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Aromatherapy complimentary and alternative medicine

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Abstract

Herbal treatment is the natural form of healing or alternative therapy, where herbs or plants are used in the form of extract, pills, syrup to cure diseases of human or it is the use of plants (herbs) to treat disease and enhance wellbeing. Aromatherapy is one of the complementary and alternative medicines used to treat various diseases and symptoms, because essential oils have many kinds of pharmacologic actions including anti-microbial, sedative, analgesic and estrogen or steroid hormone-like effects, etc. Since various kinds of essential oils such as true lavender, rose, mandarin, sweet orange, sandalwood, geranium, etc have anxiolytic activity, aromatherapy has been used for the relief of depression and anxiety. Herbal medicine has its origins in ancient cultures including those of the Egyptians, Americans, Indians and Chinese. At present, thousand of plant metabolites are being successfully used for the treatment of variety of diseases. Increased side effects, lack of curative treatment for several chronic diseases, high cost of new drugs, microbial resistance and emerging, diseases are some reasons for renewed public interest in plant based medicines. In the increasing instances of modern day's stresses, depressions and psychosomatic disorders, aromatherapy has come to stay and proliferate. With all the convincing application of aromatherapy in place, it has still a long way to go from emerging as a powerful alternate medicine.

Keywords: herbal treatment, disease, aromatherapy, medicine

Introduction

Plant derived natural products will continue to be extremely important source of medicinal agents and models for the design synthesis and semi synthesis of novel substances for treatment of human diseases. Researches have shown that the essential oil are one of the most Powerful yet safe healing modalities, we have today. It should be considered much more in medical treatment and healing. Long before man made medicine were discovered, people used botanicals to cure their physical and mental ailments. Healing plants help the earliest civilization to maintain health and well being and also to fight illness and diseases. Since antiquity herbalist, physician and healers have used aromatic oils and ointment infused with the healing properties of plant to heal both body and soul. It's incredible, sometimes we are amazed at the way, The sense of smell influences us. The smell of food exerts such powerful effects on gastrointestinal tract that they trigger the gastric juices and hormones, that makes as develops a craving for food. The burning incense at the place of worship instills calm and peace. (Anonymous, 2003) [2].

A strong perfume brightens the ambience of a celebration. The list is endless. While it is true that certain smells can create pleasant feelings, it is also true that some others can be irritating. Therefore generation of positive feelings, acquiring a sense of well being and good health, is all about choosing the right scents.

An extension of this fact is simple logic that right smells have positive effects on the physical and mental well being. This is the very basis of an emerging complementary medicine called "Aromatherapy".

Aromatherapy

According to Webster's dictionary, aromatherapy defined as the use of aromatic oils for their supposed therapeutic effects when applied to the skin, as in massage or when the scent inhaled or it is the holistic healing process using essential oils of aromatic plants and trees. It is the therapy with aroma, it is the art and science of a healing with aroma or using the essential oils of plants to enhance physical, mental health and beauty. Essential oils are the chemical compounds with an odoriferous nature, which are highly volatile, insoluble in water but

soluble in organic solvents, obtained from herbs, flowers, woods and seeds including spices by steam distillation, expression, absorption into fat or solvent extraction.

History: The term aromatherapy was coined by French cosmetic chemist Rene-Maurice Gattefosse. He researched the healing power of plants essential oils following an accidental discovery that Lavender oil quickly healed his badly burnt hand. Impressed by the quick healing properties, Gattefosse spent remainder his life researching the value of essential oil which made aromatherapy popular in Europe. A study of history after World War II introduces us by Dr. Jean Valnet a colleague of Dr. Gattefosse, who was a medical doctor, began his own research on the properties of essential oils during the years after World War I, also working in military hospitals and elsewhere. He was a medical physician in the French Army during World War II, treating all kinds of injuries. There was a shortage of supplies and the standard medicines ran out, including antibiotics. He tried essential oils, the wounds healed rapidly and infection was reduced and often completely arrested. Many soldiers were saved because of his treatment with essential oils.

Benefits of Aromatherapy: Aromatherapy offers easy way to enhance the quality of life and improve health. It prompts body and mind to function more efficiently. It also helps to boost immune system and thus prevents common ailments or illness. Stress both physical and mental plays a major role in almost all illness. Regular use of essential oils helps to control stress, elevate Anxiety and tension and minimise the physical aches, and thus one can refresh and recharge himself from busy life by using aromatherapy. Aromatherapy has positive influence on the emotions and helps to regulate you mood, soothe your emotion, clear your mind, quiet your anger and inspire your creativity.

