avoid aromatherapy; essential oils do have the ability to pass from the mother's body through the placenta to the baby. Midwives have used aromatherapy during labor and delivery successfully, but women should consult with their physicians carefully before starting.⁶⁵

Essential oil uses and its effects:

Basil: essential oil is used to sharpen concentration and alleviate some of the symptoms of depression; it may relieve headaches and migraines. It should be avoided during pregnancy.

Bergamot: essential oil is said to be useful for the urinary tract and digestive tract. When combined with eucalyptus oil it may help relieve skin problems, including those caused by stress and chicken pox.

Black pepper: essential oil is commonly used for stimulating the circulation, muscular aches and pains, and bruises. Combined with ginger essential oil, it is used to reduce arthritis pain and improve flexibility.

Chamomile: essential oil can treat eczema

Clove: essential oil is a topical analgesic, or painkiller, that is commonly used for toothache. It is also used as an antispasmodic antiemetic, for preventing vomiting and nausea, and as a carminative, preventing gas in the gut and as antioxidant, antimicrobial.

Eucalyptus: essential oil can help relieve the airways during a cold or flu; it is often combined with peppermint. Many people are allergic to eucalyptus, so care should be taken.

Geranium: essential oil can be used for skin problems, to reduce stress and as a mosquito repellent.

Jasmine: essential oil has been described as an aphrodisiac, while scientific evidence is lacking, and research has shown that the odor of jasmine increases beta waves, which are linked to alertness. As a stimulant, it might increase penile blood flow.

Lavender: essential oil is used as an antiseptic for minor cuts and burns and to enhance relaxation and sleep. It is said to relieve headache and migraine symptoms.

Lemon: essential oil is said to improve mood and to help relieve the symptoms of stress and depression.

Rosemary: essential oil may promote hair growth, boost memory and prevent muscle spasms, and support the circulatory and nervous systems.⁶²

Precautions:

- Citrus oils tend to be sensitive to light so avoid sun exposure for 4 hours or apply under covered area.
- Dilute oils with a vegetable oil if needed to prevent irritation of tissues.
- Person with high blood pressure, for example, should avoid stimulants, such as rosemary.
- Some compounds, such as fennel, aniseed, and sage act similarly to estrogen, so a person with an estrogen-dependent breast or ovarian tumor should avoid these concentrated products may be poisonous before dilution and should be handled with care.
- A maximum concentration of 5 percent is recommended.
- Some oils produce toxins which can cause damage to the liver, kidneys, and nervous system, especially if taken internally.
- Swallowing essential oils can be hazardous, and fatal in some cases... like Hay fever, a type of allergy, Asthma, Skin conditions such as eczema or psoriasis

People with the following conditions must be extremely cautious:

- Epilepsy
- Hypertension, or high blood pressure

If the oil is to be mixed with a carrier, the individual should tell the aroma therapist or massage therapist about any nut allergies, because carrier oils are often obtained from nuts and seeds.⁶²

References:

