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## AROMATHERAPY – A Review

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### ABSTRACT:

Aromatherapy is an ancient healing practice and it mainly derived from the plant source which gained significant attention in modern complementary medicine. Essential oils are commonly extracted from steam distillation, cold pressing, are used in various applications, like inhalation, topical massage, and diffusion, to exert physiological and psychological effects. Therefore, many studies have proved that essential oils are used for anxiety relief, pain management, stress reduction, and improve our sleep. The main mechanism of action of aromatherapy, it involves olfactory stimulation, where volatile compounds interact with the limbic system of the brain, influencing our mood, memory and hormone balance. Moreover, its growing popularity, aromatherapy is not without limitations. The efficacy of essential oils varies based on purity, concentration, and method of administration. Inconsistent standardization and potential adverse effects like skin irritation and allergic reactions, necessitate proper usage guidelines. Although there are many studies which support the therapeutic usage of aromatherapy, but clinical studies are required for dosage recommendation. It's more important that aromatic oils are diluted with carrier oils, patch testing and consultation with healthcare professionals, are essential for ensuring effective and risk-free usage. Essential oils like lavender oil (*Lavandula officinalis* Chaix), peppermint oil (*Mentha piperita* Linn.) and eucalyptus oil (*Eucalyptus globulus* Labill) have anti-inflammatory, analgesic, and sedative properties. As a demand for natural and holistic therapies continues to rise, aromatherapy remains a promising complementary approach to health and wellness. Future research should focus on standardization, evidence-based application, and potential drug interactions to optimize the safe and effective use of aromatherapy.

**KEY WORDS:** Aromatherapy, essential oil, olfactory receptors, limbic system, carrier oil.

### INTRODUCTION

#### Historical origins of aromatherapy

Aromatherapy has been used for thousands of years for a variety of purposes, including medicine, cosmetics, and rituals. The term "Aromatherapy" was coined by French chemist Rene-Maurice Gattefosse in 1935<sup>1,2</sup>. Essential oils and other fragrant compounds are used in aromatherapy, a holistic therapeutic technique, to enhance both mental and physical health. There is proof that this procedure has been in use for ages, going all the way back to ancient civilizations<sup>3</sup>. These days, aromatherapy is a well-liked supplemental therapy that is utilized in homes, hospitals, and spas. Aromatherapy has roots in ancient Egyptian, Chinese, and Indian cultures that date back more than 3,500 years<sup>4</sup>. Over time, the tradition of using aromatic herbs and oils for spiritual and therapeutic purposes spread throughout the world<sup>5</sup>.

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Aromatherapy was employed to cure a variety of illnesses during the Middle Ages, when it was mixed with religion, mysticism, and magic. Aromatherapy is now a widely accepted practice with an expanding corpus of research demonstrating its therapeutic advantages<sup>3</sup>.

**Ancient Egypt:** Essential oils have been used in Ancient Egypt for more than 5000 years. Essential oils were utilized by the Egyptians for a number of purposes, such as medical, cosmetic, and religious activities<sup>6</sup>. They employed essential oils to cure a variety of illnesses because they thought they had therapeutic qualities. Rose, frankincense and calamus oils were employed by the Egyptians for their therapeutic qualities<sup>7</sup>.

**Greece & Rome:** The Greeks and Romans both employed essential oils for therapeutic purposes. Essential oils are mentioned in Greek mythology, and Hippocrates, the father of modern medicine, embraced aromatherapy as a healing method<sup>8</sup>. The Romans employed essential oils in their public baths and thought they had curative effects. The Roman physician Dioscorides discussed the usage of essential oils in his book "De Materia Medica"<sup>9</sup>. Aromatherapy has a long history going back thousands of years. Essential oils have been used for therapeutic purposes since ancient Egypt, Greece, and Rome. Aromatherapy is still used today and is becoming increasingly popular<sup>10</sup>.

**Aromatherapy in the Middle Ages:** Throughout the Middle Ages, aromatherapy remained fashionable<sup>11</sup>. During this time, Avicenna, a physician and philosopher, invented distillation, which is still used today to extract essential oils from herbs, plants, and fruits. He also gave detailed directions for using plants and essential oils to promote health, including massage<sup>12</sup>.

**India and China:** Aromatherapy has been used for more than 3,000 years in China and India. Essential oils were mostly used for therapeutic purposes in China. For their medicinal qualities, the Chinese used oils like huang ti and cinnamon<sup>13</sup>. Aromatherapy was a component of Ayurvedic medicine in India. It was once thought that essential oils helped heal and balance the body's energy<sup>14</sup>.

#### **The essence of Essential oils and aromatherapy**

The essential oils are extracted mainly from plant source through various methods like steam distillation and cold pressing methods by which they capture the plant's aroma and therapeutic properties<sup>15</sup>. There is numerous health benefits to the natural compounds found in these concentrated volatile oils. The use of aromatherapy in ancient traditions for physical and mental health benefits have been rooted in modern holistic health<sup>16</sup>.

Some of the essential oils namely tea tree oil, lavender oil, eucalyptus oil, have unique properties that can able to calm our mind, support the body's natural healing processes and alleviate stress<sup>17,18</sup>. These oils are also used for many purposes like massage therapies, inhalation, and diffusion, to overcome the problems like anxiety, insomnia, and respiratory discomfort<sup>19</sup>.

#### **Basic principles of aromatherapy**

Aromatherapy derived from the word aroma means fragrance or smell and therapy means treatment. It is natural way of healing a person's mind. Aromatherapy is commonly known as holistic healing practice in which natural plant extract is used particularly essential oils<sup>20</sup>. Therefore, it is used to promote physical, emotional, and mental well-being. Aromatic compounds are extracted from flowers, leaves, bark, roots, and other plant parts are based on therapeutic properties<sup>21</sup>. The main fundamental principle in aromatherapy is absorption. These essential oils are absorbed into our bodies through many ways like inhalation, topical application, or in some cases diffusion into the environment. Limbic system plays a main role in inhalation, which influences emotions, memory, and stress levels<sup>22</sup>.

