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A REVIEW: THERAPEUTIC ACTIVITIES OF MEDICINAL PLANTS

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ABSTRACT

From the beginning of human existence, man has been acquainted with plants and used them in various ways over the years. This relationship between plants and man has grown and many plants began to be used as medicine. Nature has given our country a huge wealth of medicinal plants; therefore, India is often referred to as the Medicinal Garden of the world. India has a unique position in the world where a number of traditional medicine systems are known namely, Ayurveda, Siddha, Unani, Homeopathy, Yoga and Naturopathy. Medicinal plants are an important part of research development in the pharmaceutical industry. Such research focuses on the classification and direct use of active ingredients, or on the development of slow-acting drugs, or in the active testing of natural products to produce effective pharmaceutical compounds. The use of medicinal plants is an important source of treatment, treatment and prevention of many diseases and is often guided by the information collected from the direct relationship between humans and nature. The main purpose of the current review is to search and collect information about traditional medicinal plants with potential therapeutic activity. This review article also includes the important information about its components and the chemical elements present in that particular plant.

KEY WORDS: Medicinal Plants, Chemical Phytochemicals, Therapeutic Power, Traditional Medicine.

INTRODUCTION

Nature includes everything except the plant, which directly or indirectly affects plant life. This is an important part of the global ecosystem. Each part of nature is called the natural element. Plants grow best between certain categories of material including temperature, soil moisture, soil nutrients, light, air pollutants,

humidity, soil composition and pH. Although these factors affect all plants it is often planted or stored in traditional particles (fertilizing, watering, spraying with pesticides) that may affect their growth significantly. [1]

From the beginning of human existence, man has been acquainted with plants and used them in various ways over the years. An ancient

man who sought food and successfully dealt with human suffering began to distinguish those plants that were fit for the purpose of healing others for the specific act of medicine. This relationship between plants and man has grown and many plants began to be used as medicine. The growth of disease control knowledge continued at a rapid pace and the number of new medicines found in plants increased similarly. Nature has given our country a huge wealth of medicinal plants; therefore, India is often referred to as the Medicinal Garden of the world. Clinical use of herbs described in the Indian Vedas in the treatment of various diseases

Medicinal plants are an important part of research development in the pharmaceutical industry. Such research focuses on the classification and direct use of active ingredients, or on the development of slow-acting drugs, or in the active testing of natural products to produce effective pharmaceutical compounds. The global market for plant-based chemicals - medicines, perfumes, flavors and colored ingredients, alone exceeds billions of dollars a year. Ancient examples of phytochemicals in biology and medicine include taxol, vincristine, vinblastine, colchicine and Chinese antimalarial - artemisinin, and the Indian ayurvedic drug-forkolin. [3]

The use of medicinal plants is an important source of treatment, treatment and prevention of many diseases and is often guided by the information collected from the direct relationship between humans and nature. Ethnobotany is the science responsible for researching the relationship between medicinal plants and men; it is like a multi-disciplinary

science whose complexity and function encompasses different areas of knowledge. [4]

] Therefore, the main purpose of the current review is to search for plants commonly found in the Sangli region (Maharashtra) to find their medicinal value and to gather information collected about traditional medicinal plants with potential therapeutic potential. This review article also includes important information about its components and the chemical elements present in that plant.



Table 01: Medicinal Plants

Sr. No.	Botanical Name	Common Name	Family	Part Used	References
01.	<i>Aloe barbadensis miller</i>	Aloe vera	Liliaceae	Whole Plant	06
02.	<i>Annona squamosa</i>	Custard apple	Annonaceae	Whole Plant	07
03.	<i>Annona cherimola</i>	Cherimoya	Annonaceae	Whole Plant	08
04.	<i>Azadirachta indica</i>	Neem	Meliaceae	Whole Plant	09
05.	<i>Aegle marmelos</i>	Bel	Rutaceae	Whole Plant	10
06.	<i>Bryophyllum pinnatum</i>	Air plant	Crassulaceae	Leaves	11
07.	<i>Curcuma longa</i>	Turmeric	Zingiberaceae	Rhizome, Tuber	12
08.	<i>Citrus limon</i>	Lemon	Rutaceae	Leaves, Fruits, Flowers, Seeds	13
09.	<i>Calotropis gigantea</i>	Crown flower	Apocynaceae	Whole Plant	14
10.	<i>Daucus carota</i>	Wild carrot	Apiaceae	Roots, Leaves, Seeds	15
11.	<i>Emblica officinalis</i>	Emblic	Phyllanthaceae	Whole Plant	16
12.	<i>Ficus carica</i>	Common fig	Moraceae	Fruits, Root	17
13.	<i>Ficus benghalensis</i>	Banyan	Moraceae	Whole Plant	18
14.	<i>Ficus racemosa</i>	Cluster fig	Moraceae	Whole Plant	19
15.	<i>Ficus religiosa</i>	Sacred fig	Moraceae	Whole Plant	20

