



Aromatherapy: An Updated Review

Mr. Sanket P. Ambre^{1*}, Mr. Chetan Y. Arote², Mr. Mayureshwar J. Bagade³, Mr. Ajit R. Bhavar⁴, Dr. Ramdas B. Rode⁵

^{1,2,3,4}Final Year B. Pharmacy, Shri Swami Samarth Institute of Pharmacy, Malwadi (Bota), 422602, (MH), India.

⁵Research Guide, Department of Pharmaceutics, Shri Swami Samarth Institute of Pharmacy, Malwadi (Bota), 422602, (MH), India.

E-mail address: sambre2003@gmail.com, Tel: +919096143287

ABSTRACT:

Aromatherapy is referred to as "the art and science of utilizing naturally extracted aromatic essences from plants to balance, harmonize and promote the health of body, mind and spirit". The use of plant essential oils for therapeutic purposes is known as aromatherapy. Therapeutic uses of essential oils date back almost 6,000 years. They were employed in cosmetics, fragrances, and medications by the ancient Chinese, Indians, Egyptians, Greeks, and Romans.

One of the fastest-growing complementary and alternative medicine modalities is aromatherapy, which combines massage, counseling, and a pleasing aroma with essential oils and aromatic plant compounds. Using essential oils in aromatherapy can help reduce anxiety and stress. symptoms, which may obliquely contribute to better sleep

According to scientific research, aromatherapy the inhalation or absorption of aromatic plant extracts may also help reduce pain and calm the body.

The information on therapeutic, medicinal, cosmetic, psychological, olfactory, massage aromatherapy, safety concerns, and many plants used in aromatherapy is examined in this study of the literature. Electronic databases such Academic Journals, Ethnobotany, Google Scholar, PubMed, Science Direct, Web of Science, and library searches were used to assemble all of the information that was available.

Keywords: *Aromatherapy, Essential oils, Alternative medicines,*

INTRODUCTION:

Aromatherapy is commonly known as the practice of healing by scent, when in fact its effects go beyond the aromas and sense of smell. According to the National Association for Holistic Aromatherapy (NAHA) Aromatherapy is defined as "the art and science of utilizing naturally extracted aromatic essences from plants to balance, harmonize and promote the health of body, mind and spirit" [1]

The words aroma, which means fragrance or smell, and therapy, which means treatment, are the roots of the phrase aromatherapy. This therapy is a natural way of healing a person's mind, body and soul. Many ancient civilizations like Egypt, China and India have used this as a popular complementary and alternative therapy from at least 6 000 years [2]

When we consider our physical well-being, we frequently consider ways to be in shape, look better, and feel better about ourselves. However, we frequently overlook the equally vital aspect of our mental well-being! Everyone experiences stress, and it can negatively impact both your mental and physical health. For this reason, it's critical to discover strategies for lowering your daily stress levels.

Stress can have an overall negative effect on our health, hurting both our mental and physical well-being. The stress of daily life can completely destabilize us and have many negative side effects if we don't know how to control it

Anxiety, tension, and melancholy brought on by stress can result in memory impairment, diminished focus, and mood changes that happen frequently. Stress not only has detrimental impacts on our mental health but also increases our chances of high blood pressure, poor digestion, skin issues. This can increase our susceptibility to infections; some people successfully handle such a problem complementary therapies such as aromatherapy, mindfulness.

Aromatherapy treatments using essential oils are often applied topically, inhaled, and very infrequently, taken internally through the mouth. The application of essential oils therapeutically might be classified as an active treatment or preventive strategy. Therapy does not, however, restrict the application of essential oils. Aromatherapy is being used in spa treatments to promote relaxation, which some may say qualify as stress relief. Essential oils are derived from natural sources, primarily plants, despite having a widely diverse spectrum of scents and effects.[3]

HISTORY OF AROMATHERAPY:-

Another important figure in the history of aromatherapy was the Greeks. Greek perfumer Megallus created a scent he named megaleion that included myrrh. It is claimed that Hippocrates, the "father of medicine," used aromatherapy for therapeutic purposes before the term was coined. According to Greek mythology, the gods were endowed with the ability to smell and create scent.

