

AROMATHERAPY : A SYNERGY THERAPY

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Aromatherapy is the medicinal use of essential oils extracted from plants to cure physical and psychological well being¹. Plant part used flowers, barks, stem, leaves, roots. It is a type of complimentary and/or alternating medicine. Complimenting Aromatherapy synergies lthe standard treatment, alternating treatments offered like Ayurveda, Acupunture, Naturopathy etc². It is sometimes used in combination with massage and other therapeutic techniques as part of a encompassing treatment approach³. Scientific evidences of its efficacy are increasing. The essential oils used in aromatherapy have a different composition compared to other herbal products because the distillation used in aromatherapy recovers the volatile phytochemical. (Fig. 1)



Fig. 1

MODE OF APPLICATION (fig. 2): Aroma therapist utilizes pure or combination of therapeutic essential oils issued through topical application, massage, inhalation or water immersion to stimulate desired response. The processes of application are:

- (a) **Aerial Diffusion:** On aerial diffusion, oil evaporate into the air. The main target is to give the air a distinct aroma ex. Eucalyptus oil, tea tree oil, citronella oil, jasmine oil.
- (b) **Direct Inhalation:** The individual breath the aroma of oils straight in. This is commonly used for pulmonary disinfection, decongestion and expectorant as well as psychological effects.

- (c) **Topical Application:** Applied on the skin. Commonly used massage, bath, compresses and therapeutic skin care⁴ ex. Sweet almond, apricot, lavender, ginger, etc.

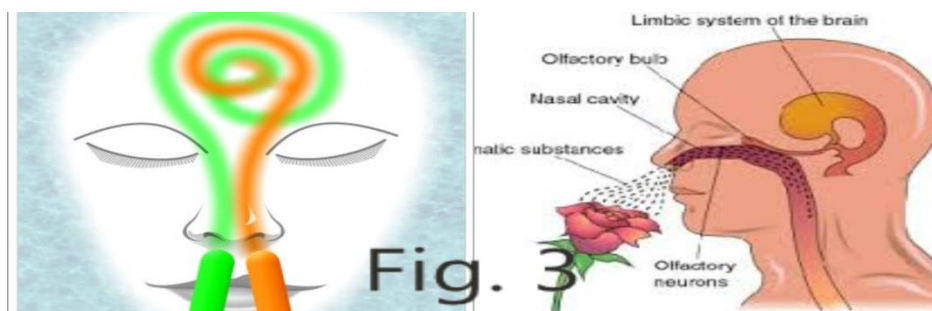
SUBSTANCE : Substance that used include:

- (a) **Essential Oil:** Fragrant oils extracted from plants chiefly through steam distillation or expression or by any solvent extraction especially non polar solvents like light petrol at 50°C.
- (b) **Absolute:** Fragrant oils extracted from flowers or delicate plant tissues through solvent or super critical fluid extraction or by enfleurage method.
- (c) **Carrier Oils:** Typically oily plant base triglycerides that dilute essential oils for use on the skin.
- (d) **Herbal distillates or Hydrosols:** The aqueous by product of the distillation process.
- (e) **Infusion:** Aqueous extract of various plant materials.
- (f) **Phytoncides:** Terpene based fragrant volatile organic compounds from plants that killed microbes.



(Fig. 2)

THEORY OF AROMATHERAPY: Two fundamental methods are offered to explain the results. One is inhalation of essential oils that stimulate the part of the brain connected to smell-the olfactory system and neuron: a signal is sent to the limbic system of the brain that control emotions and regain learned memories⁵. This lead to the release of the chemicals that make the person feel relaxed, calm or even stimulated.(Fig. 3) The other is the direct pharmacological effects of the essential oils⁶. It is through massage: that effect the individual to relax. In topical application essential oil activate thermal receptors and destroy microbes and fungi. Internal and oral application may stimulate the immune system⁷.