Another important aspect is synergy, in which blending several essential oils improves their individual effects, resulting in a more potent medicinal combination<sup>23</sup>.

Personalization is also important in aromatherapy, as people react differently to different scents. The selection of essential oils is based on the individual's needs, such as relaxation (lavender), energy boost (peppermint), or stress relief (chamomile)<sup>24</sup>. Purity and quality have a significant influence on effectiveness. Only pure, high-quality essential oils should be used, as synthetic or adulterated versions may lack therapeutic benefits and have adverse side effects<sup>25</sup>. Aromatherapy is a popular way to encourage relaxation, stress reduction, pain relief and immunological support, making it an important part of complementary medicine and holistic wellness<sup>26</sup>.

#### **The science behind aromatherapy**

##### **The healing mechanism of aromatherapy**

Aromatherapy plays an important role in healing mechanism through which inhalation and topical application of essential oils; therefore, its main function is to interact with the body's physiological and psychological systems. The primary mechanism of healing involves the olfactory system, skin absorption, and neurological responses<sup>27</sup>. When volatile compounds from essential oils are inhaled, it stimulates olfactory receptors send signals to the limbic system (the brain's emotional and memory centre)<sup>28</sup>. This oil plays a major role in reducing stress, anxiety, influences neurotransmitter release, pain while promoting relaxation and overall well-being. Lavender oil and chamomile oil are essential oils which enhance serotonin and dopamine levels, and used in emotional balance and faster recovery<sup>29</sup>.

When essential oils are applied topically, penetrate the skin and enter the bloodstream, which have pharmacological activities like anti-inflammatory, antimicrobial and antioxidant effects<sup>30</sup>. Some of the oils like

tea tree, eucalyptus, and frankincense have wound healing property by which it enhances collagen synthesis, reducing microbial infections, and improving circulation and other essential oils also modulate immune response, aiding in tissue repair and reducing oxidative stress<sup>31</sup>.

Moreover, aromatherapy refine sleep quality and reduces cortisol levels, indirectly enhancing the body's natural healing process<sup>32</sup>. It has both physiological and psychological factors, aromatherapy is a holistic approach in healing, it is more effective in stress managing disorders, chronic pain, and wound healing<sup>33</sup>.

#### **Mechanism of action of aromatherapy**

Aromatherapy works by stimulating the sense of smell and absorbing it through the skin. When essential oils are inhaled, they activate olfactory receptors and send messages to the limbic system, which regulates emotion and memory<sup>34</sup>. As a result, it relieves tension, improves mood, and promotes relaxation. When essential oils are administered topically, they reach the bloodstream. It has antibacterial, anti-inflammatory and analgesic properties<sup>35</sup>. It also affects neurotransmitters like serotonin, which improves mood and cortisol, which reduces stress. Breathed oils like eucalyptus are also beneficial to our respiratory system<sup>36</sup>.

Through scent and transdermal absorption, aromatherapy enhances well-being and typically has a favorable impact on hormones, the brain and the nervous system<sup>37</sup>.

#### **Classification of aromatherapy**

##### **Cosmetic aromatherapy**

This therapy uses essential oils for skin, body, face, and hair cosmetics. These products have varied effects, including cleansing, hydrating, drying and toning[38]. Using essential oils in face cosmetics promotes healthy skin. Using cosmetic aromatherapy in a full-body or foot bath can provide an easy and effective experience<sup>39</sup>. A few drops of suitable oil can provide a refreshing and revitalizing feeling<sup>40</sup>.

##### **Massage aromatherapy**

Using grape seed, almond, or jojoba oil in pure vegetable oil for massage has been beneficial. This is also known as the healing touch in massage therapy<sup>18,41,42</sup>.

##### **Medical aromatherapy**

Rene-Maurice Gattefosse, the pioneer of contemporary aromatherapy, used essential oils to massage patients during surgery, leveraging medical aromatherapy's understanding of how essential oils might promote and treat clinically documented diseases<sup>30,43,44</sup>.

##### **Olfactory aromatherapy**

Olfactory aromatherapy involves inhaling essential oils to promote emotional well-being, tranquillity, relaxation and renewal. Pleasurable fragrances help relieve tension and trigger memories. Essential oils should be used in conjunction with medical care, not as a replacement<sup>20,25</sup>.

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

Aromatherapy oils can induce relaxation, invigoration or happy memories, resulting in specific moods and emotions<sup>46</sup>. This therapy involves direct inhalation of oils through an infusion in the patient's room. Aromacology and psycho-aromatherapy explore the impact of both natural and manufactured aromas. Psycho-aromatherapy research has focused on natural essential oils<sup>47</sup>.

#### **Plants used in aromatherapy**

##### **Lavender**

Lavender (*Lavandula officinalis* Chaix.) belongs to the Lamiaceae family and is a beautiful garden herb. It contains camphor, terpinen-4-ol, linalool, linalyl acetate, beta-ocimene, and 1,8-cineole. Its constituents vary<sup>48</sup>. Concentration and therapeutic benefits with various species. Linalool and linalyl acetate effectively absorb from the skin during massage, leading to a reduction in the central nervous system activity (Figure 1). Linalool has calming effects, while linalyl acetate is a strong narcotic<sup>49</sup>. The usage of lavender pillows in anxiety patients may be due to its ability to improve sleep quality, boost mental alertness and reduce hostility and anxiety<sup>50</sup>. Lavender oil has antibacterial and antifungal activities against a variety of germs, particularly when drugs are ineffective. However, the specific processes remain unknown<sup>23,51</sup>. Aromatherapy has been shown to effectively treat abrasions, burns, tension, headaches, promote new cell formation, skin problems, aching muscles and enhance the immune system. This oil is used to treat primary dysmenorrhea and has showed good outcomes in randomized, double-blind trials<sup>51,22</sup>.