The origins of aromatherapy are unclear, although it is believed that the Egyptians invented one of the earliest devices for distilling essential oils from plants, such as cedarwood, clove, and cinnamon, among others, which were then used to embalm the deceased. However, it is believed that the use of infused aromatic oils to improve mood originated in China.

The name "aromatherapy" was originally used in 1937 by French scientist Rene-Maurice Gattefosse, who became interested in the therapeutic properties of essential oils after suffering a burn. Following Gattefosse's "discovery" that his burn was healed by lavender oil, French surgeon Jean Valnet employed essential oils to treat troops' wounds during World War II, demonstrating the therapeutic advantages of aromatherapy.[4,5,6]

CLASSIFICATION OF AROMATHERAPY:-

1) Cosmetic aromatherapy:

Certain essential oils are used in this therapy in conjunction with cosmetic products for the face, body, and hair. These products are used for their different purposes, such as toning, drying, cleansing, and moisturizing. Essential oils can be used in facial products to achieve healthy skin. Personal experience-wise, a full body or foot bath with cosmetic aromatherapy will be easy and productive. Similar to this, a few drops of the right oil provide a restorative and energizing effect.[7]



Figure:1

2) Massage aromatherapy:

It has been demonstrated that using pure vegetable oil infused with grape seed, almond, or jojoba oil during massage produces amazing results. Another name for this is the "healing touch" of massage therapy.[8,9]



Figure:2

3) Medical aromatherapy:

The founder of modern aromatherapy Rene-Maurice Gatte-fosse has used essential oils to massage patients during surgery, thus utilizing the medical aromatherapy knowledge of the effect of essential oils on promoting and treating clinically diagnosed medical ailments [10]



Figure:3

4) Olfactory aromatherapy:

Olfactory aromatherapy, which is based on the inhalation of essential oils, has been shown to promote emotional well-being, tranquility, relaxation, or rejuvenation of the human anatomy. Stress relief is combined with enjoyable aromas that trigger memory associations. Essential oils work well together to medical care and should never be regarded as a substitute

For it[11]

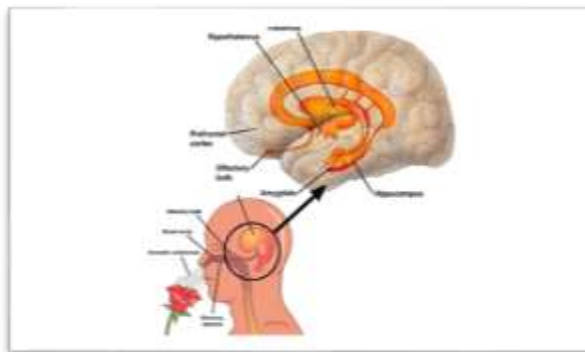


Figure:4




5) Psycho-aromatherapy:




These oils can be used in psycho-aromatherapy to evoke specific moods and emotions, such as the pleasure of relaxation, invigoration, or a pleasant memory. The breathing of the oils used in this therapy are applied directly through the room's infusion. Aromacology and psycho-aromatherapy both address with the investigation of scent, whether artificial or natural. Psycho-aromatherapy's scope has been restricted to the study of natural vital oils [12]









Figure:6

ESSENTIAL OILS AND THEIR SOURCES:

