

Aromatherapy

Aromatherapy derives its name from the word aroma, which means fragrance, and therapy, which means treatment. This therapy is a natural way of healing a person's mind, body and spirit. Aromatherapy uses essential oils as the main therapeutic agents, which are said to be highly concentrated substances extracted from flowers, leaves, stalks, fruits and roots, and distilled from resins. Essential oils are a mixture of saturated and unsaturated hydrocarbons, alcohol, aldehydes, esters, ethers, ketones, oxides phenols and terpenes, which may produce characteristic odors. They are colorless pleasant-smelling liquids with a high refractive index. Essential oils are prescribed for a variety of health problems by traditional systems of medicine, all over the world. Various pharmaceutical and biological activities such as antibacterial, antifungal, anticancer, antimutagenic, antidiabetic, antiviral, anti-inflammatory, and antiprotozoal properties are assigned to them. Extensive phytochemical analysis has led to the characterization and identification of major components of EOs which are of wide interest, especially to cosmetic and pharmaceutical industries.

For thousands of years, many ancient civilizations - including Egypt, China and India - have used aromatherapy as a popular complementary and alternative therapy. The following is a brief historic account.

History of Aromatherapy

Available evidence suggests that humankind recognized the power of aromatics as early as the Neolithic Period, which ended some 4,000 years ago. Aromatic herbs may have been used in cooking and medicine, as indicated by the discovery of medicinal plant deposits found in graves dating from some 8,000 years ago. Egyptian culture used resins, balms and fragrant oils for medical, magical and religious ceremonies, for embalming, and as an offering to their gods. Other ancient cultures recognized the physical and psychological benefits of scented ointments and oils, including China and India, during the same period as ancient Egypt. Greek and Roman cultures refined and added to this knowledge.

Hippocrates, known as the father of modern medicine, maintained 2,500 years ago that “the key to good health rests on having a daily aromatic bath and scented massage”. Dioscorides wrote about aromatics in his *Materia Medica* about 100 AD. With the fall of the Roman Empire and the expansion of Christianity, Roman physicians fled to

Constantinople with the books of Galen, Dioscorides and Hippocrates. These were translated into Persian and Arabic and passed into the Arab world. Most aromatic oils used (prior to about 1600 AD) were not distilled, as we know today, but were produced by macerating plants in hot vegetable oils or more commonly in animal fats. Distillation of some sort is an age-old process, which may have begun as early as 2000 BC. This suggests that the Arabs revived or improved upon the process that had been known but perhaps little used for over 4,000 years.

Between the 7th and the 13th centuries, Alchemist Arabic philosophers devoted themselves to the old hermetic art of alchemy, the purification and concentration of spiritual forces. Reviving the use of aromatics in medicine and perfumery, they perfected the techniques. Alchemists optimistically searching for the "elixir of life" and "the philosophers' stone" made many chemical discoveries.

16th Century

By the 16th century, the printing press made possible the spread of aromatic and herbal knowledge, resulting in many herbal books; moreover, "waters" and "chemical oils" could be bought from the local Apothecaries' shops. A German physician, Hieronymus Braunschweig, wrote several books on essential oil distillation. In 1597, he referenced 25 essential oils included rosemary, lavender, clove, cinnamon, myrrh and nutmeg.

By the beginning of the 17th century, with the isolation of Artemisia, bergamot, cajaput, chervil, cypress, mustard, orange-flower, pine, savin, thuja and valerian along with others, most of the useful essentials of Europe and the Near East had been discovered. The 17th and 18th centuries saw the beginnings of the common use of essential oils and aromatics for health. During the great plague of Toulouse (1628-1631), a formula was revealed by four thieves caught red-handed. Thus began the story of the origin of the "Four Thieves Vinegar" which used herbs and spices in vinegar. The next few centuries saw the medicinal properties and applications of essential oils analyzed and recorded. These included such oils as cedar, cinnamon, frankincense, juniper, rose, rosemary, lavender, sage, Artemisia, cajaput, chervil, orange flower, valerian and pine.

With the arrival of technical chemistry and modern science in the 1800s, the scientific revolution of the early 19th century began, and aromatics were investigated more scientifically; attempts were made to control the adulteration of essential oils from the 18th century onwards. This science revolution had two important effects on the study of essential oils : (1) By 1887, we saw the first recorded laboratory tests on the anti-bacterial properties of essential oils - thus spurring natural practitioners and herbalists to continue to use essential oils widely in herbal preparations. But (2) the mainstream medical profession became firmly fixed on isolating the active principles of natural substances and producing chemicals as drugs, which remains today.

