

## Plant Products Containing Volatile Oils and their Uses

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### ARTICLE INFO

Received Date: March 04, 2023

Accepted Date: April 03, 2023

Published Date: April 04, 2023

### KEYWORDS

Aromatic essences; Volatile oils;  
Therapeutic value; Essential oils

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**Citation for this article:** Madalina-Elena CRISTA and Monica BUTNARIU. Plant Products Containing Volatile Oils and their Uses. Nutrition And Food Science Journal. 2023; 6(1):141

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### ABSTRACT

Also called plant essences or aromatic essences, volatile oils (VOs) are obtained from the leaves, roots, flowers, fruits, or seeds of plants. In many cases, the effectiveness of oils of this kind has been proven to be greater than that of synthetic drugs. In addition, these remedies are well assimilated by the body, do not require administration in large doses and are simple to use. They are used in the form of inhalations (they are suitable for treating respiratory problems, colds, and flu and for preparing the skin for a cosmetic treatment), massage (it is one of the most popular methods of using oils), baths, compresses (hot compresses are effective ways to treat skin problems such as infections or muscle pain of a rheumatic nature), cosmetics and aromatherapy.

### INTRODUCTION

*Hippocrates*, the celebrated father of medicine, knew the therapeutic value of many natural healing methods used in Ancient Greece, including aromatherapy and Essential Oils (EOs). However, the therapeutic role of aromatherapy and EOs, praised by *Hippocrates* for their healing benefits, has been viewed with skepticism by medical organizations. They were considered just a pleasant, alternative, effective therapy for relaxing the nerves. There is no doubt that relaxing the mind and releasing stress is of utmost importance in any healing process. Over three hundred scented oils are used by professional aromatherapists, although only a fraction of them meet the daily needs of an average family. Each oil has its category of therapeutic properties, depending on the proportions and combinations of chemical preparations that naturally exist in it. The chemists have isolated the active ingredients in some oils which, through their practical use, have proven to have curative effects. So, medicines were developed by concentrating these active substances. Each oil can contain up to two hundred diverse chemical compounds because their interaction gives the oil healing properties and reduces the possible side effects that accompany synthetic medication. EOs used in aromatherapy must be used appropriately to ensure optimal benefits and minimal side effects. The therapeutic effects of medicinal plants are due to active principles which are mixtures of substances with pharmacological action which act synergistically. Bringing it up to date, plants represent the main source of raw materials for extractions of active principles and VOs, which have a special value for the medicine, pharmaceutical, and cosmetic industry. EOs are obtained from the diverse plant parts, and they are extracted from the diverse methods/techniques and

the more recommended method of extraction is the hydro distillation which is cheap and easy to use [1,2].

This review article aims to highlight the qualities EOs used as the folk herbal medicines and their fragrance is used for the improvement of the mood and as the depression release.

## FLOWERS

### VOs of Lavender (*Lavandula officinalis*)

It acts internally as an antispasmodic, diuretic, cholagogue, flavoring, calming and antiseptic and externally as a sedative and antifebrile, antiseptic and cicatrizing of wounds and inflamed areas, flavoring in cosmetic preparations. Internal administration is in the form of drops, for children 2 drops mixed with honey 2-3 times a day, and for adults 5-10 drops (diluted with water before administration) 2-3 times a day [3].

### Chamomile EOs (*Matricaria chamomilla*)

This EOs is used in aromatherapy, being one of the best products with calming properties that have a beneficial effect in the psycho-emotional sphere. Due to its soothing and anti-inflammatory properties, chamomile EOs is a good remedy in the treatment of skin irritations, burns, and insect bites. It helps to fight eczema, irritation, allergies, and inflammatory conditions of the skin, digestive tract, and oral cavity. Chamomile oil strengthens the body's immune system. It can also be used in cosmetics because it is beneficial for the skin, it calms and soothes the skin, and also eliminates redness, irritation, and other skin problems. It has an effect on the scalp and hairs and helps to increase hair resistance, stimulates its regeneration, and provides shine [4].

### Jasmine VOs (*Jasminum officinale*)

This oil is extracted with solvents from the flowers. It is also indicated as curative, aphrodisiac, antidepressant, and invigorating. It acts on the urogenital system (recommended at birth, as it soothes labor pains and stimulates the removal of the placenta; it is also used after birth as it stimulates milk production and prevents postnatal depression, soothes menstrual pains) and on the skin (excellent for all skin types, increases elasticity skin reduces marks and scars) [5].