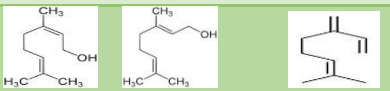
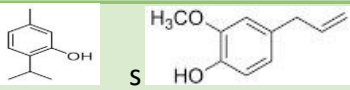









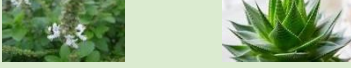

POPULAR USES ^{8,9}

NAME	MEDICINAL USES
Bay laurel	Antiseptic, diuretic, sedative
Basil	Depression, headache, migraine
Bergamol	Urinary tract and digestive tract
Black pepper	Stimulating circulation, muscular aches and pains
Citronella	Insect repellent
Clove oil	Topical analgesic, antispasmodic, antiemetic, carminative
Clary sage	Relaxant, anticonvulsive, anti-inflammatory, antiseptic
Chamomile	Sedative, anti-inflammatory, antiseptic, pain reliever.
Eucalyptus	Antiseptic, antibacterial, astringent, expectorant, analgesic.
Geranium	Diuretic
Lavender ³	Analgesic, antiseptic, calming /soothing.
Lemon oil ¹⁰	Mood lift, antistress, antidepressant
Peppermint	Pain reliever
Rosemary	Antiseptic, stimulant, diuretic.
Sandalwood	Aphrodisiac
Tarragon	Diuretic, laxative, antispasmodic, stimulant.
Tea tree	Antimicrobial, antiseptic, disinfectant
Thyme ¹¹	Stimulant, antiseptic antibacterial, antispasmodic.
Yarrow	Cold, influenza, joint inflammation

CONCEPT OF SYNERGIST: Synergist offered whole, authentic, unrefined, unaltered essential oil. Synergy concept is important and beneficial for Aromatherapy. Certain chemical compounds have additive or antagonistic effect. An additive effect is observed when the combined outcome is equal to the sum of the individual parts. An antagonistic effect is observed when the effect of one or both components is less when they are applied together than when individually applied ^{8,9}. This synergy occurs in aromatherapy via several ways. These are:

- Synergy within the essential oil itself:-** This concept means that within a given essential oil, synergy occurs between major and minor constituents or between major components that act together to significantly increase the whole oil activity¹².
- Synergy between essential oils in a blend:-** This concept means that by combining two or more oils together, the aromatherapist creates a blend or product that is more effective than using singly essential oil. The category can reflect two potential pathways. These pathways include: synergy of therapeutic properties or synergy by chemical components ^{13,14}.

(c) **Synergy between essential oils and carrier products:-** Aromatherapy Products designed to be applied to the skin are mostly placed with a carrier of same kind. This carrier include lotions, gels, creams, vegetable oils, salt, milk, honey etc ^{15,16,17}. The base or carrier used is as important as essential oils. Carrier used also play a synergistic role, researchers supported this concept.

BLENDS	ACTIVITY
 <p>Geraniol+Nerol with Myrcene</p>	Enhances antibacterial activity ¹² on gram negative & gram positive
 <p>Thymol + Eugenol rich</p>	Highly effective antimicrobial ¹⁰
 <p>Peppermint + Caraway</p>	Relief of irritable bowl and dyspepsia ¹⁰
 <p>Clove + Rosemary</p>	Antimicrobial activity ¹³ against bacteria & fungi
 <p>Oregano + Basil or Thyme</p>	Anti microbial against <i>E.coli</i> and <i>P.aureginosa</i> ¹⁴
 <p>Oregano + Marjoram</p>	<i>E.coli</i> ¹⁴
 <p>Marjoram +Thyme +Rosemary</p>	<i>L.monocytogenes</i> ¹⁴
 <p>Anise + Fennel + Caraway oil</p>	Dyspeptic discomfort with mild spasms of the gastrointestinal region, flatulence ¹⁰
 <p>Eucalyptus + Pine needle oil</p>	Respiratory track (inhalation) ¹⁰ Illness caused by cold
 <p>Eucalyptus + Bergamot</p>	Skin problems Skin affected by chicken pox
 <p>Lavender + Roman Chamomile</p>	Sedative ¹⁰
 <p>Ocimum gratissimum +Aloe vera (carrier)</p>	Acne vulgaris ¹⁵
 <p>German Chamomile + Aloe vera (carrier)</p>	Moisture to the skin ¹⁶



Ocimum gratissimum + honey (carrier)

Anti bacterial, antiseptic agent for wounds.¹⁷

PRECAUTIONS: Many essential oils are highly toxic and should be administered under the supervision of health care professional. Eucalyptus, warm wood and sage should never be taken internally. Citrus based essential oils should be avoided for at least four hours after their applications. Concentration should be checked before topical application. It may be irritating in high concentration.

Essential oils of Black pepper, camphor, eucalyptus and peppermint shows antidote activity. Pregnant and nursing women and person with specific illness or physical condition may avoid use of certain essential oils. Individuals with chronic and acute health condition should inform their healthcare provider before starting treatment with any essential oils. Asthmatic, allergic, hay fever, skin (eczema or psoriasis) epilepsy, deep vein thrombosis individuals should use with extra care.