As research on essential oils continued, Drs. Gatti and Cajola, (Italy, 1923) published "The Action of Essences on the Nervous System", explaining how odors influence mood and emotion and defining two opposing states of anxiety and depression. They demonstrated that, by reflex action, the sense of smell influences the function of the central nervous system. Their work also included information on medicinal and skin care properties. Paolo Rovesti (1973), Professor and Research Director of the Instituto Derivati Vegetali, Milan University, Italy, showed antiseptic properties and psychological properties (stimulant/sedative). Citrus (bergamot) was first clinically proven to be beneficial to anxiety and depression.

In 1928, the French perfumer and cosmetic chemist Rene M. Gattefosse, was researching the cosmetic uses of essential oils. He was badly burnt in an explosion and began to use lavender when the wound was not healing; he was surprised when the skin healed at a phenomenal rate with no sign of infection or scar. He published his book *Aromatherapie* showing the use of essential oils as antiseptic, antibacterial skincare and coined the term "Aromatherapy". In an article, he said: "The French cosmetic chemists are concerned that the natural complexes should be utilized as complete building units in the instance without being broken up. Dermatological therapy would, thus, develop into "Aromatherapy" or a therapy employing aromatics in a sphere of research opening enormous vistas to those who have started exploring it".

Jean Valnet, a French doctor and researcher/scientist, had a background in using herbs therapeutically and began using essential oils for treating patients during his time in French colonial Vietnam. He realized the potential of essential oils as part of treatment for specific medical and psychiatric disorders and by 1954, had established doses; the results were published in the book *Practice of Aromatherapy* (1964). This became our first materia aromatica of recent times and was a consolidation and expansion of the therapeutic applications of essential oils. He not only re-integrated essential oils as treatment into herbal medicine, but also brought essential oils full circle back to the way they were originally used during the Renaissance. Considered the father of modern essential oil medicine, his students include Belaiche, Lapraz, Durafourd, Penoel, and Mailhebiau. They have continued to develop his approach from the 1960s to the present day.

Marguerite Maury, a nurse and surgical assistant with an interest in biochemistry, explored the therapeutic use of oils in the 1940s and wrote *The Secret of Life and Youth*. She combined essential oils and massage, producing a medico-cosmetic therapy. She conceived the notion for the "individual prescription" (or IP), which is a blend to operate on physical/psychological/spiritual levels, to normalize the unbalanced functions of the whole person. In describing the effect of essential oils on the psyche, she said: "But of the greatest interest is the effect of fragrance on the psychic and

mental state of the individual. Powers of perception become clearer and more acute and there is a feeling of having, to a certain extent, outstripped events. They are seen more objectively and therefore in truer perspective." (ii) Maury is responsible for the type of non-medical aromatherapy that developed in England in the 1950s. Madeline Arcier carried on Maury's work, operating a clinic and school in London. Danielle Ryman, a student, is responsible for the reprinting of Maury's book. Robert Tisserand, a massage therapist from the UK, influenced by both Valnet and Maury, wrote the very first aromatherapy book in English in 1977 entitled, "The Art of Aromatherapy". This book became the inspiration and reference for virtually every future author on the subject for almost two decades. This holistic approach is the foundation of what is globally generally called "aromatherapy".

Physiological Mechanisms

For centuries, the essential oils have found their importance as a fragrance with a curative potential on the body, mind and spirit. These aroma molecules are very potent organic plant chemicals that make the surroundings free from disease, bacteria, virus and fungus. Their versatile character of antibacterial, antiviral, anti-inflammatory nature along with immune booster body with hormonal, glandular, emotional, circulatory, calming effect, memory and alertness enhancer, is well documented by many scientists. The stimulation properties of these oils lay in their structure, which closely resembles actual hormones. 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 the limbic and hypothalamus parts of the brain via the olfactory bulb. These signals cause the brain to release neuro-messengers such as serotonin, endorphin *etc.*, to link our nervous and other body systems, assuring a desired change and to provide a feeling of relief. Serotonin, endorphin and noradrenalin are released from calming oil, euphoric, and stimulating oil, respectively, to give the expected effect on mind and body.

Some Plants Used in Aromatherapy

Many plants have been used in aromatherapy due to the presence of essential or volatile oils in different parts of the plant - including the flowers, barks, stems, leaves, roots, fruits, etc. Some of the plants used in aromatherapy are summarized below.

Anise (*Pimpinella anisum*). It works against distensions, coughing, colic, gut and stomach spasms, low digestive secretions and dry mucosae, bronchitis; it stimulates lactation in new mothers.