Essential Oil	Biological Source	Family	Uses
<p style="text-align: center;">Peppermint</p>  <p style="text-align: center;">Figure:7</p>	<p>Extracted from the stem, leaves, and flowers of <i>Mentha piperita</i> L.</p>	<p>Labiatae</p>	<ul style="list-style-type: none"> -coughs -colds, -reducing pain -improving mental function -reducing stress.[13]
<p style="text-align: center;">Eucalyptus</p>  <p style="text-align: center;">Figure:8</p>	<p>Essential oil obtained by the distillation of fresh leaves of <i>Eucalyptus smithii</i></p>	<p>Myrtaceae</p>	<ul style="list-style-type: none"> -Relieves stuffy nose. -Clears respiratory complaints. -Eases sore muscle and joint pain. -Post-surgery pain reliever. -Promotes oral health. -Boosts immunity.[14]
<p style="text-align: center;">Ylang Ylang</p>  <p style="text-align: center;">Figure:9</p>	<p>derived from the flower of the <i>Cananga odorata</i></p>	<p>Annonaceae</p>	<ul style="list-style-type: none"> -It aids in relaxation -reduce muscle tension - Good antidepressant -massage oils.[15]

<p style="text-align: center;">Geranium</p>  <p>Figure:10</p>	<p>Obtained by steam distillation from fresh leaves & stem of <i>Ptergonium graveolance</i></p>	<p style="text-align: center;">Geraniaceae</p>	<p>-reduce feelings of stress, anxiety, sadness, fatigue, and tension -acne, -cellulitis, -dull skin -lice.[16]</p>
<p>Lavender</p>  <p>Figure:11</p>	<p>Obtained from the flowers of <i>Lavandula angustifolia</i> by steam distillation</p>	<p style="text-align: center;">Lamiaceae</p>	<p>-Insomnia or Agitation. Alopecia areata. Inhalation therapy to headache. Skin lesions.[17]</p>
<p>Lemon</p>  <p>Figure:12</p>	<p>It is obtained from the plant <i>Citrus limon</i>.</p>	<p style="text-align: center;">Rutaceae</p>	<p>-Reduce anxiety and depression. -Skin irritation Immunity booster Mood enhancer Feel energized.[18]</p>

<p>Clary Sage</p>  <p>Figure:13</p>	<p>It is obtained from the plant <i>Salvia sclarea</i> L.</p>	<p>Lamiaceae</p>	<ul style="list-style-type: none"> -Depression -Insomnia -Sedative abilities that induce feelings of relaxation -clarity, and calmness while alleviating dizziness, anxiety, and irritability[19]
<p>Jasmine</p>  <p>Figure:14</p>	<p>derived from the white flowers of the plant <i>Jasminum officinale</i>.</p>	<p>Oleaceae</p>	<ul style="list-style-type: none"> -To treat Insomnia and other sleeping problems -lowers heart rate and promote calmness[20]
<p>Rose</p>  <p>Figure:15</p>	<p>obtained from the petals of different Rosa species especially <i>Rosa centifolia</i> L.</p>	<p>Rosaceae</p>	<ul style="list-style-type: none"> -Mental stimulant Antidepressant Hedech and migranes Relieve anxiety and stress Strengthen the hair and prevent from wrinkles Relive cramps Skin lightening[21]

<p>Peppermint</p>  <p>Figure:16</p>	<p>Obtained from the flowering parts and leaves of the <i>Mentha piperita</i></p>	<p>Lamiaceae</p>	<p>treating coughs and colds reducing pain, improving mental function reducing stress[22]</p>
<p>Roman chamomile</p>  <p>Figure:17</p>	<p>It is obtained from the plant <i>Chamaemelum nobile</i></p>	<p>Asteraceae</p>	<p>soothes body aches headaches back pain menstrual cramps calming and sedative effects Reduces insomnia promotes relaxation[22]</p>
<p>Tea tree</p>  <p>Figure:18</p>	<p>It is obtained from leaves and leaf buds of the plant <i>Camellia sinensis</i></p>	<p>Theaceae</p>	<p>naturally support and boost immune system health and fight infections[23]</p>

PHARMACOLOGICAL ACTIONS OF ESSENTIAL OILS:-

Antiviral

Using African green monkey kidney cells and the plaque reduction assay method, Deans and Ritchie assessed the antiviral activity of the essential oils of *M. ericifolia*, *M. leucadendron*, *M. armillaris*, and *Melaleuca styphelioides*. The results showed that *M. armillaris* had the highest antiviral activity (up to 99%), followed by *M. leucadendron* (92%) and *M. ericifolia* (91.5%).[24]