### VOs of ylang-ylang (*Scented conanga*)

The VOs of ylang-ylang is extracted by steam distillation of the flowers. It acts as an antidepressant, aphrodisiac, sedative, and euphoric. It acts on the circulatory system by reducing palpitations, rapid heartbeat (tachycardia), and rapid

breathing (hyperapnea). Also, at the level of the nervous system, it is relaxing and removes states of anxiety, tension, anger, and fear, fights depression, and removes insomnia and negative thoughts [6].

### VOs of Rose (*Rosa damascena*)

It acts on: the circulatory system (detoxifies the blood and is an excellent tonic for the heart; reduces palpitations), the digestive system (adjuvant in combating constipation and liver problems, as a detoxifier and tonic), the urogenital system (it has a remarkable effect on the omen of the female reproductive system; cleans, regulates and tones the uterus; recommended for premenstrual syndrome and menopause), nervous system and skin [7].

## AROMATIC PLANTS

### Peppermint VOs (*Mentha Piperita*)

Peppermint VOs is an oil obtained from the leaves of the *Mentha piperita* plant. As active principles: monocyclic terpenes - menthol (45-70%) and menthone (8-24%) - and other terpene hydrocarbons - pinene, terpinene, limonene, camphene. It has an antiseptic, anti-diarrheal, anti-inflammatory, and stimulating digestive function pharmacological action. It is indicated in digestive disorders accompanied by diarrhea, bloating, kidney disorders, and asthenia. Peppermint oil is also used in the cosmetic industry (lotions, toothpaste), the food industry and the flavoring medicine industry. The method of administration can be internal, in the form of drops, and external in the form of inhalations, lotions, and rubs [8].

### VOs of Sage (*Salvia officinalis*)

Sage VOs is composed of EOs, flavones, organic acids, vitamin B1, vitamin C, enzymes, resins, lipids, carbohydrates and mineral salts. As an internal use, sage oil has pharmacological action such as antiseptic, antispasmodic, carminative, choleric-cholagogue, antioxidant, antithermic, slightly sedative, and bacteriostatic. The pharmacological action, for external use, is antiseptic, local hemostatic, cicatrizing, tonic, and astringent. In external use, sage oil is used in gastrointestinal inflammation, abdominal bloating, diabetes, rheumatism, varicose veins, and chronic bronchitis. As an external use, it is used in gingivitis, oral aphthosis, dental abscesses, tonsillitis, pharyngitis, and purulent wounds and is administered in the form of plasters in the affected areas [9].

### **VOs of Fennel (*Foeniculum vulgare*)**

Fennel oil acts as spasmolytic, reduces flatulence and intestinal spasms, carminative, mild laxative, secretolytic, antiseptic, expectorant, anti-inflammatory, and diuretic. Fennel oil together with peppermint oil is a treatment for irritable bowel syndrome. It is indicated in dyspeptic syndrome, colicative gastrointestinal dysfunctions, bloating, flatulence and in catarrhal conditions of the upper respiratory tract [10].

### **VOs of Basil (*Ocimum basilicum*)**

This oil is obtained by distillation from the aerial parts of the plant. Volatile basil oil acts as an antidepressant, induces a state of optimism and good mood, gastrointestinal disorders (bloating, spastic colitis, indigestion), urinary infections (cystitis, nefarious), viral infections (hepatitis, herpes), respiratory diseases (bronchitis), rheumatism, skin infections.

- Respiratory diseases: internal use - 2 drops 3x/day, in a teaspoon with honey, after meals; external use: inhalations - 3 drops put in a handkerchief;
- Viral infections: internal use - 2 drops 3x/day, in a teaspoon with honey, after meals;
- Urinary infections: internal use - 2 drops 3x/day, in a teaspoon with honey, after meals; external use: massage on the kidney area (3-4 drops of VOs in 10 mL of base oil);
- Gastrointestinal disorders: internal use - 2 drops 3x/day, in a teaspoon with honey, after meals; external use: massage under the sternum, 3-4 drops in 4 mL base oil;
- Skin infections: external use - 2 drops of VOs per 2 mL of base oil [11].

### **Sea Buckthorn VOs (*Hippophae rhamnoides*)**

The fat-soluble compounds of sea buckthorn oil represent a polyvitamin complex that has a regenerating effect on cellular metabolism. The actions of sea buckthorn oil are as follows: vitaminizing, anti-anemic, general tonic, immunomodelling, coronary protector, anti-atherosclerotic, improves the detoxification function of the liver and ensures the trophicity of liver cells (beta-carotene content prevents the occurrence of cancer), protector against solar radiation, cicatrizing, dermogenerator, nutritious. In internal use, it is also indicated as prophylactic (slowing down the aging process and preventing cancer, tonic in stressful situations, immunomodulator). It is also used as an adjuvant in the internal treatment of dermatological

conditions, Otorhinolaryngology conditions with an atrophic and inflammatory component, cardio-vascular conditions being a good coronary protector, and digestive system conditions. In external use, it is used in the local treatment of eczema, thermal and chemical burns, allergic dermatitis, and slow-healing wounds. It is known to be the only natural product used against solar or other radiation. Sea buckthorn oil is also used in cosmetics for the preparation of anti-wrinkle and nourishing creams, for protective and maintenance gels, and lotions for all skin types [12].

