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## Indian Medicinal Plant Used in Aromatherapy

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### Abstract

*Aromatherapy is one of the most effective alternative medicine practices, combining massage, counseling, and pleasant smell. Using essential oils in aromatherapy can reduce anxiety and stress, which may lead to better sleep quality. Traditional herbal remedies have played a key role in health systems, and they are utilized to treat many acute and chronic illnesses with no or low harmful efficacy. A study demonstrated that aromatherapy reduced both anxiety and depression in a group of postpartum women. Beyond just calming the mind, scientific research suggests that aromatherapy—whether through, breathing in or absorbing extracts from aromatic plants can help soothe physical discomfort and ease pain. Research suggests that essential oils can influence brain waves and behavior, likely transmitting their effects to the brain through the olfactory system. This approach utilizes different techniques and combinations to manage a broad spectrum of conditions, such as depression, digestive disorders, headaches, sleep problems, muscle pain, respiratory issues, skin ailments, joint inflammation, and urinary problems. Essential oils have proven to be more effective when lifestyle and dietary factors are considered. This review explores the literature on the therapeutic, medicinal, cosmetic, psychological, and olfactory benefits of aromatherapy, as well as its use in massage, safety concerns, and the different plants involved in its practice. The aim of this review is to offer a comprehensive scientific assessment of key phytochemicals and their pharmacological effects, with the goal of supporting the future development of new ethno medicines.*

**Keywords** - Aromatherapy, Essential oils, Ayurveda, Inhalation, Natural healing, phytochemicals, Herbal remedies, Holistic wellness, Plant – based oils.

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### INTRODUCTION

Aromatherapy is a natural approach that uses essential oils to improve emotional harmony and overall physical health. Both aromatherapy and essential oils offer significant therapeutic benefits for the mind and body. It is a natural method of promoting healing for the body, mind, and soul. The "Aromatherapy" comes from the words "aroma," meaning scent, and "therapy," meaning care treatment <sup>[1]</sup>. Aromatherapy is also described as the conscious use of essential oils to enhance and support physical, mental, and spiritual well-being <sup>[2]</sup>. For more than 3,000 years, essential oils have been a key element in traditional Indian medicine, known as Ayurveda. In addition to their therapeutic uses, these aromatic plants and oils were also valued for their spiritual and philosophical importance in the region. Essential oils are mixture of unsaturated and saturated hydrocarbons, alcohol, aldehyde, ester, ether, ketone, oxide, phenol, and terpene, which together create distinct fragrances <sup>[3]</sup> <sup>[4]</sup>. They usually applied in small doses through techniques such as inhalation, massage, or direct skin contact to promote mental and physical well-being <sup>[5]</sup> <sup>[6]</sup>. These oils are recognized for their healing properties, especially in reducing stress. Essential oils affect the olfactory nerves, linking the nose to the brain.

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Known for their antibacterial, antibiotic, and antiviral properties, they have been shown through research and traditional use to be effective in treating various conditions, including Alzheimer's, heart problems, cancer, and labor pain during pregnancy. [7,8,9]. This therapy is increasingly being used to treat cancer and sleep disorders [10,11].

### **How Does Aromatherapy Work?**

#### **Inhalation**

Essential oils enhance our sense of smell. As the aroma enters the nostrils and interacts with neurons, it triggers a response in the brain. This process activates the olfactory system, which sends signals to the limbic system, the part of the brain responsible for emotions and memory. This, in turn, stimulates the hypothalamus and pituitary glands, activating the autonomic nervous system. As a result, this process impacts various bodily functions, such as nerve activity, hormone regulation, and emotional responses.

#### **Topically application**

When essential oils are massaged into the skin, the body absorbs them. It relaxes and soothes the skin, muscles, nerves, and glands. It also promotes better blood circulation and lymphatic drainage, helping the body detoxify. During a massage, the therapeutic effects of essential oils are received through both skin absorption and the inhalation of their scent [12].

#### **Aromatherapy Classification**

##### **Cosmetic aromatherapy**

Cosmetic aromatherapy involves adding essential oils for skin, body, face, and hair care products, these are formulated for various purposes such as cleansing, moisturizing, drying, and toning. Essential oils in these skincare products help promote healthy skin. On an individual level, cosmetic aromatherapy offers a simple yet potent experience, whether it's through a full-body soak or a foot bath. [13].