How aromatherapy works / mode of action:

Pharmacological studies of essential oils indicate that individual essential oil possess known properties of antiseptic, stimulative, antispasmodic, nasal, decongestants, anti-inflammatory, anti bacterial, anti viral, etc. despite this being a very ancient art out knowledge of its full potential is still in its infancy. It has now been proved that on:

1. Inhalation: The aroma molecules of the essential oils are translated into a signal by the receptor cells in the nose. These signals are transmitted to the limbic area of the brain which is related to emotions and memories which is stimulated to release powerful neuro-chemicals in the blood stream which in turn brings about desired changes and feeling of relief on the mind and the body.

2. Massage technique/external use: here the oils or aroma chemicals permeate through the microscopic pores or absorbed through the skin and carried by body fluids to the main body systems, such as nervous and muscular systems for a healing effect as they act in harmony with the natural defences of the human body. Shirley (1995)^[8].

Aromatherapists strongly believe that aromatherapy is not just about curing an ailment with inhalation or massage, but is a holistic experience. An interesting phenomenon observed with aromatherapy is the placebo effect Here the substance is said to act purely at a psychological level and prepare the body to fight the ailment on its own. This effect where the patient gets cured by a relatively non-medical substance, for sheer psychological reasons. Though certain popular recipes exist for specific complaints, Aromatherapists are of the opinion that it requires individual assessment and information of a blend of aromas specific to each person. (Table 1 & 2).

Table 1: Commonly used essential oils

Essential oil	Observed Therapeutic Properties
Lavender (<i>Lavendula angustifolia</i>)	Anti viral and anti bacterial, boosts immunity, antidepressant, anti-inflammatory, antispasmodic.
Chamomile (<i>Matricaria reculata</i>)	Anti-inflammatory, antidepressant, antiallergic, digestive, relaxant.
Marjoram (<i>Organum marjorana</i>)	Antispasmodic, antiseptic, anti-inflammatory.
Rosemary (<i>Rosmarinus officinalis</i>)	Relieve pain, decongestant, improves circulation.
Tea tree (<i>Metaleuca alternifolia</i>)	Antifungal, antibacterial & anti yeast.
Cypress (<i>Cupress sempervirens</i>)	Astringent, stimulating to circulation, antiseptic.
Pepper mint (<i>Mentha piperita</i>)	Digestive, decongestant, stimulant, cleans sinusitis
Eucalyptus (<i>Eucalyptus globulus</i>)	Decongestant, antiviral, antibacterial, stimulant.
Bergamot (<i>Mentha citrata</i>)	Antiparasitic, antidepressant, anti-inflammatory.
Geranium (<i>Pelargonium graveolens</i>)	Relaxing to mind and body, antifungal & anti-inflammatory.

Table 2: Major therapeutic properties of some common essential oils (Alok *et al.*, 2000)^[1].

Sl. No.	Therapeutic properties	Oils
1.	Sedatives	Sandal wood, Lavender, Bergamot, Chamomile, Sweet Marjoram.
2.	CNS Stimulant	Basil, Clove, Jasmine, Peppermint, Ylang Ylang, Chamomile, Achillea.
3.	Adaptogen	Geranium, Ylang Ylang.
4.	Bronchitis	Eucalyptus, Ginger, Black pepper.
5.	Antiseptic	Geranium, Sandal wood, Thyme.
6.	Antistress	Cedar wood, Lemon.
7.	Muscle relaxant	All spice
8.	Haemostatic	Achillea
9.	Antispasmodic	Clove, Thyme
10.	Analgesic	Clove.

Case studies

Biradar *et al.* (2010)^[3], The anti-arthritis activity was evaluated by using formaldehyde induced arthritis model in

Wistar albino rats with extracts of *Cyperus esculentus* (*Ce*) and *Cyperus rotundus* (*Cr*), The assessment made on the 10th day showed that, treatment with *Cr* (500 mg/kg) and *Ce* (500

mg/kg) more significantly reduced the swelling in the injected (left) hind paw as compared to Diclofenac sodium treated group. On the 10th day the per cent inhibition of paw edema exhibited by *Cr* (500 mg/kg) and *Ce* (500 mg/kg) were 75.54 per cent, 76.58 per cent, respectively; while Diclofenac sodium treated animals showed maximum per cent of inhibition of paw edema 81.37 on 21st day. The essential oil of *Ce* ce-500mg/kg and *Cr* 500mg/kg does posses potent anticonvulsant activity against generalized tonic-clonic seizure (grand mal) by decrease the duration of hind limb extension (extensor phase), clonus and also the duration of stupor phase. The *Cr* and *Ce* were found to be more effective in both anticonvulsant and anti-arthritic activities by preventing either by drugs that inhibit voltage dependant Na⁺ channels such as Phenytoin, or by drugs that block glutaminergic excitation mediated by the n-methyl-D-aspartate (NMDA)receptor, such as Felbamate.

