

Essential Oils in Aromatherapy: From Ancient Rituals to Modern Healing

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ABSTRACT

In recent years, natural and complementary therapies have become increasingly popular as people seek holistic ways to support their health alongside conventional medicine. Among these approaches, aromatherapy has emerged as one of the fastest-growing wellness practices. It involves the use of essential oils, highly concentrated extracts derived from flowers, bark, stems, leaves, roots, fruits, through various methods, often paired with massage to promote relaxation and overall well-being. These fragrant oils offer benefits far beyond their pleasing aroma. Research suggests they can help lower stress and anxiety levels, improve sleep quality, and enhance emotional balance. Studies also indicate that aromatherapy may relieve pain, calm the nervous system, and influence mood by stimulating specific areas of the brain through the sense of smell. Certain oils are even associated with positive behavioral changes. This article explores aromatherapy's origins, scientific basis, and its growing role in modern wellness practices.

INTRODUCTION

Aromatherapy, a holistic approach, is used to harmonize and enhance mental, physical, and spiritual well-being through the use of aromatic herbs and plant extracts. It works by integrating

physiological, psychological, and spiritual processes, thereby stimulating the body's natural healing abilities. Unlike allopathic medicine, aromatherapy treats illness in a holistic way, focusing on the whole person



rather than just the symptoms. This approach can help strengthen the body's immunity, improve resilience, and support overall health while preventing illness.

History of Aromatherapy

Aromatherapy traces its roots back to ancient Babylon (c. 2000–1000 BC), where fragrant herbs and spices were traded along early routes in south and central Asia. Its use spread across many cultures worldwide, with ancient civilizations in India, China, Greece, and Egypt incorporating aromatic plants for health and spiritual purposes. In India, Ayurveda utilized saffron and milk plasters for their therapeutic and fragrant qualities, aiming to balance the doshas, while sandalwood and jasmine oils were applied in massages, baths, and steam inhalations (Khatib, 2024). In China, Traditional Chinese Medicine (TCM) used aromatics like camphor and ginger to balance Qi, often alongside herbal remedies and acupuncture. The Romans infused fragrant oils into daily routines, such as bathing, to enhance relaxation and sensory experiences. In modern times, French chemist René-Maurice Gattefossé coined the term “aromatherapy” in 1937 after discovering lavender oil's healing properties. During World War II, Dr. Jean Valnet applied essential oils to treat injured soldiers, and in the 1960s, Austrian scientist Marguerite Maury popularized individualized aromatherapy massage for relaxation and skincare (Tisserand *et al.*, 2014).

Aromatherapy Then vs. Now

From its ancient beginnings to modern applications, aromatherapy has evolved significantly over time. Thousands of years ago, civilizations such as the Greeks, Egyptians, and Chinese used aromatic plant extracts for medicinal, spiritual, and cosmetic purposes. The Egyptians incorporated essential oils in religious ceremonies and preservation, while Hippocrates, the father of modern

medicine, promoted the therapeutic benefits of aromatic baths. Similarly, traditional Chinese and Ayurvedic medicine employed essential oils to treat illnesses and balance the body's energies. Ancient aromatherapy relied largely on empirical knowledge rather than scientific evidence, and extraction methods were relatively primitive. Today, however, modern aromatherapy combines traditional wisdom with scientific research and advanced technology. Essential oils are now extracted using cold pressing or steam distillation to ensure purity and potency. Scientific studies have confirmed their benefits in pain relief (e.g., peppermint for headaches), stress reduction (e.g., lavender for anxiety), and antibacterial activity (Ali *et al.*, 2015). The use of essential oils in beauty products, diffusers, and clinical settings, including hospitals, has further expanded the global aromatherapy market. Historical texts such as *The Great Herbal* (Pen Ts'ao), *Enquiry into Plants*, *Charaka Samhita*, and *De Materia Medica* also highlight the enduring importance of aromatic herbs in daily life.

Phytochemical insights of Aromatherapy

Essential oils are the heart of aromatherapy, made up of a variety of volatile compounds, including terpenoids, alcohols, phenols, and esters. Terpenoids are particularly important and are divided into monoterpenes and sesquiterpenes. Monoterpenes and terpenoides, found in citrus fruits, coniferous plants and other plants include compounds like limonene, pinene, myrcene, linalool and linalyl acetate known for their uplifting effects, decongestant properties, and bright, fresh aromas. Sesquiterpenes, such as bisabolol, farnesene, and caryophyllene, contribute earthy scents and provide anti-inflammatory and pain-relieving benefits, commonly present in oils like sandalwood and chamomile. Aldehydes and ketones, including citral, vanillin, and cinnamaldehyde, add sweet or citrusy notes and have antimicrobial properties.