- [1]. PanelBabarAli¹ NaserAliAl-Wabel¹SaibaShams²AftabAhamad³Shah Alam Khan⁴ Firoz Anwar⁵, Asian pacific Journal of tropical bio medicine.
- [2]. Krishna A, Tiwari R, Kumar S. Aromatherapy-an alternative health care through essential oils. J Med Aroma Plant Sic 2000; 22: 798-804.
- [3]. Man niche L. Sacred luxuries: fragrance, aromatherapy and cosmetics in ancient Egypt. New York: Cornell University Press; 1999.
- [4]. Berwick A. Holistic aromatherapy: balance the body and soul with essential oils. St. Paul, MN: Llewellyn Publications; 1994.
- [5]. Marili Roxana Soto-Vasquez, *, Paul Alan Arkin Alvarado-Garciajournal of Traditional and Complementary Medicine.. Kutlu AK, Yilmaz E, Çeçen D. Effects of aroma inhalation on examination anxiety. Teach Learn Nurs. 2008; 3:125e130
- [6]. Redstone L. Mindfulness meditation and aromatherapy to reduce stress and anxiety. Arch Psychiatry Nurse. 2015; 29:192e193.
- [7]. Kavurmaci M, Küçükoglu S, Tan M. Effectiveness of aromatherapy in reducing test anxiety among nursing students. Indian J Trait Know. 2015; 1:52e56.
- [8]. Ali B, Al-Warble NA, Shams S, et al. Essential oils used in aromatherapy: systemic review. Asian Pac J Trop Biomed. 2015; 5:601e611.
- [9]. Baratta MT, Dorman HJD, Dean SG, Figueiredo C, Barroso JG, Roberto Babar Ali et al./Asian Pac J Trop Biomed 2015; 5(8): 589-598 597,
- [10]. Baratta MT, Dorman HJD, Dean SG,Brandi DM, Roberto G. Chemical composition, antimicrobial and antioxidant activity of laurel, sage,rosemary, oregano and coriander essential oils. J Essen Oil Res 1998; 10: 618-27.
- [11]. Svoboda KP, Deans SG. Biological activities of essential oils from selected aromatic plants. ActHurt1995; 390: 203-9.
- [12]. Svoboda K, Hampson J, Hunter EA. Production and bioactivity of essential oils in secretary tissues of higher plants. Proceedings of World Aromatherapy II Conference of National Association for Holistic Aromatherapy (NAHA); Sep 25-28; St. Louis, Missouri, USA; 1998, p.105-27.
- [13]. Colgate SM, Molineux RJ. *Bioactive natural products detection, isolation and structural determination*. Florida: CRC Press; 1933.
- [14]. Ziosi P, Manfredini S, Virtuosi S, Roscetti V, Radica M, Scaccetti. Evaluating essential oils in cosmetics: antioxidant capacity and functionality. *Cosmetics Toiletries* 2010; 125: 32-40.