### **VOs of Thyme (*Thymus vulgaris*)**

Thyme VOs is an oil obtained by distillation from the aerial parts of the plant and is used in:

- Digestive disorders (indigestion, intestinal parasites): external use - massage under the sternum, 3-4 drops in 4 mL base oil;
  - Respiratory and ENT diseases (viruses, bronchitis, tonsillitis, sinusitis): external use - inhalations, 3 drops in a handkerchief;
  - Arthrosis, rheumatic pain: external use - massages, 4 drops of VOs per 10 mL of base oil;
  - Acne, warts, mycoses of the nails: external use: dabbing with 4 drops of VOs per 10 mL of base oil;
  - States of stress, fatigue, anxiety: external use: inhalations (3 drops in a handkerchief), aromatic baths (7 drops in a local bath or 15 drops in a general bath);
- As a rule, for internal use, add 2 drops 3x/day, in a teaspoon with honey, after meals [13].

### **EOs of Geranium (*Pelargonium graveolens*)**

It is an oil obtained by distillation from aerial parts of the plant and helps to relax, and used in:

- Nervousness, irritability, depression: external use - inhalations (3 drops in a handkerchief), aromatic baths (7 drops in a local bath, 20 drops in a general bath);
- Varicose veins, tired legs, venous problems: external use-massage, 3 drops in 10 mL base oil;
- Premenstrual syndrome, menopausal disorders: external use - massage, 3 drops in 10 mL base oil, on the kidney area;
- Urinary infections (cystitis) and genital inflammations (annexitis);

- Digestive disorders (intestinal parasites, pinworms, pinworms, colitis);
- Arthrosis, rheumatic pain: external use - massages (4 drops of VO's per 10 mL of base oil);
- Acne, mycoses of the nails: external use-dabbing with 4 drops of VO's per 10 mL of base oil.

For internal use, add 2 drops 3x/day, in a teaspoon with honey, after meals [14].

#### **EOs of Hyssop (*Hyssopus officinalis*)**

This VO's is used as a detoxifier, digestive, balancing, and stimulating agent. At the level of the circulatory system, it regulates blood pressure and improves blood circulation. In the digestive system, it fights bloating, flatulence, and constipation and helps digestion. It is beneficial for absent or insufficient menstruation and reduces fluid retention. Hyssop VO's should be avoided during pregnancy and is not recommended for epileptics or young children, including babies [15].

#### **EOs of Lemon Balm (*Melissa officinalis*)**

Evening primrose EOs is used as a sedative, antidepressant, calming, and invigorating agent. At the level of the digestive system, it stimulates the functioning of the liver and gall bladder. This is a remedy for indigestion, nausea and cramps. It is an adjuvant in the remedy of asthma, bronchitis, and cough, especially if they occur during periods of allergies. It is also used to cure herpes and is an effective remedy for wasp and bee stings [16].

#### **VOs of Rosemary (*Rosmarinus officinalis*)**

It is indicated as a diuretic, calming, fortifying, and stimulating. At the level of the circulatory system, it corrects circulation problems and is tonic for the heart, regulates the level of cholesterol in the blood.

It also acts on: the respiratory system (asthma, bronchitis, whooping cough), the nervous system (activates and invigorates the brain, freeing the mind and reducing mental fatigue), muscles and joints (soothes muscle or joint pain, effective in restoring the low tone of muscles), skin (combats cellulite, stimulates hair growth, fights dandruff [17].

#### **VOs of Myrtle (*Myrtus communis*)**

This EOs is extracted by steam distillation of the leaves and small branches, and occasionally the sweet-smelling flowers. It acts on: the circulatory system (stimulates the respiratory system and the immune system), the digestive system (soothes the

digestive system, fights diarrhea and flatulence), the urogenital system (effective for treating cystitis and other infections; tonic for the uterus), the respiratory system (fights infections respiratory, cough and cold; adjuvant in the treatment of sinusitis and rhinitis) and the skin (adjuvant in the treatment of acne, combating excessive oiliness of the skin; a remedy against eczema; regenerates mature skin) [18].