Essential oils are flammable and should be kept away from heat sources.

SIDE EFFECTS ^{18,19}: Aromatherapy may cause mild side effects like nausea, headache and some allergic reactions, skin sensitivity to sunlight. These effects do not last for long time. Citrus based essential oils make skin more sensitive to ultraviolet light, making person more susceptible to sunburn.

CONCLUSION: The concept of synergy is of great value to the aroma therapist in understanding which essential oils to put together for a common purposes as well as why.

There are so many creative way to utilize this idea of synergy through the combination of essential oils, experiment, take notes and get feedback.

TIPS FOR BLENDING:

FOCUS: one formulation must be utilize for one remedy.

SELECTION: Essential oils that complement one another therapeutically, chemically, energetically and / or aromatically.

DOSAGE: higher dosages for acute conditions.

Use 3-5 essential oils in a formulation to avoid diluting down purpose.

When blending from a clinical framework: focus on either families or components and insure essential oils compliment goal.

Base is an important part of formulation. Choose base to complement the therapeutic goals of essential oils synergy.

REFERENCES:

1. "Aromatherapy", Better Health Channel. Retrieved (2014).
2. <http://www.hindawi.com/journals/ecam/2005/270901/abs/>.
3. "Aromatherapy" medical-dictionary.thefreedictionary.com/.
4. "Organic Bath Oil" Plaisirs. Retrieved (2011).
5. "Nostrums: Aromatherapy Rarely Stands up to testing" Kingston J.A., The New York Times Retrieved (2010).
6. Prabuseenivasan S., Jayakumar M., Ignacimuthu S., "In vitro antibacterial activity of some plant essential oils". BMC Complimentary and Alternative Medicine 6:39 (2006).
7. Medicalnewstoday.com/articles/10884.php. "what is Aromatherapy?" Christian Nordqvist 92014).
8. Theida.com/. "Synergism in essential oils and aromatherapy". Jade Shutes.
9. Harris R., "Synergism in the essential oil world". The International J. of Aromatherapy 12(4):179-85 (2002).
10. Kiecott-Glaser J.K., Graham J.E., Malarkey W.B., Porter K., Lemeshow S., Glaser R., "Olfactory influences on mood and autonomic, endocrine and immune function" Psychoneuroendocrinology 33(3):328-39 (2008).
11. Schelz Z., Molmar J., Hohmann J., "Antimicrobial and antiplasmid activities of essential oils" Fitoterapia 77(4):279-85 (2006).
12. Onawunmi G.O., Yisak W.A., Ogunlana E.O., "Antibacterial constituents in the essential oils of *C. citratus*" J. Ethnopharmacol. Dec 12(3):279-86 (1984).
13. Fu Y., Zu Y., Chen L. *et al* "Antimicrobial activity of Clove and Rosemary essential oils alone and in combination" Wiley Inter Science DOI:10:1002 (2007).
14. Gutierrez J., and Barry Ryan, Catherine and Bourke P., "The anti-microbial efficacy of plant essential oil combinations and interactions with food ingredients" Int. J. of Food Microbiology 124:91-97 (2008).
15. Orafidiya L.O., Agbani E.O. *et al* "The effect of aloe vera gel on the anti-acne properties of the essential oil of *Ocimum gratissimum* Linn leaf-a preliminary clinical investigation" The Int. J. of Aromatherapy 14:15-21 (2004).
16. Monger P. *et al* "Comparative in vivo study of the moisturizing properties of three gels containing essential oils Mandarin, German Chamomile and Orange" Nouv. Dermatol 13:470-75 (1994).
17. Orafidiya L.O., Oyedele A.O., Shittu A.O. *et al* "The formulation of an effective topical antibacterial product containing *Ocimum gratissimum* leaf essential oil" Int. J. Aromatherapy 12(1):16-21 (2002).
18. Posadzki P., Alotaibi A., Ernst E., " Adverse effects of Aromatherapy: a systematic review of case reports and case series" Int. J. Risk Saf Med (Systematic Review) 24(3):147-61 (2012).
19. Cather J.C., Mackner M.R., Menter M.A. "Hyperpigmented macules and streaks" Proceedings 9Baylor University Medical Centre) 1394:405-6 (2000).