Phenylpropanoids, such as eugenol from clove oil, cinnamaldehyde, and anethole, offer spicy aromas along with antioxidant and antimicrobial benefits, with eugenol particularly effective for soothing pain. Complementary ingredients like carrier oils, beeswax, and emulsifiers ensure safe application, better absorption, and product stability, making aromatherapy both effective and enjoyable (Khatib, 2024).

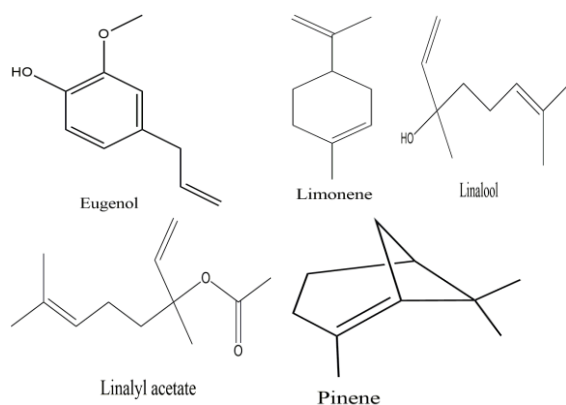


Fig. Major chemical constituents in various essential oil

Classification of Aromatherapy

Aromatherapy can be practiced in five main ways, each harnessing the natural properties of essential oils to support physical and emotional well-being.

1. **Cosmetic Aromatherapy** - Essential oils are added to skincare and haircare products for cleansing, moisturizing, and toning. A few drops in a warm bath can also provide a refreshing and revitalizing experience.
2. **Massage Aromatherapy** - Essential oils like lavender, sandalwood, or chamomile are blended with carrier oils such as grape seed, almond, or jojoba for therapeutic massage, promoting relaxation, easing muscle tension, and supporting healing.
3. **Medical Aromatherapy** - Historically used in wound care and surgical treatments, essential oils continue to assist in managing

certain medical conditions by supporting natural healing processes.

4. **Olfactory Aromatherapy** - Simply inhaling essential oils can enhance emotional well-being, induce calmness, and rejuvenate the mind.
5. **Psycho-aromatherapy** - This approach uses scents to influence moods and emotions, often through diffusers, helping trigger positive memories or relaxation. Both psycho-aromatherapy and aromacology explore how natural and synthetic aromas affect the mind and body.

Mechanism of Action

In aromatherapy, the effects of essential oils on the body are explained through their pharmacokinetics, which describes how these oils are absorbed, distributed, and utilized. Essential oils can enter the body through several pathways: inhalation, topical application, internal mucous membranes, or oral intake (Buckle, 2014).

Inhalation: When essential oils are smelled, aromatic molecules stimulate the olfactory system and send signals to the limbic system, the part of the brain that regulates emotions, memory, hormone levels, heart rate, and breathing. This connection explains why scents like lavender or citrus can calm the mind, reduce stress, and evoke positive memories. The limbic system's response to these aromas can influence both emotional and physiological states, creating a sense of well-being.

Topical Application: Essential oils applied to the skin undergo two processes: penetration, where the oil moves through the skin, and permeation, where it is absorbed into the body. Absorption depends on factors like skin permeability, concentration, and the carrier oil used. For example, terpinen-4-ol from diluted tea tree oil absorbs less than from undiluted

oil, while compounds like α -pinene and β -myrcene can penetrate better when combined with other oils such as limonene.

Internal (Mucous Membranes): Oils can also be delivered through the mouth, throat, rectum, or vagina using products like mouthwashes, gargles, creams, pessaries, or suppositories. This method is effective for treating local infections, inflammation, dental issues, and conditions such as oral mucositis.

Oral Intake: Certain essential oils, including cinnamon, clove, peppermint, sandalwood, and eucalyptus, can be safely ingested in controlled doses. High-phenol oils must be diluted to avoid irritation, and compounds like 1, 8-cineole have been used effectively for sinus problems. Historically, these oils were listed in the 1930 edition of *Useful Drugs* by the American Medical Association. Proper training and careful dosing are crucial for safe and effective use of essential oils through all routes.