Anti-inflammatory-

Tea tree oil decreased flare's and weal's histamine reaction in humans. After ten minutes, topical applications of 100% tea tree oil can lessen the inflammation brought on by histamine diphosphate. Data currently available on a variety of essential oils demonstrate that noncytotoxic concentrations reduce inflammation by boosting the production of interleukin-10.[25]

Hormonal action-

Comparing geraniol, neral, geraniol, nerol, and trans-anethole to eugenol, which has anti-estrogenic activity, it is well known that these compounds stimulate the estrogenic response. In recombinant yeast cells, citra, or the mixture of geraniol, nerol, and eugenol, was successful in removing [3H] 17 β -estradiol from the estrogen receptors.[26]

Anti-dandruff-

In a single blind and parallel-group study, it was observed that shampoos which contain five percent tea tree oil were effective and well tolerated by patients having mild to moderate dandruff and at least 41% improvement was observed. Not much has been explored on the antidandruff potential of plant products, and especially on volatile products, some efforts have been made by Anjum et al., but the results are not promising[27]

Antifungal

With the exception of beta-myrcene, all of the ingredients in tea tree oil (*Melaleuca alternifolia*) tested positive for in vitro antifungal activity. According to Hammer et al., the majority of the ingredients in tea tree oil have a broad spectrum of fungicidal potential, particularly against filamentous fungi and dermatophytes. According to one report, *Aspergillus niger* conidia that had germinated were more prone to non-germinated ones. Good activity against *Aspergillus niger* was demonstrated by the essential oils extracted from fresh leaves of *Melaleuca ericifolia* (*M. ericifolia*), *Melaleuca armillaris* (*M. armillaris*), *Melaleuca leucadendron* (*M. leucadendron*), and *Melaleuca styphelioides*. Numerous plants have shown positive results for antifungal activity in tests, including *M. piperita*, black mustard (*Brassica nigra*), *Angelica archangelica*, *Cymbopogon nardus*, *Skimmia laureola*, *Artemisia sieberi*, and *Cuminum cyminum*. They are currently undergoing the first round of clinical trials, and if the outcomes live up to expectations, they will be a great replacement for the antifungal medications currently on the market, which are rarely used due to their harmful systemic effects.[28]

Anti-oxidant

In vitro, the essential oil derived from *Nigella sativa* L. seeds exhibits strong antioxidant properties and proficient hydroxyl radical scavenging capabilities. Manuka (*Leptospermum scoparium*), Kanuka (*Kunzea ericoides*), and *Leptospermum petersonii* all have strong antioxidant and antibacterial qualities. The *M. armillaris* essential oil exhibits strong antioxidant properties; it modifies the parameters of superoxide dismutase and raises the concentrations of vitamins C and E. Free radicals generated during an inflammatory response have the ability to cause gene mutations and alter the posttranslational state of different proteins. If not, remove could release harmful radicals that affect the entire system. Generally speaking, compounds' antioxidant qualities oppose this mechanism. Numerous plants, including *Cupressus sempervirens*, *Thymus vulgaris*, *C. limon*, and *E. globulus*, have demonstrated their anti-inflammatory properties in animal studies.[29]

SOME BENEFITS OF AROMATHERAPY

- Relieves Stress
- Acts as Antidepressant
- Boosts Memory
- Increases Energy Levels
- Speeds up Healing
- Reduces Headaches
- Regulates Sleep
- Strengthens Immune System
- Relieves Pain

- Improves Digestion.
- Improve Mood[30]

SIDE EFFECTS OF AROMATHERAPY

1) Toxicity

It is possible for natural materials like essential oils to be toxic. Since many essential oils have the potential to be toxic, they should never be used in aromatherapy. Our neurological system, liver, and kidneys can all be harmed by toxic oils. Internal use of the oils exacerbates the toxic effects. The University of Maryland Medical Center states that ingesting a toxic oil can be fatal.