- [15]. Soden K, Vincent K, Crake S, Lucas C, Ashley S. A randomized controlled trial of aromatherapy massage in a hospice setting. *Palliated*2004; **18**: 87-92.
- [16]. Chang SY. [Effects of aroma hand massage on pain, state anxiety and depression in hospice patients with terminal cancer]. *Taehan KanhoHakhoe Chi* 2008; **38**: 493-502. Korean.
- [17]. Maeda K, Ito T, Shied S. Medical aromatherapy practice in Japan. *In Essence*2012; **10**: 14-6.
- [18]. Maxwell-Hudson C. *Aromatherapy massage book*. London: Dorling Kindersley; 1995.
- [19]. Price S. *Aromatherapy for common ailments*. London: Fireside; 1991.
- [20]. Price S. *The aromatherapy workbook*. London: Thomson's; 1993.
- [21]. Perry N, Perry E. Aromatherapy in the management of psychiatric disorders clinical and neuropharmacological perspectives. *CNS Drugs*2006; **20**: 257-80.
- [22]. Fradelos E., KoniniA. The Use of Essential Oils as a Complementary Treatment for Anxiety. American Journal of Nursing Science. Diagnostic and Statistical Manual of Mental Disorders, Fifth Edition. Arlington, VA, American Psychiatric Association 2013, pp189-190.
- [23]. Sadock B, Sadock V. Kaplan and Sadock's pocket handbook of clinical psychiatry, Third edition. Parisianos Publishing. Athens 2004, pp191-210.
- [24]. World Health Organization. ICD-10 Classifications of Mental and Behavioral Disorder: Clinical Descriptions and Diagnostic Guidelines. Geneva 1992.
- [25]. Kneisl C, Wilson H, Trigoboff E. Contemporary Psychiatric-Mental Health Nursing. Hellen Publishing, Athens 2009, pp124-147.
- [26]. Nardi A, Fontenelle L, Crippa JA. New trends in anxiety disorders. *Revista Brasileira de Psiquiatria* 2012; 34(Suppl. 1):5-6.
- [27]. Fradelos E. Animal assisted therapy for psychiatric patients: A systematic review. *Scientific Chronicles* 2014; 19(2): 132-143.
- [28]. Cho M, Min E, Hur M, Lee M. Effects of Aromatherapy on the Anxiety, Vital Signs, and Sleep Quality of Percutaneous Coronary Intervention Patients in Intensive Care Units. *Evid Based Complement Alternat Med* 2013; 2013: 381381.
- [29]. Price S. *Aromatherapy for health professionals*. Fourth editionChurcill Livingstone 2012, p.4.
- [30]. Shri R. Anxiety: Causes and Management. *International Journal of Behavioral Science* 2010; 5(1);100-108.
- [31]. Papathanassiou I., Kourkouta L., Sklavou M. Holistic Nursing Care: Theories and Perspectives. *American Journal of Nursing Science* 2013; 2(1): 1-5.
- [32]. Harrisson J. *Aromatherapy: Therapeutic use of essential oils for esthetics*. Cengage Learning Australia 2008, p.29.
- [33]. Wilkinson M, Love B, Westcombe M, Gambles a, Burgess C, Cargill A, Young T, Maher J, Ramirez J. Effectiveness of aromatherapy massage in the management of anxiety and depression in patients with cancer: A multicenter randomized controlled trial. *Journal of Clinical Oncology*2007; 25(5):532 -539.
- [34]. Benjamin J. Malcolm and Kimberly Talien Mental Health Clinician 2017 Jul; 7[4]:147-155. Cavanagh HMA, Wilkinson JM. Biological activities of Lavender essential oil. *Phytother Res*. 2002; 16 4: 301- 8. DOI: 10.1002/ptr.1103. PubMed PMID: [12112282](#). [[PubMed](#)] [[Google Scholar](#)]
- [35]. Jones C. The efficacy of lavender oil on perineal trauma: a review of the evidence. *Complement Ther Clin Pract*. 2011; 17 4: 215- 20. DOI: 10.1016/j.ctcp.2011.01.003. PubMed PMID: [21982136](#). [[PubMed](#)] [[Google Scholar](#)]
- [36]. Nagai K, Nijjima A, Horii Y, Shen J, Tanida M. Olfactory stimulatory with grapefruit and lavender oils change autonomic nerve activity and physiological function. *Auton Neurosci*. 2014; 185: 29- 35. DOI: 10.1016/j.autneu.2014.06.005. PubMed PMID: [25002406](#). [[PubMed](#)] [[Google Scholar](#)].
- [37]. Gottfried JA. *Neurobiology of sensation and reward*. Boca Raton (FL): CRC Press/Taylor & Francis; 2011. [[Google Scholar](#)]
- [38]. Kritsidima M, Newton T, Asimakopoulou K. The effects of lavender scent on dental patient anxiety levels: a cluster randomised-controlled trial. *Community Dent Oral Epidemiol*. 2010; 38 1: 83- 7. DOI: 10.1111/j.1600-0528.2009.00511.x. PubMed PMID: [19968674](#). [[PubMed](#)] [[Google Scholar](#)]
- [39]. Braden R, Reichow S, Halm MA. The use of the essential oil lavandin to reduce preoperative anxiety in surgical patients. *J Perianesth Nurs*. 2009; 24 6: 348- 55. DOI: 10.1016/j.jopan.2009.10.002. PubMed PMID: [19962101](#). [[PubMed](#)] [[Google Scholar](#)]
- [40]. Cho MY, Min ES, Hur MH, Lee MS. Effects of aromatherapy on the anxiety, vital signs, and sleep quality of percutaneous coronary intervention patients in intensive care units. *Evid Based Complement Alternat Med*. 2013; 2013: 381381 DOI: 10.1155/2013/381381. PubMed PMID: [23476690](#). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)]