##### **Massage aromatherapy**

This method is frequently called the "healing touch" in the context of massage treatment. [14] [15]

##### **Medical aromatherapy**

Medical aromatherapy is the therapeutic application of essential oils and plant extracts to treat different health conditions. It merges traditional aromatherapy with modern medical practices, using the healing properties of essential oils for pain management, stress relief, wound healing, and infection treatment. This practice is typically carried out under the supervision of healthcare professionals to ensure safety and effectiveness in addressing specific health issues. [16]

##### **Olfactory aromatherapy**

The olfactory aromatherapy involves inhaling essential oils, where breathing in these fragrances helps enhance emotional well-being, induce calmness, relaxation, and rejuvenation. The release of stress is accompanied by soothing aromas that trigger memories associated with scents. It's important to note that essential oils complement medical treatment but are not a substitute for it. [17,18]

##### **Psycho-aromatherapy**

Psycho-aromatherapy uses essential oils to trigger specific moods and emotions, like relaxation, vitality, or positive memories. In this therapy, the oils are usually diffused into the air in the patient's environment for inhalation. Both psycho-aromatherapy and aromacology focus on studying the effects of aromas, whether natural or synthetic. However, research in psycho-aromatherapy has primarily centered on natural essential oils. [19]

## **Applications Of Aromatherapy**

### **Stress Relief and Relaxation**

Lavender, chamomile, and bergamot essential oils are often used to reduce stress and foster a sense of relaxation.

These oils help calm the mind and body, reducing anxiety and inducing a sense of peace.

### **Improved Sleep**

Aromatherapy can improve sleep quality, especially for individual suffering from insomnia or restless sleep.

Oils such as lavender, sandalwood, and ylang-ylang are known to promote relaxation and encourage deep, restful sleep.

### **Pain Management**

Essential oils like eucalyptus, peppermint, and ginger can help reduce pain and inflammation, making them effective for headaches, migraines, muscle soreness, and joint pain.

Aromatherapy massage is often used for relief in cases of arthritis, fibromyalgia, and general muscle tension.

### **Improved Mood and Mental Clarity**

Citrus essential oils, such as lemon, orange, and grapefruit, are known for their mood-enhancing properties and their ability to refresh and energize the mind.

Aromatherapy can also enhance focus and mental clarity, helping with concentration and cognitive function.

### **Respiratory Health**

Eucalyptus, tea tree, and peppermint oils are helpful in relieving respiratory problems like colds, asthma, bronchitis, and sinus congestion.

Inhaling these oils can help clear the airways, reduce inflammation, and ease congestion.

### **Skin Care**

Aromatherapy is beneficial in skincare for treating acne, eczema, dry skin, and other conditions. Oils like tea tree, rose, and frankincense are used for their antiseptic, anti-inflammatory, and healing properties.

These oils are commonly used in creams, lotions, and serums to promote healthy skin.

### **Boosting Immunity**

Certain essential oils possess antimicrobial, antiviral, and antifungal properties. Oils such as oregano, thyme, and clove are thought to enhance the immune system and aid the body in fighting infections.

### **Digestive Aid**

Essential oils such as ginger, peppermint, and fennel can help alleviate digestive issues like bloating, nausea, indigestion, and stomach cramps.

They can be applied topically (diluted) or used in aromatherapy to ease gastrointestinal discomfort.

### **Hormonal Balance**

Aromatherapy may help regulate hormones, making it useful for alleviating symptoms of PMS, menopause, and hormonal imbalances.

Oils such as clary sage, geranium, and rose are often used to support women's reproductive health.

### **Emotional Healing and Mindfulness**

Aromatherapy can enhance emotional healing and support mind fullness practices like meditation and yoga.

Frankincense, sandalwood, and patchouli are commonly used to deepen relaxation and connect with the mind, body, and spirit.

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Aromatherapy is highly versatile, and essential oils can be used in various ways, including diffusion, topical application, inhalation, and bathing.

### **Side Effects**

Aromatherapy, while generally safe when used correctly, can cause side effects in some individuals, particularly if essential oils are misused or if someone has sensitivities. Here are some common side effects:

#### **Allergic Reactions**

Applying essential oils directly to the skin without proper dilution can cause skin irritation rashes, or redness.