**FIG 1: LAVENDAR**

### Lemon

Lemon [*Citrus limon* Linn. (*C. limon*)] belongs to the family of Rutaceae. *C. limon* trees reach 15 feet in height and produce fragrant lemon fruits throughout the year<sup>53</sup>. The oil's main ingredients are terpenes D-limonene and L-limonene, which account for approximately 90% of the total oil content (Figure 2). The sample contains traces of phellandrene, pinene, and sesquiterpene<sup>54</sup>. Compared to other essential oils, its components offer antibacterial, astringent, and detoxifying characteristics that can treat blemishes on oily skin. The oil brightens and revitalizes dull skin<sup>55</sup>. Lemon essential oil has multiple benefits, including boosting the immune system and increasing white corpuscle production. It also contains citric acid, which aids digestion by creating potassium and calcium carbonates<sup>56</sup>. A double-blind, randomized, controlled clinical experiment found that citrus oil can effectively relieve first-stage labour pain. It effectively controls nausea and vomiting and has mood-enhancing properties<sup>57</sup>.



FIG 2: LEMON

### Peppermint

Peppermint (*Mentha piperita* Linn.) is part of the Lamiaceae family. Currently, all 600 mint varieties are derived from 25 distinct species. The most significant are peppermint (*M. piperita*) and spearmint (*Mentha spicata*)<sup>58</sup>. Spearmint has a rich sweet scent with a harsh menthol undertone (Figure 3). The oil contains carvacrol, menthol, carvone, methyl acetate, limonene, and menthone<sup>59</sup>. The pharmacological activity is attributed to menthol, a key component of peppermint oil. Peppermint oil contains at least 44% of free menthol. Climate, latitude, and plant maturity all have an impact on component performance<sup>60</sup>. Menthol can induce skin reactions when inhaled or applied topically. It is commonly used in liniments to treat pain, spasms, and arthritis<sup>61</sup>. Peppermint oil has been researched for its anti-inflammatory, analgesic, anti-infectious, antimicrobial, antiseptic, antispasmodic, astringent, digestive, carminative, fungicidal effects, nervine stimulant, vasoconstrictor, decongestant, and stomachic characteristics<sup>62</sup>. Oil's antispasmodic effects make it ideal for relieving menstruation pain and treating irritable bowel syndrome. Applying it to the head and temples effectively relieves headaches. Itching caused by herpes, ringworm, scabies, poison oak, and ivy can be cured. It can effectively treat bacterial, fungal, and viral infections when inhaled or administered as a vapor balm<sup>63</sup>. This oil is recognized to relieve sinus and lung congestion. Researchers have explored the different benefits of mentha oil, but its usage in aromatherapy requires further investigation<sup>18,64</sup>.



FIG 3: PEPPERMINT

### Roman chamomile

*Anthemis nobilis* Linn., also known as Roman chamomile, belongs to the Asteraceae family. For generations, this plant has been valued for its ability to regulate emotions, including calm, moderate, and strong<sup>65</sup>. Its blossoms resemble daisies. Roman chamomile oil mostly consists of esters of angelic acid, tiglic acid, and 2-methylbutanoic acid (Figure 4). Chamazulene, a sesquiterpenoid, gives the freshly distilled oil its bluish tinge<sup>66</sup>. It contains pinocarvone, farnesol, pinene, bisabolol, cineole, pinocarveol, beta-caryophyllene, azulene, camphene, and myrcene. Chamomile preparations are effective in treating a variety of diseases, including hay fever, inflammation, muscle spasms, menstrual disorders, sleeplessness, ulcers, wounds, gastrointestinal disorders, rheumatic pain, and hemorrhoids. It is used in cosmetics and aromatherapy for its anxiety-reducing effects<sup>18,30,37,43</sup>



FIG 4: ROMAN CHAMOMILE

### Rosemary

Rosemary (*Rosmarinus officinalis* Linn.) is a member of the Lamiaceae family with small pale blue blooms that bloom in late spring/early summer. It can reach a height of 90 cm. There are three varieties: silver, gold, and green stripe<sup>67</sup>. The green variety is utilized for medical purposes (Figure 5). The plant contains bitter principle, resin, tannic acid, and volatile oil. The active ingredients include bornyl acetate, borneol, esters, and a camphor comparable to that found in myrtle, including cineol, pinene, and camphene<sup>68</sup>. The oil effectively treats digestive issues such as indigestion, constipation, and colitis. It works as a liver and gallbladder tonic. The oil also has some beneficial effects on the cardiovascular system<sup>69</sup>. It regulates blood pressure and slows the hardening of vessels. It was taken in the winter to treat rheumatic pain exacerbated by the cold. Its stimulating actions on the neurological system have been shown to help with hysteria and paralysis<sup>70</sup>. Aromatherapy has been shown in human trials to be an effective non-pharmacological treatment for dementia and may improve cognitive performance, particularly in Alzheimer's patients, due to its free radical scavenging properties<sup>71</sup>. This oil has numerous benefits, including excellent skin tonic characteristics, calming effects on menstruation cramps, and promoting hair development. Rosemary can stimulate the scalp, promote hair development, and treat dandruff and oily hair<sup>72</sup>.



FIG 5: ROSEMARY

### Tea tree

The tea tree (*Melaleuca alternifolia* Cheel) is a Myrtaceae shrub with yellow or purple flowers and needle-like leaves found in swampy areas. Because of its commercial worth, it is grown in plantations<sup>73</sup>. Terpinen-4-ol, an alcoholic terpene with a clean musty scent, is the major component of this oil. Alpha-sabine exhibits antiviral, antibacterial, and antifungal properties. Terpinen-4-ol boosts the immune system, whereas cineole has antibacterial properties<sup>74</sup>. The tea tree has antibacterial, anti-inflammatory, antiviral, insecticidal, and immune-stimulating effects (Figure 6). Aromatherapy uses a combination of lemon, blue gum, clary sage, eucalyptus, lavender, rosemary, ginger, and Scotch pine to cure various diseases. The oil can treat herpes, abscess, blisters, acne, cold sores, burns, insect bites, dandruff, and greasy skin<sup>75</sup>. It has been used to treat respiratory issues such as TB, cough, bronchitis, asthma, catarrh, and whooping cough, as well as vaginitis, cystitis, and pruritus in females. It has been used to treat colds, fevers, flu, and chickenpox. *Melaleuca alternifolia* (tea tree) has shown encouraging results in clinical trials for treating herpes<sup>76</sup>.