#### **VOs Mouse Tail (*Achillea millefolium*)**

It is extracted by steam distillation of the leaves and flowers. At the level of the circulatory system, it lowers blood pressure and has a tonic effect on circulation, and fights arteriosclerosis and varicose veins. It also acts on the muscles, reducing inflammation, and is a good remedy for rheumatoid arthritis, sprains and strained muscles. At the level of the urogenital system, it is beneficial for treating irregular or insufficient menstruation and combats fluid retention and cystitis [19].

#### **EOs of Chamomile (*Matricaria chamomilla*)**

It is obtained by steam distillation of flowers. It is recommended for strengthening the immune system and reducing susceptibility to infections and is indicated for anemia. In the digestive system, it reduces gas and abdominal pain, relieves symptoms of indigestion and diarrhea, reduces inflammation of the intestines, and stimulates the functioning of the liver and gallbladder. It is recommended for inflamed joints and tendons and relaxes muscles, especially those associated with nervous tension. Volatile chamomile oil is beneficial for all skin types, including sensitive, easily irritated, or dry skin, and is useful for eczema and psoriasis. It soothes irritated and inflamed skin and is a good remedy for cracked nipples [20].

### **SPICES**

#### **Clove VO's (*Syzygium aromaticum*)**

This oil is obtained by distillation from the buds of the tree and is used in:

- Toothaches;
- Nervousness, anxiety, fatigue: external use - inhalations (2 drops put in a handkerchief), scalp massage (3-4 drops put in 10 mL of orange water);
- Rheumatic pains, muscle contractions: external use - massage, 4 drops of VO's per 10 mL of base oil;

– Skin infections, mycoses of the nails: external use - compresses, local applications with 2 drops of VO's per 10 mL of base oil;

– Digestive disorders (indigestion, intestinal parasites);

– Urinary and genital infections: external use - swabs on the affected area, 4 drops diluted in 2 mL of base oil;

As a rule, for internal use, add 2 drops 3x/day, in a teaspoon with honey, after meals [21].

#### **EOs of Ginger (*Zingiber officinalis*)**

Ginger EOs is indicated as digestive, soothing, and stimulating. It is used at the level of: the digestive system (diarrhea, indigestion, abdominal tension, stomach cramps), the circulatory system (effective for stimulating circulation disorders), muscles or joints (muscle pain, adjuvant in the treatment of arthritis, rheumatism, dislocations, and strained muscles), nervous system (helps regain concentration and memory) [22].

#### **Coriander VO's (*Coriandrum sativum*)**

It is used as a stimulant, tonic, and invigorant. It acts on the level of: the circulatory system (circulatory disorders), the digestive system (reduces abdominal spasms, indigestion, constipation, and nausea and is used as a gargle to combat halitosis), the urogenital system (tonic for the uterus, regulates the menstrual cycle), the respiratory system (combats colds and viruses) and the nervous system (increases the ability to concentrate, fights neuralgia, effective in treating nervous weakness and fatigue) [23].

#### **VOs of Cumin (*Foeniculum vulgare*)**

This EOs is obtained by steam distillation of the crushed seeds. It is used as atipluriginos, energizing, digestive, detoxifying and regenerating. It is a good remedy to detoxify the digestive system and cures problems like constipation, flatulence and nausea. It is used as an adjuvant in the weight loss process, weighting the appetite, but increasing the body's energy resources. Cumin EOs is excellent for mothers because it stimulates the production of breast milk, it also regulates the menstrual cycle and reduces fluid retention. It is recommended for reducing and fighting cellulite and is indicated for skin affected by toxic substances. As special precautions, cumin oil should not be used excessively in young children and epileptics, and should be avoided during pregnancy [24].

#### **Cinnamon VO's (*Cinnamomum zeylanicum*)**

The VO's of cinnamon has actions on: the circulatory system (stimulates circulation), the digestive system (helps sluggish digestion, reduces the symptoms of indigestion, nausea and flatulence; it is recommended for comatose candidiasis), the muscles (soothes muscle pain and symptoms of rheumatism), the urogenital system (adjuvant in the treatment of vaginal diseases; stimulates contractions in childbirth), nervous system (combats mental fatigue and is effective in treating diseases caused by stress), respiratory system (effective remedy for coughs, colds, flu and chills) [25].

#### **EOs of Nutmeg (*Elettaria cardomomum*)**

Nutmeg EOs is beneficial for circulatory disorders and detoxifies the lymph. At the level of the digestive system, it is used as an adjuvant in the remedy of digestive disorders, such as indigestion, spasmodic pains, nausea, flatulence and constipation. It soothes muscle pain, alleviates muscle contractions and is recommended in the treatment of sciatica due to its pain-fighting properties. Also, at the level of the respiratory system, it calms coughs and fights rhinitis, colds and flu [26].