Bergamot orange (*Citrus x bergamia*). It works against anxiety, irritability, stress, distension, gut infections, colic, vaginal infections, stomach cramps. It is good for scars, but it must not be applied on the skin before sun exposure.

Fir. It is effective against bronchitis, tracheitis, laryngitis, sinusitis, general weakness, rheumatism.

Basil (*Ocimum basilicum*) treats anxiety, depression, irritability, nausea, stomach cramps, insect bites, lactation problems, pharyngitis, laryngitis, asthma, colds, colitis, parasites, migraines. Basil is a refresher and stimulant, intensifying sweating, lowering fever, and stimulating secretions. Pregnant women should avoid it.

Thyme (*Thymus vulgaris*) treats respiratory infections, coughing, colds, rheumatism, sole mycosis, lymph stasis, colitis and colitis, chronic cholecystitis. It is a powerful bactericide, and stimulates secretions. Pregnant women should avoid it.

Coriander (*Coriandrum sativum*) treats irritability, depression, respiratory infections, distension, constipations, stomach aches, intestinal parasites, meteorism. It is a powerful bactericide, expectorant, sedative, and digestion stimulator. It is not indicated in case of hypertension.

Eucalyptus (*Eucalyptus globulus*) treats respiratory infections, colds, sinusitis, headaches, neuralgia, ulcer, gut parasites, fever, urinary infections, cystitis, herpes, muscle pains, nephritis, hypoglycemia. It is a powerful bactericide, expectorant, analgesic, diuresis stimulator. It irritates the mucosae, that's why small doses must be used.

Clove (*Eugenia caryophyllata*) helps birth preparation. It is effective in distension, wounds, low libido, dyspepsia, diarrhea, tooth pain. It is a powerful disinfectant and scaring agent, raising at the same time the mood.

Pot marigold (*Calendula officinalis*) works against stomatitis, gingivitis, candidiasis, wounds, bleeding, infected plagues, eczema, acne, frozen bites, ulcer, colitis, respiratory infections.

Geranium (*Pelargonium odorantissimum*) is a refresher, mood enhancer and antiseptic. It fights anxiety, depression, nervous affections, stress, skin issues, it lowers blood's sugar and favors scaring in case of diabetes.

Jasmine (*Jasminum grandiflorum*) is a good sedative, refresher, aphrodisiac, and anti-fever agent. It works in respiratory infections, irritability, uterine contractions, menstrual pains, low libido, coughing.

Juniper is a powerful disinfectant of the urinary, digestive and respiratory tracts. It treats kidney stone, cystitis, urethritis, dyspepsia, distension), acne, chronic eczema, anorexia.

Lime (*Citrus limonum*) boosts immunity, blood and lymph circulation, digestion, sebum secretion. It treats colds, constipations, acne, gout, liver and spleen affections, hypertension and anemia.

Lavender (*Lavandula officinalis*) combats lack of appetite, respiratory infections, distension, colds, digestive issues, neuralgia, irritability, insomnia, stress, headaches, shock states, chronic colitis, sores and infected eczema, asthma. It chases away insects.

Marjoram (*Origanum majoranum*) works against respiratory infections, hypertension, migraines, irritability, constipations, colic, menstrual pains, insomnia, uterine cramps, muscle fever, rheumatism, wounds. It is disinfectant and scaring agent. It decreases libido and it should be avoided by pregnant women.

Mint (*Mentha piperita*) is effective against respiratory infections, colds, gastrointestinal infections, menstrual pains, diarrhea, nausea, migraines, sinusitis, asthenia, rheumatic pains, distension, vomits. It is disinfectant, stimulator, refresher, muscle relaxant, it decreases stomach acidity and it stimulates the liver and bladder. It irritates the mucosae, and should be taken in small amounts.

Chamomile (*Matricaria chamomilla*) fights abdominal colic, gastrointestinal infections, dysmenorrhea, infected sores and various skin affections.

Orange (*Citrus aurantium*) fights chronic diarrhea, flatulence, anxiety, depression, hysteria, panic attacks.

Lemon balm (*Melissa officinalis*) fights distension, irritability, gastric affections on nervous causes, menstrual pains, headaches, insomnia. It should not be applied on the skin before sun exposure.

Rosemary (*Rosmarinus officinalis*) is a refresher, antiseptic and circulation stimulator. It treats lack of appetite, low libido, physical tiredness, muscle fever, cramps, blood and liver conditions, depression, menopause issues. It must be avoided in case of hypertension.