- [41]. Franco L, Blanck TJJ, Dugan K, Kline R, Shanmugam G, Galotti A, et al. Both lavender fleur oil and unscented oil aromatherapy reduce preoperative anxiety in breast surgery patients: a randomized trial. *J Clin Anesth.* 2016; 33: 243- 9. DOI: 10.1016/j.jclinane.2016.02.032. PubMed PMID: [27555173](#). [[PubMed](#)] [[Google Scholar](#)]
- [42]. Grunebaum LD, Murdock J, Castanedo-Tardan MP, Baumann LS. Effects of lavender olfactory input on cosmetic procedures. *J Cosmet Dermatol.* 2011; 10 2: 89- 93. DOI: 10.1111/j.1473-2165.2011.00554.x. PubMed PMID: [21649812](#). [[PubMed](#)] [[Google Scholar](#)]
- [43]. Hasanzadeh F, Kashouk NM, Amini S, et al. The effect of cold application and lavender oil inhalation in cardiac surgery patients undergoing chest tube removal. *EXCLI J.* 2016; 15: 64- 74. DOI: 10.17179/excli2015-748. PubMed PMID: [27047319](#). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)].
- [44]. Chioca LR, Antunes VDC, Ferro MM, Losso EM, Andreatini R. Anosmia does not impair the anxiolytic-like effect of lavender essential oil inhalation in mice. *Life Sci.* 2013; 92 20-21: 971- 5. DOI: 10.1016/j.lfs.2013.03.012. PubMed PMID: [23567808](#). [[PubMed](#)] [[Google Scholar](#)]
- [45]. Jäger WGB, Jirovetz L, Fritzer M. Percutaneous absorption of lavender oil from a massage oil. *J Soc Cosmet Chemists.* 1992; 43: 49- 54. [[Google Scholar](#)]
- [46]. Schuwald AM, Nöldner M, Wilmes T, Klugbauer N, Leuner K, Müller WE. Lavender oil-potent anxiolytic properties via modulating voltage dependent calcium channels. *PLoS One.* 2013; 8 (4):e59998. DOI: <https://doi.org/10.1371/journal.pone.0059998>. PubMed PMID: [23637742](#). [[Crossref](#)] [[Google Scholar](#)].
- [47]. Bickers D, Calow P, Greim H, Hanifin JM, Rogers AE, Saurat JH, et al. A toxicologic and dermatologic assessment of linalool and related esters when used as fragrance ingredients. *Food Chem Toxicol.* 2003; 41 7: 919- 42. DOI: 10.1016/S0278-6915(03)00016-4. PubMed PMID: [12804649](#). [[PubMed](#)] [[Google Scholar](#)]
- [48]. Doroshenko O, Rokitta D, Zadoyan G, Klement S, Schlafke S, Diemel A, et al. Drug cocktail interaction study on the effect of the orally administered lavender oil preparation silexan on cytochrome P450 enzymes in healthy volunteers. *Drug Metab Dispos.* 2013; 41 5: 987- 93. DOI: 10.1124/dmd.112.050203. PubMed PMID: [23401474](#). [[PubMed](#)] [[Google Scholar](#)].
- [49]. Food and Drug Administration [Internet]. 21CFR182.20 - Code of Federal Regulations Title 2. Silver Spring (MD): Food and Drug Administration; 2016 [cited 2016 Oct 1]. Available from: <https://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=182.20>.
- [50]. Gangemi S, Minciullo PL, Miroddi M, Chinou I, Calapai G, Schmidt RJ. Contact dermatitis as an adverse reaction to some topically used European herbal medicinal products - part 2: *Echinacea purpurea-Lavandula angustifolia*. *Contact Dermatitis.* 2015; 72 4: 193- 205. DOI: 10.1111/cod.12328. PubMed PMID: [25600644](#). [[PubMed](#)] [[Google Scholar](#)].
- [51]. Prashar A, Locke IC, Evans CS. Cytotoxicity of lavender oil and its major components to human skin cells. *Cell Prolif.* 2004; 37 3: 221- 9. DOI: 10.1111/j.1365-2184.2004.00307.x. PubMed PMID: [15144499](#). [[PMC free article](#)] [[PubMed](#)] [[Google Scholar](#)].
- [52]. **Daiki JIMBO,1 Yuki KIMURA,1 Miyako TANIGUCHI,1 Masashi INOUE2 and Katsuya URAKAMI**Journal compilation © 2010 Japanese Psychogeriatric Society Lewith GT, Godfrey AD, Prescott P. A single-blinded, randomized pilot study evaluating the aroma of *Lavandula angustifolia* as a treatment for mild insomnia. *J Altern Complement* 2005; **11**: 631637.
- [53]. Moss M, Cook J, Wesnes K, Duckett P. Aromas of rosemary and lavender essential oils differentially affect cognition and mood in healthy adults. *Int J Neurosci* 2003; **113**: 15–38.
- [54]. Grassmann J, Schneider D, Weiser D, Elstner EF. Ant oxidative Effects of lemon oil and its components on copper induced oxidation of low density lipoprotein. *Arzneimittelforschung* 2001; **51**: 799–805.
- [55]. William Olsufka and Mary-Ann Abraham (2017) Treatment-emergent hypomania possibly associated with over-the-counter supplements. *Mental Health Clinician*: July 2017, Vol. 7, No. 4, pp. 160-163.
- [56]. Lavretsky H. Complementary and alternative medicine use for treatment and prevention of late-life mood and cognitive disorders. *Aging Heal.* 2009; 5 (1):6178. DOI: <https://doi.org/10.2217/1745509X.5.1.61>. PubMed PMID: [19956796](#). [[Crossref](#)] [[Google Scholar](#)].
- [57]. Murphy BL, Babb SM, Ravichandran C, Cohen BM. Oral SAME in persistent treatment-refractory bipolar depression: a double-blind, randomized clinical trial. *J Clin Psychopharmacol.* 2014; 34 (3):413-6. [24699040](#). [[Crossref](#)] [[Google Scholar](#)].
- [58]. Young SN. Are SAME and 5-HTP safe and effective treatments for depression? *J Psychiatry Neurosci.* 2003; 28 (6):471. PubMed PMID: [14631459](#). [[Google Scholar](#)].