FIG 6: TEA TREE

### Ylang Ylang

Ylang-ylang (*Cananga odorata* Hook. F. & Thoms) is a tiny tree found in Madagascar, Indonesia, and the Philippines. It belongs to the Annonaceae family. The chemical constituents include geranyl acetate, linalol, geraniol farnesol, benzyl acetate, geranial, methyl chavicol, beta-caryophyllene, eugenol, pinene, and

farnesene<sup>42</sup>. This tree's main benefit is its ability to slow heart rate and breathing, making it ideal for use in shock or trauma circumstances. Its anti-depressive and euphoric qualities promote a sense of well-being<sup>77</sup>. Women with low self-esteem and post-menopausal syndrome get better outcomes. In Portugal, pilot research of 34 nursing professionals found that using ylang ylang essential oil reduced anxiety and increased self-esteem, while also affecting blood pressure and temperature (Figure 7). The study found that using this plant significantly improved self-esteem<sup>48</sup>. The exotic aroma of this product is beneficial for both dry and oily skin, making it erotic in nature. It is also used to treat depression, anxiety, hypertension, frigidity, stress, and palpitations<sup>78</sup>.



FIG 7: YLANG YLANG

### Geranium

Geranium (*Pelargonium graveolens* L'Herit) is a plant of the Geraniaceae family. The perennial hairy shrub, native to South Africa and cultivated in France, Italy, Spain, Central America, Egypt, Japan, and Congo, is a popular source of essential oil<sup>42, 47, 79</sup>. It can grow up to one meter tall. The chemical components of the essential oil include eugenol, geranic, citronellol, geraniol, linalol (linalool), citronellyl formate, citral, myrtenol, terpineol, methone, and sabinene. Geranium oil, a natural perfume, is commonly used in soaps and detergents due to its unique properties that are not affected by alkalinity<sup>79</sup>. As a result, this oil is commonly used in aromatherapy for emotional regulation. It treats dermatitis, eczema, aging skin, fungal infections, and anxiety/stress-related issues (Figure 8). The oil has antibacterial properties and is a key element in endometriosis treatment. This oil is useful for sedation, nerve tonicity, throat infections, blood disorders, diabetes, and menopausal symptoms<sup>80</sup>. Research suggests that it can be used as a supportive therapy for uterine and breast cancer, as well as for pain relief. This has been used to flavor foods and beverages, both alcoholic and non-alcoholic.

It's an effective insect repellent. Furthermore, this oil is gaining recognition for its anti-diabetic, anti-cancer, antibacterial, and antimicrobial properties<sup>81</sup>.



FIG 8: GERANIUM

### Eucalyptus

Eucalyptus [*Eucalyptus globulus* Labill (*E. globulus*)] belongs to the Myrtaceae family and is an evergreen shrub that can reach a height of 250 feet. The main ingredients are cineole (70%-85%), aromadendrene, limonene, terpinene, cymene, phellandrene, and pinene. The oils have been used to control and activate numerous systems, including the neurological system, to treat neuralgia, headaches, and debility. The immune system protects against measles, flu, colds, and chickenpox<sup>82</sup>. It effectively treats leucorrhea and cystitis in the genitourinary system (Figure 9). Oils from this plant have been shown to treat respiratory issues such as throat infections, coughs, bronchitis, asthma, and sinusitis. It can treat a variety of skin ailments, including wounds, cuts, burns, herpes, lice, insect repellent, and insect bites<sup>83</sup>. Essential oils from this plant have been shown to effectively treat rheumatoid arthritis, muscular and joint pain, and discomfort. Eucalyptus oil possesses antioxidant, anti-inflammatory, anti-proliferative, and antibacterial properties, making it an effective treatment for metabolic and infectious illnesses. The results show promise for treating complex disorders in people<sup>84</sup>.



**FIG 9: EUCALYPTUS**

### Clary sage

Clary sage (*Salvia sclarea* Linn.) belongs to the family Lamiaceae. Clary sage, a perennial herb, produces essential oil mostly from its purple-tinted, big hairy green leaves. It is distinct from *Salvia officinalis* or common sage. This species is distinguished by its bigger leaves and bluish-white tint in late summer<sup>47</sup>. It mostly comprises linalool, linalyl acetate, alpha-terpineol, germacrene D, and geranyl. The literature reveals that clary sage essential oil has numerous medicinal effects (Figure 10). This tonic is beneficial for women as it treats womb and uterine disorders, regulates monthly cycles, relieves tension and muscle cramps, and has seductive and aphrodisiac properties<sup>85</sup>. It controls sebum production, making it suitable for both dry and oily skin, as well as acne, wrinkles, and cellulite. Recent studies show that this oil effectively controls cortisol levels in women and has antibacterial properties<sup>19,41</sup>.



**FIG 10: CLARY SAGE**

### Carrier oil

Aromatherapy with carrier oils uses plant-based oils to dilute essential oils for safe topical use. Carrier oils, which are obtained from nuts, seeds, or kernels, serve to transport essential oils into the skin while also delivering therapeutic effects<sup>86</sup>.