2) Using oils that can irritate skin is one of the most frequent adverse effects of aromatherapy. Depending on how sensitive a person's skin is, oils with skin irritant properties can have a variety of negative effects, including burning, itching, and rashes. Certain oils, like peppermint and lemon, can be safely applied to the skin when diluted enough, but there are some oils that should never be applied topically. When using essential oils in aromatherapy that might irritate the skin, exercise caution and use the oil at very low concentrations roughly 1%.

3) Photosensitizing

Extended periods of direct sun exposure can have a deleterious effect on certain essential oils that are used in aromatherapy. Because they make us more susceptible to sunburn, oils like cumin, lemon, or orange should never be applied to any part of our bodies that will be

exposed to the sun.[31]

SUMMARY AND CONCLUSION

From above reports and study, we can conclude that aromatherapy is a harmless, natural gift from nature to people. Using aromatherapy not only eliminates disease symptoms but also revitalizes the entire body. Aromatherapy controls the elevation of the body, mind, and spirit for a new stage of life. In addition to being preventive, this therapy can be applied to both acute and chronic disease stages.

We can conclude that aromatherapy is a growing practice of people today to help reduce stress and invoke certain moods and feelings. In the field of aromatherapy, essential oils are extremely significant. Essential oils include circulatory stimulants like rosemary and basil, muscle relaxants like marjoram and black pepper, digestive tonics like cardamom and mint, and hormone precursors like clary sage and fennel. Many, like helichrysum and lavender, heal damaged cells; others, like juniper and grapefruit, aid in eliminating metabolic waste. A variety of essential oils also strengthen immunity, assisting the body in healing itself. Some of them, like tea tree and lavender, are antitoxic for insect bites and stings, and they can stimulate the production of phagocytes, which are white blood cells that attack invaders.

Therefore, we can draw the conclusion that aromatherapy is becoming more and more popular among people today as a way to lower stress and elicit particular emotions. Although most people experience short-term benefits from aromatherapy massages, baths, and candles, it is not a legitimate science or medication that should be used to treat illnesses. Not all forms of aromatherapy are good for your health. Before using aromatherapy, there are some safety measures that need to be taken. Certain oils are unhealthy, and they may not be good for those who are pregnant or have certain medical conditions. Aromatherapy research is still in its infancy. To draw scientific conclusions about the application and results of aromatherapy, more investigation is required.

REFERENCES:

1. http://www.naha.org/what_is_ aromatherapy.htm
2. Worwood VA. Aromatherapy for the healthy child: more than 300 natural, non-toxic, and fragrant essential oil blends. Novato: New World Library; 2000.
3. Svoboda KP, Deans SG. Biological activities of essential oils from selected aromatic plants. *Acta Hort* 1995; 390: 203-9.
4. Aromatherapy History. <http://www.aromatherapy.com/history.html>.
5. Ziosi P, Manfredini S, Vertuani S, Ruscetta V, Radice M, Sacchetti G. Evaluating essential oils in cosmetics: antioxidant capacity and functionality. *Cosmet Toilet* 2010; 125: 32-40.
6. Soden K, Vincent K, Craske S, Lucas C, Ashley S. A randomized controlled trial of aromatherapy massage in a hospice setting. *Palliat Med* 2004; 18: 87-92.
7. Chang SY. [Effects of aroma hand massage on pain, state anxiety and depression in hospice patients with terminal cancer]. *Taehan Kanho Hakhoe Chi* 2008; 38: 493-502. Korean.
8. Maeda K, Ito T, Shioda S. Medical aromatherapy practice in Japan. *Essence* 2012; 10: 14-6.