#### **VOs of Oregano (*Origanum marjorana*)**

Oregano VO's is extracted by steam distillation of the leaves and flowers. It is a good remedy for improving circulation and for frostbite, regulates heart rate and reduces high blood pressure. It is effective in combating pain caused by arthritis, rheumatism, sprains and strained muscles and reduces joint pain and stiffness. At the level of the respiratory system, it is effective as an inhaler in comatose colds and flu [27].

#### **VOs of Black Pepper (*Piper nigrum*)**

This EOs is extracted by steam distillation of dried and crushed peppercorns. It acts on: the circulatory system (stimulates poor circulation; it is recommended for combating anemia and after heavy bleeding; adjuvant in curing frostbite), the digestive system (eliminates toxins in the digestive system, being a good remedy for constipation, colic and food poisoning; stimulates appetite and restores the tone of the colon), muscles and joints (restores the tone of the skeletal system, soothes muscle pain and neuralgia, stiffness, arthritis, rheumatism and muscle tension), the nervous system and the respiratory system (remedy for coughs, colds and chills) [28].



## TREES

### VOs of Fir (*Abies alba*)

This VOs is obtained from ceter and fir buds. Fir oil acts as a secretolytic, hypermic, antispetic of medium strength. It is indicated for internal use in catarrhal upper/lower airway conditions, and for external use, it is indicated for rheumatic pain, neuralgia and rhinosinusitis. Fir oil is contraindicated in bronchial asthma and whooping cough. As side effects, we mention: eye, skin and mucous membrane irritations. The internal administration is done in the following way: for children over 5 years old 1-2 drops 3 times a day mixed with honey, after main meals and for adults between 3-5 drops 3 times a day diluted with tea, after the main meals. External administration is done in the form of rubs, lotions, baths, and inhalations and for baths, 6g of VOs is used in a tub of water [29].

### The VOs of Pine (*Pinus silvestris*)

Volatile pine oil has a pharmacological action such as: calming, toning the nervous system, revulsive, antiseptic and disinfectant of the respiratory and renal system. Therapeutically, it is recommended in neuroses, stress, metabolic disorders, bronchitis, cystitis and rheumatism. Internally, it is administered in the form of drops, children over 5 years old 1-2 drops mixed with bee honey 2-3 times a day after main meals and for adults 3-5 drops diluted with tea 2-3 times per day after the main meals. As external administration, pine oil is used in the form of rubs, baths, inhalations [30].

### VOs of Sandalwood (*Santalum album*)

The VOs of sandalwood is extracted by steam distillation of the wood obtained from the core of the log and the main roots of the tree. It is also indicated as a calming, invigorating, curative and aphrodisiac. Sandalwood VOs is known for its balancing effect on the nervous system and combats anxiety and tension. At the skin level, it is frequently used for dry, cracked or dehydrated skin problems. Also, volatile sandalwood oil acts on the urogenital system as an effective remedy for cystitis and vaginal infections of all types [31].

### EOs of Cedar (*Cedrus atlantica*)

Cedar wood VOs is extracted by steam distillation of the wood, logs and sawdust. It acts as a sedative, detoxifier and relaxant. It is a good remedy for circulation disorders, it decongests the lymphatic system and is recommended to fight

arteriosclerosis, stimulating the burning of accumulated fats. At the level of the nervous system, it is beneficial for tense states, helps meditation and combats states of lethargy and nervous weakness. Sandalwood EOs is excellent for fighting colds and clearing mucus. Also, on the skin level, it acts as an adjuvant in fight against cellulite, excessive fattening of skin and acne [32].

### VOs of Juniper (*Juniperus communis*)

Juniper VOs acts as diuretic, expectorant, antitussive, antiseptic and tonic. At the level of the circulatory system, it is known to be an excellent detoxifier, fights arteriosclerosis, decongests the lymphatic system and stimulates circulation. Also, at the level of the digestive system, it stimulates the elimination of toxins, which makes it effective for combating obesity, constipation and stomach problems. Juniper VOs helps fight arthritis, gout and rheumatic diseases by stimulating the elimination of uric acid and other toxins, relieving pain and stiffness. This is one of the best oils for treating urinary tract infections such as cystitis and is an adjunct in treating prostate problems and kidney stones. It also helps fight arthritis, gout and rheumatic diseases by stimulating the elimination of uric acid and other toxins, relieving pain and stiffness. This oil is used as an adjuvant in the treatment of skin affected by cellulite, acne, closed pores and excessive fat. As special precautions, it should not be used excessively in people who have inflamed kidneys [33].