### Coconut oil

Coconut oil (*Cocos nucifera*) is a versatile carrier oil that is widely used in cosmetics, hair care, and aromatherapy. It includes medium-chain fatty acids and has antimicrobial, moisturizing, and anti-inflammatory properties. It profoundly hydrates dry skin, reduces inflammation, and speeds up wound healing<sup>87</sup>. In hair care, it strengthens strands, minimizes frizz, and prevents protein loss (Figure 11). Coconut oil also works as a natural makeup remover and lip balm. Its antioxidant concentration helps to prevent premature aging, and its antibacterial properties make it beneficial for acne-prone skin. Coconut oil, both refined and unprocessed, is a natural beauty and wellbeing mainstay<sup>88,89</sup>.



**FIG 11: COCONUT OIL**

### Olive oil

Olive oil (*Olea europaea*) is a nutrient-rich carrier oil known for its emollient, antioxidant, and anti-inflammatory qualities. It has a high concentration of vitamins E and K, polyphenols, and healthy fats, all of which nourish the skin, alleviate dryness, and aid in tissue regeneration. Olive oil is commonly used in skincare to reduce aging, relieve inflammation, and protect against environmental harm<sup>90,91</sup>. It strengthens hair strands, provides gloss, and helps to prevent split ends (Figure 12). Its anti-inflammatory qualities make it useful for

treating eczema and psoriasis. Olive oil is used in massage and aromatherapy to promote relaxation, skin health, and overall well-being<sup>92</sup>.



**FIG 11: OLIVE OIL**

### Jojoba oil

Jojoba oil (*Simmondsia chinensis*) is a light, non-comedogenic carrier oil that closely resembles the skin's own sebum. It profoundly hydrates, controls oil production, and soothes sensitive or acne-prone skin<sup>19</sup>. Its anti-inflammatory qualities aid to relieve eczema, psoriasis, and sunburn. Jojoba oil is also beneficial to scalp health, decreasing dandruff and increasing hair growth (Figure 13). It absorbs fast without leaving a greasy behind, making it an excellent choice for face serums and massage oils. Jojoba oil is a common ingredient in natural skincare, aromatherapy, and cosmetic formulations due to its high stability and long shelf life<sup>93</sup>.



**FIG 13: JOJOBA OIL**

### Castor oil

Castor oil (*Ricinus communis*) is a nutrient-dense carrier oil with powerful moisturizing, anti-inflammatory and antibacterial benefits. Its high ricinoleic acid content eliminates acne, soothes sensitive skin, and promotes wound healing<sup>94</sup>. Castor oil is widely used to strengthen roots, stimulate hair growth, thicken brows and eyelashes, and treat dandruff. It also works as a laxative when taken orally (Figure 14). It helps to remove scars, reduce wrinkles, and moisturize dry skin. Because of its thickness, castor oil is commonly used with lighter oils for massage and aromatherapy. Because of its flexibility, it is vital for wellness and beauty routines<sup>95,96</sup>.



**FIG 14: CASTOR OIL**

### Sesame oil

Sesame oil (*Sesamum indicum*) is nutrient-dense carrier oil renowned for its antioxidant, anti-inflammatory, and profoundly hydrating characteristics. It is high in vitamin E, zinc, and vital fatty acids, which nourish the skin, improve wound healing, and help protect against UV damage<sup>97,98</sup>. It is used in Ayurvedic massage (Abhyanga) to improve circulation, detoxify, and relieve joint discomfort (Figure 15). Sesame oil helps to strengthen roots, prevent dandruff, and give gloss to hair. Its antibacterial and antifungal qualities make it suitable for treating mild skin infections. Sesame oil, with its warm, somewhat nutty aroma, is commonly used in aromatherapy, cosmetics, and traditional medicinal therapies<sup>99-101</sup>.





FIG 15: SESAME OIL

### Conclusion

A natural and comprehensive method for improving mental, emotional, and physical health is aromatherapy. Essential oils including lavender, peppermint, and eucalyptus have been shown to have therapeutic effects, and research supports their advantages in pain management, stress alleviation, and sleep enhancement. But issues like purity, standardization, and possible adverse effects draw attention to the necessity of using it carefully. Aromatherapy should not be used in place of medical care, even while it supports traditional therapies. To confirm its effectiveness, safe use and additional study are necessary. Aromatherapy can remain an effective supplemental treatment for general health and wellness with appropriate use and scientific research.

### Reference

1. Agnihotry, S., et al., *Aromatherapy Evolution and Blending Basics of Essential Oils*. Aromatherapy: The Science of Essential Oils, 2024: p. 1.
2. Agnihotry, S., et al., *Aromatherapy evolution and blending basics of essential oils*, in *Aromatherapy: The Science of Essential Oils*. 2024, Bentham Science Publishers. p. 1-30.
3. Sattayakhom, A., S. Wichit, and P. Koomhin, *The effects of essential oils on the nervous system: a scoping review*. *Molecules*, 2023. 28(9): p. 3771.
4. MALAKAR, M., *Lavandula spp.(Lavender): A Herb More Than Just a Relaxing Scent*. *Advances in Medicinal and Aromatic Plants: Production, Processing, and Pharmaceutics*, 2-volume set, 2024: p. 315.
5. Mahato, D., H. Mahto, and S. Kumari, *Medicinal and Aromatic Plant Cultivation and Sustainable Development*, in *Industrial Crops Improvement: Biotechnological Approaches for Sustainable Agricultural Development*. 2025, Springer. p. 135-153.
6. Sharmeen, J.B., et al., *Essential oils as natural sources of fragrance compounds for cosmetics and cosmeceuticals*. *Molecules*, 2021. 26(3): p. 666.
7. Caballero-Gallardo, K., P. Quintero-Rincón, and J. Olivero-Verbel, *Aromatherapy and Essential Oils: Holistic Strategies in Complementary and Alternative Medicine for Integral Wellbeing*. *Plants*, 2025. 14(3): p. 400.
8. Parker, S., *A Short History of Medicine*. 2022: Dorling Kindersley Ltd.
9. Jafari-Koulaee, A., et al., *A systematic review of the effects of aromatherapy with lavender essential oil on depression*. *Central Asian journal of global health*, 2020. 9(1).
10. Farrar, A.J. and F.C. Farrar, *Clinical aromatherapy*. *The Nursing Clinics of North America*, 2020. 55(4): p. 489.
11. King, A., *Medieval islamicate aromatherapy: Medical perspectives on aromatics and perfumes*. *The Senses and Society*, 2022. 17(1): p. 37-51.
12. Mariss, A., *GLOBAL ITINERARIES, CURATIVE EFFECTS, AND SACRED SCENTS*.
13. Cimino, C., et al., *Essential oils: Pharmaceutical applications and encapsulation strategies into lipid-based delivery systems*. *Pharmaceutics*, 2021. 13(3): p. 327.
14. Khatib, C., *Aromatherapy: Historical, Phytochemical Insights and Therapeutic Applications*, in *Alternative Medicine-New Insights*. 2024, IntechOpen.
15. Panda, S., et al., *Essential oils and their pharmacotherapeutics applications in human diseases*. *Advances in Traditional Medicine*, 2020: p. 1-15.
16. Liang, J., et al., *Essential oils: Chemical constituents, potential neuropharmacological effects and aromatherapy-A review*. *Pharmacological Research-Modern Chinese Medicine*, 2023. 6: p. 100210.
17. Rowland, E., *The Healing Power of Scent: A beginner's guide to the power of essential oils*. 2024: David and Charles.
18. Vora, L.K., et al., *Essential oils for clinical aromatherapy: A comprehensive review*. *Journal of ethnopharmacology*, 2024: p. 118180.
19. Heshelow, E., *Essential Oils Book For Beginners: Improve Sleep, Energy, Digestion, Skin, and Immune System By Understanding The Power of Essential Oils and The Basics and Science Behind It*. 2023: Emma Heshelow.