Sage (*Salvia officinalis*) treats respiratory infections and colitis. Externally, 15-20 droplets can be poured in the bathtub, but the oil can also be employed in massage or aromatic candles.

Sandalwood (*Santalum album*) is a mood enhancer, aphrodisiac, antiseptic and expectorant. It fights depression, inflammation, coughing, skin disorders.

St. John's wort (*Hypericum perforatum*) treats stomatitis, gingivitis, candidiasis, gastritis, low bile, chronic colitis, constipations, benign tumors of the uterus and ovaries.

Rose is aphrodisiac, refresher, laxative; it stimulates blood circulation and balances hormones. It is recommended in affections of the blood vessels, uterus, ovaries, menstrual pain, irritability, dyspepsia, bile conditions, constipations, sterility.

Ylang-ylang (*Cananga odorata*) is an aphrodisiac, refresher, antiseptic and it decreases blood pressure. It is recommended in depression, low libido, tiredness, hypertension, wounds, irritability, and acne.

Usage

There are many ways to use essential oils. The six most common are as follows:

Aromatherapy Diffusers

Essential oil diffusers, or aromatherapy diffusers, offer a safe and easy way to fill a home or office with essential oils. Ultrasonic diffusers and nebulizers offer an efficient way to diffuse essential oils. Rather than heat, these diffusers use the vibration of water molecules to disperse essential oils into the air. Diffusers are used for home or office to create a fragrant smell with natural essential oils for any time the air is stagnant or indoor air quality is a concern.

Inhalations

This application is simple and can be done just about anywhere. For direct inhalation, simply open a bottle of essential oil, place it below the nose and inhale deeply. For palm inhalation, add a drop or two of oil to the palms, cup the palms around the face and inhale deeply.

Massage

Essential oils are many times more concentrated than the whole plant, which is why they are diluted before applying directly to the skin during massage. Dilutions are typically 2% - 10%. For adults, a 2.5% dilution is recommended for most purposes. For children under 12, 1% is generally safe. There are many great carrier oils from which to choose. Jojoba, marula, coconut, argan, and tamanu are all nourishing oils with a good shelf life. Rosehip and almond are also wonderful nourishing oils that require refrigeration to preserve.

The following formula may be used for dilution:

1% blend = 6 drops essential oil per oz. carrier oil

2% blend = 12 drops essential oil per oz. carrier oil
2.5% blend = 15 drops essential oil per oz. carrier oil

3% blend = 18 drops essential oil per oz. carrier oil

5% blend = 30 drops essential oil per oz. carrier oil

Facial steam

Add 1 - 5 drops of essential oil to a pot of hot water. Cover head with a towel and allow steam to circulate inside the towel. This practice is excellent for opening sinuses, easing tension, and invigorating the skin. Eucalyptus and rosemary essential oils are great for facial steams.

Baths

An aromatic bath is a luxurious way to relax, pamper the skin or feel better when unwell or tired. Always mix essential oils with a natural emulsifier such as milk; honey; oils like almond, sesame, or coconut; or sea salts before adding them to the bath. A generally safe dose is 5 - 10 drops of essential oils mixed with 1/2 - 1 cup of salt or emulsifier. Aromatic baths are excellent for supporting all systems of the body and creating a healthy and balanced state.

Caution: overuse of essential oils in the bath can cause irritation. Use only mild, non-irritating essential oils for bath, such as lavender, chamomile, and clary sage. Hydrosols can also be used instead of essential oils to create a safe and gentle aromatic bath.

Compresses

Compresses are a great way to apply essential oils to bruises, wounds, aches and pains, or skin problems. Mix 10 drops of essential oil in 4 oz. hot water. Soak a clean cloth and wrap the area to be treated. Leave the compress on for 10-20 minutes. Re-apply wrap if needed. Lavender, helichrysum, and tea tree essential oils are good to use in compresses.

Safety

In general, when used properly, essential oils are quite safe and highly beneficial. However, because their uses are still relatively unknown, people can and do hurt themselves by using these highly concentrated botanical substances improperly.

- Do not use essential oils internally unless under the guidance of a practitioner.
- Do not apply directly to skin; dilute with carrier oil.
- Keep out of reach of children.
- Avoid contact with eyes and mucous membranes.
- Do not use citrus oils before exposure to UV light.
- Use only pure essential oils; avoid synthetic fragrances.
- Do not use essential oils on infants, children, pregnant women, the elderly, or those with serious health problems, without advanced medical study.
- Avoid prolonged exposure without ventilation.
- Store essential oils and carrier oils properly to avoid degradation and rancidity.

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