Hiroko *et al.* (2005) [5] in Japan studied the effect of aromatherapy massage and controle massage on immunological parameters such as WBC, Lymphoctes, Neutrophils, CD4, CD8 and CD16. The numbers of lymphocytes, CD8 cells and CD16 cells significantly increased after the aromatherapy massage but not after the control massage. The change in number of WBC, Neutrophils and CD⁴ cells was not significant after aromatherapy massage and controle massage. Finally concluded that the both aromatherapy massage and control massage decreased state anxiety significantly and only aromatherapy massage increased PBLs, possibly due to an increase in CD8 and CD16 lymphocytes. These results suggest that aromatherapy massage is a valuable relaxation technique for reducing anxiety and stress, and beneficial to the immune system.

Mirghani *et al.* (2012) [7] in Malaysia determined anti gout activity by xanthine oxidase inhibition assy. Essential oil extracted from the stalks of Lemongrass oil shown highest percentage of xanthine oxidase inhibition (81.34%). It indicates that the production of uric acid is lesser and thus this condition decreases the risk of gout. Lemongrass oil potential to be an alternative source of antigout as it reduces XO1. Highest antioxidant activity is due to highest phenolic content present in stalk that has highest free radical scavenging activity.

The anti-inflammatory activity was evaluated by the carrageenan-induced paw edema test by using Rose Geranium essential oil doses of 100, 200, or 400 mg/kg and vehicle (0.2% Tween 80 in 0.9% NaCl). The anti-inflammatory effect of the Essential oil (RGEO) (100-400 mg/kg) was evaluated in the paw edema model. The oral administration of essential oil at doses of 100, 200 and 400 mg/kg resulted in 30, 38 and 73 per cent reduction in paw edema, respectively. These results directly illustrate the effects of RGEO within the target tissue, providing further evidence that RGEO ameliorates croton oil-induced contact dermatitis. Therefore RGEO as a potentially useful anti-inflammatory agent both for the prevention and treatment of acute or chronic inflammatory skin diseases. In addition, study of the major chemical constituents of RGEO might accelerate the development of new, effective, and safe anti-inflammatory drugs. Boukhatem (2013) [4].

Lavender stimulates parasympathetic nerves and rosemary stimulated sympathetic nerves by the smell of lavender increase FRSA at low concentration and rosemary increase FRSA at high concentration. Stimulation with pleasant smells potentiates FRSA and simultaneously reduce stress hormone. Increase in FRSA may work to be protected against stress

thereby protecting against oxidative stress by reducing cortisol level. Toshiko (2007) [10].

Viviane *et al.* (2009) [11] in Brazil studied that 3 per cent linalool significantly decreased the exploratory activity and motor activity in mice by potentiating the pentobarbital-induced sleeping time in a manner similar to diazepam and also reduced the body temperature. Linalool (1% and 3%) inhaled for 60 min is clearly sedative, inducing hypothermia, reducing locomotion and increasing pentobarbital-induced sleeping time. Hence it can be used as sedative drug.

Jiro *et al.* (2009) [6] showed that anxiety was reduced in one 30 min aromatherapy massage in State-Trait Anxiety Inventory (STAI) test and also reduced in eight sequential aromatherapy massage sessions in the Hospital Anxiety and Depression Scale (HADS) test. Results further suggested that aromatherapy massage ameliorated the immunologic state. Further investigations are required to confirm the anxiolytic effect of aromatherapy in breast cancer patients.

In experiments to clarify the anticonvulsant mechanism of linalool, its effects on binding of an N-methyl-D-aspartate (NMDA) antagonist (MK801) and a GABA agonist (muscimol) to mouse cortical membranes showed a dose-dependent non-competitive inhibition on the antagonist binding but no effect on agonist binding suggesting a direct interaction with the NMDA receptor complex inducing anticonvulsant activity. Silva-Brum *et al.* (2001) [9].

Conclusion: In the increasing instances of modern day's stresses, depressions and psychosomatic disorders, aromatherapy has come to stay and proliferate. With all the convincing application of aromatherapy in place, it has still a long way to go from emerging as a powerful alternate medicine. With more rigorous scientific studies on the properties of the ingredients, large scale clinical studies on the benefits and risks involved and standardized protocols for treatments can probably get aromatherapy the place it rightfully deserves, in the modern scientific world.

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