Recent Trends in Aromatherapy

Aromatherapy, once considered alternative medicine, is now widely recognized for its physical, emotional, and cosmetic benefits. People use essential oils to manage stress, anxiety, insomnia, and skin or hair concerns, integrating them into daily wellness routines. For physical health, eucalyptus and peppermint oils support respiratory function, ginger aids digestion, lavender and chamomile relieve pain, and thyme, oregano, and tea tree oils offer antibacterial protection. For mental and emotional well-being, lavender and bergamot promote relaxation, citrus oils like lemon and orange boost mood and energy, and sandalwood or valerian enhance sleep. Aromatherapy also supports spiritual practices, with oils such as frankincense and myrrh improving focus and meditation. In skin and hair care, frankincense offers anti-aging benefits, tea tree helps treat acne, almond oil

nourishes hair, and peppermint, rosemary, or cedarwood maintain scalp health.

Overall, aromatherapy blends tradition and science, making essential oils a versatile tool for holistic wellness.

Major Plants Used in Aromatherapy

Many plants produce essential oils in their flowers, bark, stems, leaves, roots, and fruits, making them valuable for aromatherapy (Ali *et al.*, 2015).

- **Eucalyptus:** Rich in cineole (70%–85%) along with aromadendrene, limonene, terpinene, cymene, phellandrene, and pinene, eucalyptus oil supports multiple body systems. It helps relieve nerve pain, headaches, and respiratory issues.
- **Lavender:** Containing camphor, linalool, and cineole, lavender oil has antibacterial and antifungal properties, even against antibiotic-resistant bacteria. It is widely used for stress relief, cuts, burns, headaches, muscle pain, skin healing, and promoting new cell growth.
- **Tea Tree:** Terpinen-4-ol in tea tree oil boosts immunity and fights infections. It is commonly used to treat acne, cold sores, burns, insect bites, dandruff, oily skin, herpes, and abscesses.
- **Roman Chamomile:** Rich in angelic acid, tiglic acid, bisabolol, azulene, and other compounds, Roman chamomile oil is prized for its calming effects. It is used in skincare and aromatherapy to reduce anxiety, promote relaxation, and support overall emotional well-being (Ali *et al.*, 2015).

Advantages and Limitations of Essential Oils Used in Aromatherapy

Aromatherapy has become popular for its natural ability to improve both physical and



mental well-being. People use essential oils to reduce stress, enhance sleep, and ease minor ailments like headaches or muscle tension.

Advantages: Essential oils are easy to use, widely available, and cost-effective. Oils like lavender and peppermint can be inhaled or applied topically to promote relaxation, boost mood, or soothe minor aches without the need for professional supervision. They offer a natural and accessible way to support overall health and balance.

Limitations: Despite their benefits, essential oils carry certain risks. Some people may experience allergic reactions or skin irritation. Oils such as wintergreen, hyssop, or wormwood can be toxic if ingested or misused. Certain oils also increase sensitivity to sunlight, which may cause sunburn. People with asthma, pregnancy, or medical conditions should exercise caution, as improper use may worsen symptoms (Nema *et al.*, 2021). Knowledge, careful dosing, and awareness of personal sensitivities are essential for safe and effective aromatherapy.

Challenges and Future Prospects of Aromatherapy

Clinical studies indicate that aromatherapy can help manage chronic pain, improve sleep quality, and reduce symptoms of depression and anxiety, particularly in postpartum women and older adults. Oils like lavender, chamomile, and bergamot have been studied for their calming and mood-lifting effects. Aromatherapy is generally simple, affordable, and safe, making it accessible to many.

However, there are challenges. Some individuals may experience allergic reactions or skin irritation, and certain oils can pose risks for people with asthma or pregnant

women. Additionally, while many studies show promising results, more large-scale, rigorous clinical trials are needed to confirm its effectiveness for serious conditions such as cancer, cardiovascular disease, and mental health disorders.

Looking ahead, aromatherapy has the potential to become a complementary component of standard medical care. Ongoing research is exploring its integration with conventional treatments to enhance patient well-being, support relaxation, and reduce medication side effects. As scientific evidence grows, aromatherapy could play an increasingly important role as a natural, non-invasive, and holistic approach to health and wellness.

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