### VOs of Tea Tree (*Melaleuca alternifolia*)

This oil acts on: the circulatory system (tonic for the heart, stimulates circulation and restores varicose veins, strengthens immunity and fights recurrent infections), the urogenital system (remedy for cystitis, itching, thrush, diseases and vaginal infections), the nervous system (alleviates shock), skin (effective for combating acne, mycosis of the foot, burns, cuts; in its pure state it can be applied on warts) and on the respiratory system (beneficial for curing asthma, bronchitis, rhinitis, flu, and whooping cough). Tea tree is used for first aid [34].

### VOs of Benzoin (*Styrax benzoin*)

Benzoin belongs to complex mixtures of natural substances and is effective for respiratory problems such as asthma, bronchitis, cold, cough, flu, and throat infections. At the muscle level, it fights arthritis, gout, and rheumatism. This oil fights vaginal infections such as cystitis and reduces fluid retention. At the level of the circulatory system, it acts as a circulation stimulant

and regulates the heartbeat. Benzoin is a necessary ingredient in any foot or hand cream [25].

#### **VOs of Cypress (*Cupressus sempervirens*)**

Cypress oil is extracted by steam distillation of the needles and twigs. It is recognized for its ability to cure varicose veins and hemorrhoids and has been found to have a tonic effect on the veins. It is indicated for combating spasmodic or convulsive cough and is used as an adjuvant in the treatment of asthma and bronchitis [36].

#### **Rosewood VOs (*Aniba rosaeodora*)**

This oil is extracted by steam distillation of wood. At the level of the respiratory system, it is beneficial for colds, flu, viruses, and throat problems.

Rosewood soothes mild coughs and strengthens the immune system. At the skin level, it is beneficial for treating acne and rejuvenating the skin, improving the condition of mature skin, and reducing wrinkles [37].

#### **VOs of Camphor (*Cinnamomum camphora*)**

This oil is obtained by steam distillation from the leaves of the camphor tree. It is indicated in flu, bronchitis, pharyngitis, viruses, asthenia, insomnia, anxiety, rheumatism, respiratory diseases, herpes, shingles, skin infections, acne, muscle pain, and back pain. It is contraindicated for pregnant and epileptic women. It is used externally in inhalations, frictions and therapeutic baths [38].

#### **VOs of Neem (*Azadirachta indica*)**

The therapeutic properties of neem oil are as follows: anti-inflammatory, analgesic, antiseptic, anti-parasitic, antibacterial, antifungal, immunostimulatory, soothing, and restores skin elasticity. For internal use: eliminates intestinal parasites, but it is necessary to combine it with another oil (for example, VOs of orange, lemon or grapefruit) because it has a strong smell and bitter taste; fever; gynecological disease. For external use: acne, eczema, burns (including sunburn), wounds, warts, herpes, hair loss, dandruff, rough, dry or cracked skin. Its use should be avoided during pregnancy or by women trying to conceive, and it should not be taken internally in large quantities or for long periods, as it can cause liver problems [39].

### **RESINS AND ROOTS**

#### **VOs of Myrrh (*Commiphora myrrha*)**

It is indicated as antiseptic, antitarrhal, curative, and revitalizing. It acts on: the urogenital system (cleanses the

uterus, is effective for thrush and vaginal diseases of all kinds, recommended for painful or insufficient menstruation), the digestive system (combats flatulence, indigestion, diarrhea, irritable bowel syndrome and hemorrhoids), the nervous system (calms and relaxes), the respiratory system (effective for asthma, bronchitis, colds and coughs, dries mucus, effective as a gargle for sore throats and loss of voice) and skin (heals cracked and sore skin, fights fungal infections such as ringworm foot) [40].

#### **Frankincense EOs (*Boswellia carter*)**

Frankincense VOs is extracted by steam distillation of the oily resin of trees, obtained by the drip method. It is indicated as: curative, invigorating, expectorant, regenerating and decongestant. At the level of the urogenital system, it fights cystitis, is used as an adjuvant in the treatment of vaginal diseases and is beneficial during menopause. It fights diseases caused by stress, at the level of the nervous system. It is an ideal remedy for asthma and other respiratory diseases. It rejuvenates and revitalizes mature and wrinkled skin, preventing aging and reducing scars and marks on the skin [41].