20. Cui, J., et al., *Inhalation aromatherapy via brain-targeted nasal delivery: Natural volatiles or essential oils on mood disorders*. *Frontiers in pharmacology*, 2022. 13: p. 860043.
21. Maleš, I., et al., *The medicinal and aromatic plants as ingredients in functional beverage production*. *Journal of Functional Foods*, 2022. 96: p. 105210.
22. Zayed, A., M.T. Badawy, and M.A. Farag, *Valorization and extraction optimization of Citrus seeds for food and functional food applications*. *Food Chemistry*, 2021. 355: p. 129609.
23. Bunse, M., et al., *Essential oils as multicomponent mixtures and their potential for human health and well-being*. *Frontiers in Pharmacology*, 2022. 13: p. 956541.
24. Kieffer, K.G., *Smelling Things: Essential Oils and Essentialism in Contemporary American Spirituality*. *Religion and American Culture*, 2021. 31(3): p. 297-331.
25. Upton, R., et al., *Botanical ingredient identification and quality assessment: strengths and limitations of analytical techniques*. *Phytochemistry Reviews*, 2020. 19(5): p. 1157-1177.
26. Mihailov, L., V. Poroch, and A. Pascu, *Aromatherapy—A Non-Pharmacological Approach in Pain Control*. *Bulletin of the Transilvania University of Brasov. Series VI: Medical Sciences*, 2023: p. 69-84.
27. Gong, M., et al., *Effects of aromatherapy on anxiety: A meta-analysis of randomized controlled trials*. *Journal of affective disorders*, 2020. 274: p. 1028-1040.
28. Hartley, N. and C.S. McLachlan, *Aromas influencing the GABAergic system*. *Molecules*, 2022. 27(8): p. 2414.
29. Faridzadeh, A., et al., *Neuroprotective potential of aromatic herbs: rosemary, sage, and lavender*. *Frontiers in Neuroscience*, 2022. 16: p. 909833.
30. Baptista-Silva, S., et al., *The progress of essential oils as potential therapeutic agents: A review*. *Journal of Essential Oil Research*, 2020. 32(4): p. 279-295.
31. Buriti, B.M.A.d.B., et al., *Polymer-based wound dressings loaded with essential oil for the treatment of wounds: A review*. *Pharmaceuticals*, 2024. 17(7): p. 897.
32. Daniel, D., *Understanding the Effects of Aromatherapy on Individuals with Symptoms of Posttraumatic Stress Disorder*. 2020, California Southern University.
33. Ke, M.-H., K.-T. Hsieh, and W.-Y. Hsieh, *Effects of Aromatherapy on the Physical and Mental Health and Pressure of the Middle-Aged and Elderly in the Community*. *Applied Sciences*, 2022. 12(10): p. 4823.
34. Willem, J.-P., *Alzheimer's, Aromatherapy, and the Sense of Smell: Essential Oils to Prevent Cognitive Loss and Restore Memory*. 2022: Simon and Schuster.
35. Gurkok, S. and S. Sezen, *Uses of Essential Oils in Different Sectors*. *Essential Oils: Extraction Methods and Applications*, 2023: p. 207-228.
36. Cohen, J., *Essential Oils to Boost the Brain and Heal the Body: 5 steps to calm anxiety, sleep better, and reduce inflammation to regain control of your health*. 2021: Ten Speed Press.
37. Koyama, S. and T. Heinbockel, *The effects of essential oils and terpenes in relation to their routes of intake and application*. *International journal of molecular sciences*, 2020. 21(5): p. 1558.
38. Mohale, M.B., *Chemical profiling and determination of antioxidant and antibacterial properties of selected essential oils*. 2022, Central University of Technology.
39. Shutes, J. and A. Galper, *Aromatherapy Companion: A Portable Guide to Blending Essential Oils and Crafting Remedies for Body, Mind, and Spirit*. 2022: Fair Winds Press (MA).
40. Robinson, L., *Aromatherapy: Harness the Power of Essential Oils to Relax, Restore, and Revitalise*. 2020: Dorling Kindersley Ltd.
41. Vishali, S., E. Kavitha, and S. Selvalakshmi, *Therapeutic Role of Essential Oils*. *Essential Oils: Extraction Methods and Applications*, 2023: p. 953-976.
42. Shahid, R., et al., *Aromatherapy in Healthcare: Harnessing the Power of Essential Oil*. *Complementary and Alternative Medicine: Essential Oils*: p. 24.
43. Guzmán, E. and A. Lucia, *Essential oils and their individual components in cosmetic products*. *Cosmetics*, 2021. 8(4): p. 114.
44. Vostinaru, O., S.C. Heghes, and L. Filip, *Safety profile of essential oils*. *Essential Oils-Bioactive Compounds, New Perspectives and Applications*, 2020: p. 1-13.
45. Fernandes, L.C.B., et al., *Essential oils in experimental models of neuropsychiatric disorders: A systematic review*. *Current Neuropharmacology*, 2021. 19(10): p. 1738-1759.
46. Chopra, D., et al., *Future Perspective of Aromatherapy in Skin and Cancer Therapeutics*. *Aromatherapy: The Science of Essential Oils*, 2024: p. 276.
47. Bajaj, S. and H. Bansal, *Aromatic medicine*, in *Herbal product development*. 2020, Apple Academic Press. p. 257-291.
48. Kaushik, A., et al., *Aromatherapy with essential oils reduces the risk of anxiety, insomnia and depression and efficacious in many numerous ailments: A Review*.