9. Maxwell-Hudson C. Aromatherapy massage book. London: Dorling Kindersley; 1995.
10. Price S. Aromatherapy for common ailments. London: Fireside;1991.
11. Price S. The aromatherapy workbook. London: Thorsons; 1993.
12. Perry N, Perry E. Aromatherapy in the management of psychiatric disorders clinical and neuropharmacological perspectives. *CNS Drugs* 2006; 20: 257-80.
13. Ravid U, Putievsky E, Katzir I. Enantiomeric distribution of piperitone in essential oils of some mentha spp., *Calaminthaincana* (sm.) heldr. and *Artemisia indica* L. *Flavour Fragr J* 1994; 9: 85-7.
14. Kathi Keville (1999). *Aromatherapy For Dummies*. IDGBooks Worldwide, Inc. Page 312(b) Paula Gardiner Peppermint Page 15 Longwood Herbal Task Force: [http://www.mcp.edu/herbal/Kathi Keville \(1999\). Aromatherapy For Dummies. IDGBooks Worldwide, Inc. Page 300](http://www.mcp.edu/herbal/Kathi%20Keville%20(1999).%20Aromatherapy%20For%20Dummies.%20IDGBooks%20Worldwide,%20Inc.%20Page%20300)
15. Annalucia Serafino*1, Paola Sinibaldi Vallebona2, Federica Andreola1, Manuela Zonfrillo1, Luana Mercuri1, Memmo Federici3, Guido Rasi1, Enrico Garaci2 and Pasquale Pierimarchi1 *BMC Immunology* 2008, 9:17 doi:10.1186/1471-2172-9-17
16. <http://www.aromaweb.com/essential-oils/rose-geranium-oil.asp>
17. Lavender oil. Wikipedia. <https://en.m.wikipedia.org>
18. Cathy Wong. Lemon Essential Oil Benefits and Uses; March 31, 2019. <https://www.verywellhealth.com>
19. Sienkiewicz M, Głowacka A, Poznańska-Kurowska K, Kaszuba A, Urbaniak A, Kowalczyk E. The effect of clary sage oil on staphylococci responsible for wound infections. *Postepy Dermatol Alergol* 2015; 32(1): 21-6.
20. Dr. Josh Axe. Jasmine Oil- Mood Booster and Stress Buster. *Dr. Axe Food is Medicine*; July 23, 2018. <https://draxe.com>.
21. Cathy Wong. Health Benefits of Rose Essential Oil; March 17, 2019. <https://www.verywellhealth.com>
22. Lawless J. The illustrated encyclopedia of essential oils: the complete guide to the use of oils in aromatherapy & herbalism. Rockport: Element Books Ltd; 1995
23. Pazyar N, Yaghoobi R, Bagherani N, Kazerouni A. A review of applications of tea tree oil in dermatology. *Int J Dermatol* 2013; 52: 784-90
24. Deans SG, Ritchie G. Antibacterial properties of plant essential oils. *Int J Food Microbiol* 1987; 5: 165-80.
25. Koh KJ, Pearce AL, Marshman G, Finlay-Jones JJ, Hart PH. Tea tree oil reduces histamine-induced skin inflammation. *Br J Dermatol* 2002; 147: 1212-7.
26. Howes MJ, Houghton PJ, Barlow DJ, Pocock VJ, Milligan SR. Assessment of estrogenic activity in some common essential oil constituents. *J Pharm Pharmacol* 2002; 54: 1521-8.
27. Anjum F, Bukhari SA, Shahid M, Bokhari TH, Talpur MM. Exploration of nutraceutical potential of herbal oil formulated from parasitic plant. *Afr J Tradit Complement Altern Med* 2013; 11(1): 78-86.
28. Hammer KA, Carson CF, Riley TV. Antifungal activity of the components of *Melaleuca alternifolia* (tea tree) oil. *J Appl Microbiol* 2003; 95: 853-60.
29. Baratta MT, Dorman HJD, Dean SG, Brondi DM, Ruberto G. Chemical composition, antimicrobial and antioxidant activity of laurel, sage, rosemary, oregano and coriander essential oils. *J Essent Oil Res* 1998; 10: 618-27
31. John Staughton. 10 Amazing Benefits of Aromatherapy; March 12, 2019. <https://www.organicfacts.net/health-benefits/other/benefits-of-aromatherapy.html>.
30. Aaron Matthew. Negative Effects of Aromatherapy. <https://www.livestrong.com>.