### **CITRUS FRUITS**

#### **EOs of Lemon (*Citrus limon*)**

This oil is extracted by cold pressing the peel of the fruit. It is indicated as alkaline, diuretic, tonic, detoxifying, and antiseptic. Acts on: circulatory system (circulatory tonic, stimulates and detoxifies the circulatory system, regulates blood pressure and helps stop bleeding, heals varicose veins and hemorrhoids), urogenital system (an excellent diuretic that helps reduce fluid retention and fights infections of the kidneys and the bladder), the digestive system (reduces hyperacidity, decongests the gallbladder and detoxifies the liver), the respiratory system (fights asthma, bronchitis, colds, flu and throat infections) and on the skin level (effective for cuts and wounds, acne, recommended for cellulite comatose). As a special precaution, sun exposure should be avoided immediately after treatment [42].

#### **VOs of Bergamot (*Citrus bergamia*)**

It is indicated as an antidepressant, antiseptic, relaxing and invigorating. It acts on the digestive system (tonic for digestion, reduces halitosis, used as a gargle, is recommended for the remedy of eating disorders), the urogenital system (very good

treatment for cystitis, vaginal diseases, thrush and itching), the nervous system (sedative, ideal for combating depression and stress), the respiratory system (soothes tonsillitis, sore throats, flu and respiratory infections) and the skin (relieves eczema and psoriasis, combats oily skin, acne, blemishes and herpes). As special precautions do not apply before exposure to the sun because it increases the photosensitivity of the skin due to the content of bergapten, which accelerates the tanning of the skin [43].

#### **VOs of Lime (*Citrus aurantifolia*)**

Lime oil is indicated as revitalizing and invigorating. It is excellent for improving circulation, stimulating the lymphatic system and boosting immunity. It soothes heartburn and is a tonic for the digestive system. It is recommended as a remedy against acne, cellulite, cuts and wounds, and warts [44].

#### **Tangerine VOs (*Citrus reticulata*)**

This VOs is indicated as a tonic, invigorating, calming, sedative, balancing, and revitalizing. It acts on: the circulatory system (tonic for circulation, strengthens the immune system), the digestive system (soothing for the digestive system, reduces flatulence and diarrhea, effective for the liver and gall bladder), the nervous system (invigorating, removes fatigue and depression) and on the skin (prevents stretch marks and reduces scars, skin tonic, a good remedy for acne) [45].

#### **VOs of Petitgrain (*Citrus aurantium*)**

This oil acts on: the circulatory system (effective for problems caused by stress, it will slow down and regulate an excessively high heart rate and eliminate palpitations; it stimulates the proper functioning of the immune system), the digestive system (adjunct in calming the digestive system and is recommended for combating indigestion, diarrhea, and irritable bowel syndrome), the nervous system (beneficial for states of stress and tension, exerts a calming and balancing effect on the nervous system; effective in combating insomnia) and the skin (it is suitable for oily and acne-prone skin, because it exerts a detoxifying and toning action) [46].

#### **VOs of Nerol or Orange Flowers (*Citrus aurantium var. amara*)**

This oil has actions on the digestive system (effective for colitis, chronic diarrhea and indigestion in the nervous system), the circulatory system (helps to heal varicose veins, reduce high blood pressure, palpitations, angina and heart conditions), the urogenital system (good remedy for a period of menopause

and to combat premenstrual syndrome), nervous system and skin (for scar reduction) [47].

#### **VOs of Grapefruit (*Citrus paradisi*)**

This oil is extracted by cold pressing the skin of the fruit. At the level of the circulatory system, it is excellent for detoxifying the blood and is recommended for regulating the lymphatic system. It is a good adjuvant in digestion and detoxification diets and is useful for reducing body weight and liver problems. At the muscle level, it is used in the treatment of gout, rheumatism, and arthritis, and it has also been shown to be beneficial before and after physical exercise to prevent muscle and joint stiffness. At the skin level, it is recommended for oily and congested skin as well as to fight cellulite and acne [48].

### **HERBS, SEEDS, AND SHRUBS**

#### **Patchouli VOs (*Pogostemon cablin*)**

This oil is indicated as an antidepressant, curative, hypnotic, revitalizing, and calming. It acts on: the digestive system (combats constipation, diarrhea, and irritable bowel syndrome, detoxifies the colon, and reduces bloating), and on the skin (stimulates the regeneration of cracked cells, through its calming and cooling effect, tones the skin after a diet and is a good remedy for infections with fungi, such as athlete's foot, and allergies such as eczema) [49].