49. Batiha, G.E.-S., et al., *A review of the bioactive components and pharmacological properties of Lavandula species*. Naunyn-schmiedeberg's Archives of Pharmacology, 2023. 396(5): p. 877-900.
50. Anthis, C., *Essential Oils for Soothing Anxiety: Remedies and Rituals to Feel Calm and Refreshed*. 2020: Sourcebooks, Inc.
51. Vaou, N., et al., *Towards advances in medicinal plant antimicrobial activity: A review study on challenges and future perspectives*. Microorganisms, 2021. 9(10): p. 2041.
52. Pokajewicz, K., et al., *Lavandula x intermedia—a bastard lavender or a plant of many values? Part ii. Biological activities and applications of lavandin*. Molecules, 2023. 28(7): p. 2986.
53. Halder, D., et al., *Aroma therapy: An art of healing*. Indian Research Journal of Pharmacy and Science, 2018. 17: p. 1540-58.
54. Mahanta, B.P., et al., *Thermolabile essential oils, aromas and flavours: Degradation pathways, effect of thermal processing and alteration of sensory quality*. Food Research International, 2021. 145: p. 110404.
55. Sokol, D., *The impact of storage on the chemical & sensory properties of a formulated" cola" flavour*. 2020.
56. Sharma, R., R. Nanda, and N. Bhagat, *Citrus Flavours*, in *Citrus Fruits and Juice: Processing and Quality Profiling*. 2024, Springer. p. 275-299.
57. Ohadinia, S., et al., *Complex Antimicrobial Interactions of Essential Oils—The Case of Thymus vulgaris (thyme)*. Molecules 2014; 19: 2896–2910 [7] Ahmad A, Viljoen A, Chenia HY. *The impact of plant volatiles on bacterial quorum sensing*. Lett Appl. Health Med, 2003. 9: p. 58-61.
58. Hudz, N., et al., *Mentha piperita: Essential oil and extracts, their biological activities, and perspectives on the development of new medicinal and cosmetic products*. Molecules, 2023. 28(21): p. 7444.
59. Sommano, S.R., et al., *Effect of elevated CO<sub>2</sub> during low temperature storage on the Quality Attributes of Cut Spearmint*. Horticulturae, 2022. 8(2): p. 126.
60. Mokhtarian, M., A. Kalbasi-Ashtari, and H.-W. Xiao, *Effects of solar drying operation equipped with a finned and double-pass heat collector on energy utilization, essential oil extraction and bio-active compounds of peppermint (Mentha Piperita L.)*. Drying Technology, 2022. 40(5): p. 897-923.
61. Kumar, S., A. Kumar, and K. Samanta, *PREPARATION & EVALUATION OF A BALM BY USING NATURAL POLY HERBAL MEDICINAL PLANTS HAVE MORE POTENT AND MIRACLE POWER AGAINST PAIN*. 2023.
62. Ahluwalia, S. and N. Kaur, *Bioactive Compounds in Mint*, in *Spice Bioactive Compounds*. 2022, CRC Press. p. 245-268.
63. Heghes, S.C., et al., *Antispasmodic effect of essential oils and their constituents: A review*. Molecules, 2019. 24(9): p. 1675.
64. Negi, S., A.K. Srivastav, and L. Bala, *Human Organs System and Essential Oils (EOs)*, in *Aromatherapy: The Science of Essential Oils*. 2024, Bentham Science Publishers. p. 168-206.
65. Ravindran, P., *Basil, Chamomile, Lemon Balm, Rosella, Rosemary and Scented Geranium*, in *Handbook of Spices in India: 75 Years of Research and Development*. 2023, Springer. p. 3233-3314.
66. Zengin, G., et al., *A comparative study of chamomile essential oils and lipophilic extracts obtained by conventional and greener extraction techniques: chemometric approach to chemical composition and biological activity*. Separations, 2022. 10(1): p. 18.
67. Panwar, S., et al., *Rosemary (Salvia rosmarinus)*, in *Edible Flowers*. 2024, Elsevier. p. 249-270.
68. Butnariu, M., *Plants as source of essential oils and perfumery applications*. Bioprospecting of plant biodiversity for industrial molecules, 2021: p. 261-292.
69. Smith, F., *Organ Systems*, in *Naturopathic Medicine: A Comprehensive Guide*. 2022, Springer. p. 225-413.
70. Chao, M.V., *Periphery: How Your Nervous System Predicts and Protects Against Disease*. 2023: Harvard University Press.
71. Ayati, Z., D. Chang, and J. Lake, *Advances in treatment of mild cognitive impairment (MCI) and dementia: A review of promising non-pharmaceutical modalities*. Frontiers in Clinical Drug Research-Dementia: Volume 1, 2020: p. 78-131.
72. Abelan, U.S., et al., *Potential use of essential oils in cosmetic and dermatological hair products: A review*. Journal of cosmetic dermatology, 2022. 21(4): p. 1407-1418.
73. Teuscher, E., U. Lindequist, and T. Niedermeyer, *Also in this Series*.
74. Agrawal, M., et al., *Essential Oil: Its Chemistry, Biochemistry and Application*, in *The Chemistry inside Spices & Herbs: Research and Development: Volume 4*. 2024, Bentham Science Publishers. p. 157-174.
75. Ben Miri, Y., *Essential Oils: Chemical Composition and Diverse Biological Activities: A Comprehensive Review*. Natural Product Communications, 2025. 20(1): p. 1934578X241311790.
76. Kazmi, F., et al., *The Healing Power of Aromatherapy: Essential Oils in Medical Sciences*. Complementary and Alternative Medicine: Essential Oils: p. 35.
77. Rabow, S., *Maternal Hemodynamic Effects of Medical Gases and Uterotonics in Obstetrics*. 2023.