MEDICINAL PLANTS**TREATMENT STORES****01c [6]**

Chemical constituents: (Retinol, ascorbic acid, Tocopherol, Cynocobalamine, Folic acid, Choline), Enzymes (Aliiase, Alkaline phosphatase, Amylase, Bradykinase, Carboxypeptidase, Catalase, Cellulase, Lipase, Peroxidase, C). Chromium, copper, selenium, Magnesium, Manganese, Potassium, Sodium and Zinc), sugar- (Glucose, Fructose and polysaccharides), Anthraquinones- (Aloin and Emodin), fatty acids- (Cholesterol, Campesterol, β -sitosterol and Lupeol) Amino acids.

Pharmacological Activities: Antiulcer, Antidiabetic and Wound Healing, Antihypercholestermic and Antibacterial, Antiviral, Antifungal, Antiacne, Immunomodulatory Activity, Cardiac Stimulant, Moisturizer, Skin protection from UV- A & UV-B rays, Antioxidant activity.

02. Annona squamosa [7]

Chemical constituents: Alkaloids Leaves (Aporphine, Roemerine, Norisocoryline, Rhamnoside, Quercetin-3-o-glucoside), Seeds - Annonastatin, Asimicin, Squamocin, Essential Oils such as β - farnesene, β -pirene, α -pirene, α -pirene Limore, - Acetogenins like 4 - deoxyannoreticuline, Annoreticuline -9, Annosquamosins A, B cyclopeptides, Squamone, squamotacin, 2,4 cis and trans squamoxinone,

Roots - Liriodenine, Norcorydine, Isocorydine, Norushinsuniterpennes, entries en-19-oic acid and 16 α , 17-dihydroxyent-kauran-19 oic acid.

Pharmacological Activities: An Analgesic and Anti-inflammatory, Antiulcer Activity, Antithyroid Activity, Antidiabetic Activity, Vasorelaxant Activity, Anticancer Activity, Antimicrobial Activity, Antigenotoxic Activity, Anti-head function, Antioxidant activity, Pregnancy effect.

03. *Annona cherimola* [8]

Chemical constituents: Alkaloids, Flavonoids, Glycosides, Saponins, Tannins, Carbohydrates, Protein, Phenolic compounds, Phytosterols, and amino acids. Annona A & B, cherianone, aromin-A, N-cis-caffeoyltyramine, dihydroisoferytyramine, -feruloylmethoxytyramine and N-cis-feruloyltylmethoxytyramine, cyclooctapeptides, cherimolacyclopeptide A&B, Retinol, Thiamine, Riboflavin, Niacin, Iron, Calcium and Phosphorous, Annonaine, Methyl butanoate (69.0569) (99.056an) (15.36%), 3-methyl butyl 3-methyl butanoate (56.69%) and 5-hydroxymethyl-2-furfural (71.82%).

Pharmacological Activities: Antioxidant activity, Antidiabetic activity, Antihyperglycemic activity, Antimicrobial activity, Antitumor activity, Antianxiety activity, Antiparasite activity.

04. *Azadirachta indica* [9]

Chemical constituents: Nimbidin, Sodium nimbidate, Azadirachtin, Nimbin, Nimbolide, Gedunin, Mahmoodin, Gallic acid, (-) epicatechin

and Catechin, Margolone, Margolonone, Isomargolonone, Cyclic trisulphide, cyclic tetrasulphides, Belicar Polides G3A, NB-2 Peptidoglucan.

Pharmacological Activities: Analgesic, Anti-inflammatory and Antipyretic, Antidiabetic and Healing Wounds, Antigastric ulcer, Spermicidal, Antifungal, Antibacterial, Diuretic, -Antimalarial, Immunomodulatory, Antitumour, Antiarthritic.