- [59]. Natural Medicines Comprehensive Database. 5-HTP monograph [Internet]. 2016 [cited 2016 Oct 20]. Available from: <http://naturalmedicines-therapeuticresearch-com.lb-proxy13.touro.edu> [Google Scholar]
- [60]. Popper CW. Mood disorders in youth: exercise, light therapy, and pharmacologic complementary and integrative approaches. *Child Adolesc Psychiatr Clin N Am.* 2013; 22 (3):403-41. DOI: <https://doi.org/10.1016/j.chc.2013.05.001>. PubMed PMID: [23806312](#). [Crossref] [Google Scholar] <https://www.oshadhi.co.uk> > how-to-use-essential-oils [methods of aromatherapy]
- [61]. Monika Michalak Arch Physiotherapy Glob Res 2018; 22 (2): Department of Dermatology and Cosmetology, Faculty of Medicine and Health Sciences, Jan Kochanowski University in Kielce, Poland
- [62]. How Do I Choose and Use Essential Oils? | Taking Charge of ... [techniques and carrier oil] <https://www.takingcharge.csh.umn.edu> > how-do-i-choose-and-use-essential.
- [63]. what is aromatherapy and how does it help me ?-health line <https://www.healthline.com> > health > what-is-aromatherapy [benefits of aromatherapy]
- [64]. Ravindran AV, Balneaves LG, Faulkner G, Ortiz A, McIntosh D, Morehouse RL, et al. Canadian Network for Mood and Anxiety Treatments (CANMAT) 2016 clinical guidelines for the management of adults with major depressive disorder. *Can J Psychiatry.* 2016; 61 PubMed PMID: [27486153](#). [Crossref] [Google Scholar]
- [65]. Rainer Schneider¹ | Nick Singer² | Tim Singer² RECON–Research and Consulting, Freiburg Germany² AromaStick AG, Sargans, Switzerland