78. Darrell, N., *Essential oils: a concise manual of their therapeutic use in herbal and aromatic medicine*. 2022: Aeon Books.
79. Liu, C., et al., *A Pharmacotherapeutic Approaches for Managing Labour Pain Using Synthetic Drugs and Natural Therapies*. *Combinatorial Chemistry & High Throughput Screening*, 2024. 27(9): p. 1276-1285.
80. Guo, P., et al., *The effectiveness of aromatherapy on preoperative anxiety in adults: A systematic review and meta-analysis of randomized controlled trials*. *International Journal of Nursing Studies*, 2020. 111: p. 103747.
81. Swamy, M.K., M.S. Akhtar, and U.R. Sinniah, *Antimicrobial properties of plant essential oils against human pathogens and their mode of action: an updated review*. *Evidence-Based Complementary and Alternative Medicine*, 2016. 2016(1): p. 3012462.
82. Mahumane, G.D., *Antimicrobial activity and chemical analysis of eucalyptus radiata leaf essential oil*. 2016, University of the Witwatersrand, Johannesburg (South Africa).
83. Mworia, J.K., *Phytochemical Profile, Antipyretic, Analgesic and Anti-Inflammatory Potential of Dichloromethane Leaf Extracts of Eucalyptus Globulus (Labill) and Senna Didymobotrya (Fresenius)*. Kenyatta University, 2021.
84. da Silveira, A.C., et al., *Óleos essenciais de espécies de eucaliptos*. 2021.
85. O'Mahony Carey, S., *Psychoactive substances: a guide to ethnobotanical plants and herbs, synthetic chemicals, compounds and products*. 2014.
86. Eric Zielinski, D. and S.A. Zielinski, *The Essential Oils Apothecary: Advanced Strategies and Protocols for Chronic Disease and Conditions*. 2021: Rodale Books.
87. Logamorthy, R. and K. Karthikeyan, *Coconut oil–Nature's own emollient*. *Indian Journal of Dermatology, Venereology and Leprology*, 2025: p. 1-3.
88. Gropoșilă-Constantinescu, D., et al., *Moisturizers made with natural ingredients*. *Scientific Bulletin Series F. Biotechnologies*, 2023. 27(1).
89. JOHNS, C. and D.S. Antony, *ANTI-BACTERIAL AND ANTI-INFLAMMATORY PROPERTIES OF DIFFERENT TYPES OF COOKING OILS*. 2024.
90. Selwyn, A. and S. Govindaraj, *Study of plant-based cosmeceuticals and skin care*. *South African Journal of Botany*, 2023. 158: p. 429-442.
91. Jimenez-Lopez, C., et al., *Bioactive compounds and quality of extra virgin olive oil*. *Foods*, 2020. 9(8): p. 1014.
92. Casadei, E., et al., *Emerging trends in olive oil fraud and possible countermeasures*. *Food Control*, 2021. 124: p. 107902.
93. Gad, H.A., et al., *Jojoba oil: an updated comprehensive review on chemistry, pharmaceutical uses, and toxicity*. *Polymers*, 2021. 13(11): p. 1711.
94. Trak, N.H.D.T.H. and M.F.H.D.D. Chauhan, *Skin care secrets from herbal world*. 2022: Notion Press.
95. Farooq, A.Z., et al., *EXTRACTION AND PURIFICATION OF CASTOR OIL FROM CASTOR SEEDS TO STUDY ITS NUTRITIONAL AND BIOMEDICAL IMPORTANCE*. *The Research of Medical Science Review*, 2025. 3(1): p. 493-500.
96. Subramaniyan, V., *Therapeutic importance of castor seed oil*, in *Nuts and Seeds in Health and Disease Prevention*. 2020, Elsevier. p. 485-495.
97. Chau, C.-F., J.-Y. Ciou, and C.-L. Wu, *Commercialized sesame oil analysis: quality characterization and oxidative stability of blended sesame oil*. *ACS Food Science & Technology*, 2021. 1(7): p. 1222-1227.
98. Marshall, T., et al., *Aroma Compounds of Carrier Oils*. *AppliedChem*, 2023. 3(4): p. 546-580.
99. Price, S. and L. Price, *Carrier oils*. *Aromatherapy for Health Professionals Revised Reprint E-Book*. Amsterdam, The Netherlands: Elsevier Limited, 2021: p. 151.
100. Yahaya, Z.S., et al., *Evaluation of diclofenac emulgel prepared with sesame oil as a lipophilic carrier*. *Tropical Journal of Pharmaceutical Research*, 2023. 22(10): p. 2021-2027.
101. Yoshimura, H., et al., *Controlling microdroplet inner rotation by parallel carrier flow of sesame and silicone oils*. *Micromachines*, 2021. 13(1): p. 9.