Symptoms of an allergic reaction may include itching, swelling.

#### **Respiratory Issues**

Inhaling strong essential oils may irritate the respiratory system, particularly in individuals with asthma or respiratory conditions.

Some oils, such as eucalyptus or peppermint, can trigger bronchial spasms or exacerbate breathing problems.

#### **Headaches and Nausea**

Strong or prolonged exposure to certain essential oils, such as lavender, rosemary, or peppermint, may cause headaches, dizziness, or nausea in sensitive individuals.

#### **Photo toxicity**

Citrus oils, such as lemon, lime, or bergamot, can increase skin sensitivity to sunlight, leading to sunburn or skin discoloration when exposed to UV light.

#### **Hormonal Effects**

Some essential oils, like lavender and tea tree oil, may mimic hormones and cause hormonal imbalances when used excessively. There have been cases where these oils led to abnormal breast growth in boys (gynecomastia).

#### **Toxicity**

Ingesting essential oils without proper guidance can lead to poisoning. Symptoms may include nausea, vomiting, dizziness, and even organ damage in severe case.

Oils like winter green or eucalyptus are particularly dangerous if swallowed.

#### **Drug Interactions**

Certain essential oils can interact with medications, potentially lowering their effectiveness or triggering negative reactions. For example, some oils may interfere with blood pressure medications or blood thinners.

#### **Pregnancy and Special Conditions**

Pregnant women, children, or individuals with conditions like epilepsy or high blood pressure should be cautious with aromatherapy, as certain oils may trigger complications.

#### **Plants Producing Essential Oils**

#### **Plants Used in Aromatherapy**

#### **Jasmine**



**Figure 1: Jasmine**

**Botanical name:** *Jasminum officinale*

**Biological source:** This plant is derived from the fresh leaves and flowers of *Jasminum officinale*.

**Family:** Oleaceae

**Therapeutic indications**

Antidepressant

Antiseptic

Antispasmodic

Expectorant

Sedative

Uterine

Antibacterial

**Uses**

Helps with skin disease and wound healing.

Treats gout and arthritis.

**In Aromatherapy**

Balance hormones

Relieves anxiety

Improve focus

Treats insomnia

Lower risk of infections

Facilitates Lactation.<sup>[20]</sup>

**Ylang ylang**



**Figure 2: Ylang ylang**

**Botanical name:** *Cananga odorata*

**Biological source:** It is derived from the flower *C. odorata* plant via steam distillation

**Family:** Annonaceae

**Medical indications:**

Balance sebum production

Antidandruff

Intestinal infection and diarrhea

Boost mood

**Uses**

Oil used as a fragrance in cosmetics and soaps

**In Aromatherapy**

Post-menopausal syndrome

Reduce Hypertension <sup>[21]</sup>

**Lavender**



*Figure 3: Lavender*

**Botanical name:** *Lavandula angustifolia*

**Therapeutic indications**

Improve sleep

Pain relief

Reduce anxiety and stress

Improve brain function

Reduce acne

Protect against diabetic symptom

**Uses**

Used in massage therapy.

Used in the production of perfume.

**In Aromatherapy**

Insomnia or restlessness

Inhalation therapy for headaches

Skin conditions or lesions. <sup>[22]</sup>



## Ginger



**Figure 4: Ginger**

**Botanical name:** *Zingiber officinale*

**Chemical constituents:** It consists Gingerols and shogaols, zingerberene, lipid, carbohydrates, volatile oils

### **Therapeutic indications**

Weight management

Inflammation

Morning sickness

Reduce inflammation

Reduce pain from osteoarthritis and menstrual pain.

### **Uses**

It is used to treat arthritis, colic, diarrhea, and heart-related issues.

It has been utilized to alleviate symptoms of the common cold, flu, and headaches.

### **In Aromatherapy**

Anxiety

Nervousness

Unhappiness

Fatigue.<sup>[23]</sup>

## **Lemongrass**



**Figure 5: Lemongrass**

**Botanical name:** *Cymbopogon schoenanthus*

**Biological source:** Lemon grass oil is obtained from *Cymbopogon flexuosus* Stapf

**Family:** Poaceae

**Description**

A tall, perennial grass with long, green, linear leaves that fan out from the stem. When touched, the leaves release a strong lemon aroma.