#### **Angelica seed EOs (*Angelica archangelica*)**

Angelica seed oil is an excellent oil for detoxifying the blood and boosting circulation as well as the immune system. It is also recommended during periods of convalescence or problems such as anorexia. In the digestive system, it reduces the accumulation of gas in the stomach or intestine and fights indigestion. Also, at the level of the urogenital system, angelica seed oil fights urinary infections and cystitis, and is a good remedy for cramps and menstrual pain. At the skin level, it is used as an adjuvant in the treatment of eczema, and clears congested and sensitive skin. As special precautions, angelica root is extremely phototoxic, so exposure to strong sunlight should be avoided immediately after treatment. Angelica seed oil is non-phototoxic and is one of the favorite oils in aromatherapy [50].

#### **Carrot (*Daucus carota*) EOs**

This oil acts on: the circulatory system (stimulates poor peripheral circulation, detoxifies blood and lymph; fights anemia and supports the immune system), the digestive system



(relieves constipation, irritable bowel syndrome, flatulence and liver problems; aids digestion and is used as an adjuvant in the treatment of eating disorders), the urogenital system (combats fluid retention and cystitis; regulates menstruation and restores hormonal balance), the nervous system (stimulates and revitalizes) and the skin (useful to remedy skin problems, being an excellent tonic for its elasticity) [51].

#### **VOs of Citronella (*Cymbopogon nardus*)**

Citronella oil is extracted by steam distillation of the dried, partially dried or fresh herb. Within the digestive system, it helps sluggish digestion, stimulates appetite, fights candida. At the level of the muscles, it calms pain and muscle cramps and at the level of the respiratory system, it is recommended as a treatment against colds and flu. Citronella oil is used against insects, it is usually used in sprays, and it is also used to repel moths. At the skin level, it refreshes sweaty and tired feet and reduces excessive sweating and sagging of the skin [52].

#### **EOs of Lemon Grass (*Cymbopogon citratus*)**

This oil is extracted by steam distillation of fresh, partially dried leaves. At the muscle and joint level, it improves muscle tone, is excellent for tired, sore legs and removes lactic acid, and is recommended for sports injuries, sprains, and bruises. This is important for the immune system, speeding up the recovery process from debilitating illnesses such as glandular fever and myalgic encephalomyelitis. It is recommended to treat problems such as open pores, excessive sweating, loose skin after dieting, acne, and cellulite and is used to treat infectious skin diseases such as measles and scabies [53].

#### **Vetiver VOs (*Andropogon muricatus*)**

It is extracted by steam distillation of the roots. Vetiver oil is a good circulation booster and immune system tonic. It is a good remedy for irritable bowel syndrome and is effective in combating a lack of food. At the level of muscles and joints, it is used as an adjuvant in the fight against arthritis, rheumatism, contractions and muscle tension [54]. This manuscript-type review is a summary of some plant extracts that contain volatile oils, but also a rather incomplete description of the pharmacological effects of the compounds in the respective plant oils.

## **CONCLUSIONS AND RECOMMENDATIONS**

The use of medicinal and aromatic plants in natural therapy presents significant advantages, such as products and

preparations of plant origin are better tolerated by the body, have increased effectiveness, and do not produce habituation phenomena. VOs are products of plant secondary metabolism secreted by cells specialized for this purpose, distributed in diverse organs and stored in vacuoles, bags, or secretory channels, or in glandular hairs, in the form of oily, volatile liquids with a pleasant, aromatic smell. They are mixtures of various chemical constituents endowed with interesting therapeutic properties. Of all the names, that of VOs is the appropriate one, because it defines their volatility and the ambient temperature, due to the increased vapor pressure. The other names are inappropriate: the term "EOs" should characterize mixtures of ethers, or VOs have in their composition many other constituents that are not ethers, and the term "EOs" or "essences" applies to all odorous principles released by natural substances, even those resulting from a physical, chemical or enzymatic process. To differentiate VOs from fatty ones, both hydrophobic liquids, the name aetherolea is used for the former and olea pingua for the latter. The use of VOs plants (also called aromatic plants), or only VOs in the fight against infectious or mental illnesses is known as aromatherapy. More recently the term applies only to EOs therapy. It has been applied for several millennia. In its evolution, aromatherapy went through several stages: at first, aromatic plants were used in the form of infusions, decoctions or fumigations; then as extracts obtained by maceration or digestion in vegetable oils or in wines (in this period the notion of therapeutic action is linked to the presence of odorous substances), and later, after having accumulated enough knowledge about VOs, it was started to obtain to them in their pure state (by distillation) and to their use in combating various diseases. The modern period is based on knowledge about the chemical constituents of VOs regarding their physical, chemical, biochemical and therapeutic activity. Plants are true laboratories and pharmacies of nature, but they must be used with caution, otherwise like any medicine and of course after the advice of a specialist.

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