**Therapeutic indications**

Painkiller

Anti-microbial

Anti-fungal

Dandruff control

Anaemia prevention

Lower blood pressure

Increase Red blood count

Cancer fighting properties.

**Uses**

Lemongrass is commonly used as a natural treatment for various conditions, such as digestive problems, neurological disorders, and high blood pressure.

Lemongrass oil contains citral, which is used in cosmetics and beverages.

Citral is also a key ingredient in the production of ionones, which are used in the synthesis of vitamin A.

**In Aromatherapy**

Lemongrass essential oil is used in soaps, detergents.

Essential oil used as insect repellents <sup>[24]</sup>

**Cinnamon**



**Figure 6:** Cinnamon

**Botanical name:** *Cinnamomum zeylanicum*.

**Description:** The dried inner bark is brown in color, emitting a gentle, aromatic fragrance and a sweet, warm flavor.

**Chemical constituents**

Cinnamon oil contains many chemical compounds such as cinnamic acid, coumaric acid, linalool, cinamylalcohol, benzyl benzoate, eugenylacetate, cinnamyl acetate, Cinnamaldehyde

**Therapeutic indications**

Anti-diabetic

Antibacterial



Antioxidant

Anti-nociceptive

Neurodegenerative disease

Hair health

Skin health

### Uses

It is one of the main ingredients in many products including sugar-free gum and hard candy.

Cinnamon oil is also used as a flavouring in tea and wine.

It is also used in the preparation of commercial baked goods as a natural food preservative.

### In Aromatherapy

Help to relieve depression

Treat cold, flu and infection

Improve digestion <sup>[25]</sup>.

### Lemon



*Figure 7: Lemon*

### Chemical constituents

It contains 2 to 4% volatile oil, including limonene and citral. Other compounds in the peel include hesperidin, pectin, calcium oxalate, and bitter substances, along with aromatic compounds such as geranyl acetate.

Therapeutic indications

Oral health care

Hair health

Skin care

Relief from burns

Treatment for internal bleeding

Aid in weight loss

Remedy for cholera

Treatment for fever

Relief from indigestion

Soothes respiratory disorder

**Uses**

Carminative and stimulant

**Uses in Aromatherapy**

Boosting immunity

Relieving skin irritation

Enhancing mood.<sup>[26]</sup>

**Rose**



*Figure 8: Rose*

**Chemical constituents**

It contains 2-phenylethanol, 1% essential oil, and 30-40% geraniol, along with small amounts of linalool, farnesol, and citral

**Therapeutic indications**

Anti-inflammatory

Anti-aging

Seizure treatment

Sexual dysfunction

Dysmenorrhea

Cough remedy

Laxative

**Uses**

Astringent  
Flavouring agent  
Bactericidal  
Lung's treatment  
Preparation of perfume and cosmetics  
Skin treatment  
Pain relief

**In Aromatherapy**

Mental stimulant  
Anti-depressant  
Migraines  
Reduce anxiety and stress  
Promote stronger hair and reduce the appearance of wrinkles  
Ease cramps  
Brighten the skin.<sup>[27]</sup>

**CONCLUSION**

Based on the research and studies presented, we can deduce that aromatherapy is a natural, non-invasive healing method that comes from nature, offering significant benefits for human well-being. As we move forward in life, aromatherapy supports physical, emotional, and spiritual health. This therapeutic approach can be used not only for prevention but also during both acute and chronic phases of illness. The pharmaceutical industry is progressively focusing on sustainable, alternative, and natural treatments for diseases related to infections or metabolic issues. Essential oils could also enhance the effectiveness and absorption of standard medications. These volatile oils could potentially complement drugs used to treat central nervous system disorders, pending further research. Additionally, there is ongoing debate about the optimal timing for harvesting plants to achieve the highest concentration of volatile oils and their associated chemical compounds. When safety and quality are considered, essential oils can act as a helpful non-medical alternative or complement traditional treatments for certain conditions. In summary, aromatherapy is gaining popularity as a method for reducing stress and fostering particular emotional states, making it an important element in contemporary wellness practices.

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