05. *Aegle marmelos* [10]

Chemical constituents: Alkaloids- (Ethyl cinnamamide, O -3,3- (dimethylallyl) halfordinol, N-2-methoxy-2- [4- (3', 3'-dimethylallyloxy) phenyl] ethylcinnamamide. Terpenoids- (α -Phellandrene) (56%) and p -cymene (17%), P-Menth-1-en-3,5-diol, Limonene (82.4%). Coumarins- (Marmelosin, Marmesin, Imperatorin, Marmin, lloimperatorin, Methyl ether, Xanthotoxol, Scopoletin, Scoparone, Umbelliferone, Psoralen and Marmelide). Phenylpropanoids- (Hydroxycoumarins, Phenylpropene, Marmesin). 3-ols, flavone glycosides)

Pharmacological activities: antibacterial activity, Antihistaminic activity, analgesic, Anti-inflammatory and Antipyretic, Hepatoprotective activity, insecticidal activity, Antioxidant activity, Immunomodulatory activity, i -Myocardial infarction, testicular activity, cardiogenic activity, Anxiolytic and Antidepressant activity, Antidiabetic healing activity and Anticonvuls. activity, Anti stress and Adaptogenic activity, Antifertility function.

06. Bryophyllum pinnatum [11]

Chemical constituents: The plant contains alkaloid, flavonoid, tannin, phenolic compound, saponin glycoside, Macroelement such as magnesium, calcium, potassium, sodium, phosphorous.

Microelement such as iron, zinc, ascorbic acid, riboflavin, thiamin, niacin. It also contains syringic acid, caffeic acid, 4 hydroxy -3-methoxy cinnamic acid, 4-hydroxy benzoic acid, -parahydroxy cinnamic acid, para coumaric acid, ferulic acid, , protocatechuic acid, phosphenolpyruvate, plant leaves contain protocatechuic acid, astragalol, luteolin, rutin, kaemferol, quercetin, kaemferol-o-glycosides. It also contains Bufadienolides such as Bryophyllin A, B, C, Bryophyllon.

Pharmacological Activities: Leaves - Antileishmanial, Anti-cancer, anti-ulcer, analgesic, anti-inflammatory and anthelmintic, antihistaminic, antifungal, antihypertensive, antidiabetic and antimutagenic activities. Stressful, anti-bacterial and insect-resistant CNS actions.

Leaf juice - Hepatoprotective activity, In the treatment of jaundice, cholera, toothache and ulcers, kidney stones, diarrhea, uterine contractions, prophylactic and antioxidant, Immunomodulatory function.

07. Curcuma longa [12]

Chemical constituents: alkaloids, carbohydrates, glycosides, phytosterol, saponins, gums and mucilage. Curcumin (60%), desmethoxycurcumin, monodemethoxy curcumin,

bisdemethoxycurcumin, dihydrocurcumin and cyclocurcumin. With the oxidation of curcumins vanillin can be obtained. Essential oils (5.8%) obtained by steam distillation of rhizomes contain a-phelladrene (1%), sabinene (0.6%), Cineol (1%), borneol (0.5%), I am a (25%) and sesquiterpines (53%). Curcumin (diferuloylmethane) (3-4%) is yellow in color and contains curcumin I (94%), curcumin II (6%) and curcumin III (0.3%).

Pharmacological Activities: Analgesic, Anti-inflammatory, Healing properties, skin care, Antidiabetic, Anthelmintic, Respiratory Diseases, Urinary Tract, Hepatoprotective, Digestive system disorder, Turmeric in ophthalmic care, Anticancerous Function, Anticholesterol, Antifertility Function.\

08. Orange lemon [13]

Chemical constituents: Fruit juice mainly contains fruit acids, especially citric acid (8%) and sugar. Lemon peel consists of two layers: The outer layer (pericarp, zest) contains essential oil (6%), made of citral (5%) and citronellal and limonene (90%), α -terpineol, gerynyl acetate and linayl. The inner layer (mesocarp), in other words, contains no essential oils but a variety of coumarin extracts and bitter flavone glycosides. It also contains very little potash, sugar and amber. The imitation lemon juice is prepared by dissolving tartaric acid in water, then adding sulfuric acid and spice with Lemon oil. Lemonis dextrogyre oil. This contains 7 to 8% citral, aldehyde-producing geraniol when reduced, a small amount of citronellal and pinene.

Pharmacological Activities: Blood Purifier, Blood Sugar Balance, Osteoporosis, Insomnia, Mental and Emotional Feeds, Asthma Nausea, Vomiting and Traumatic Disease, Rheumatism, Rheumatism and Rheumatism - Related Diseases, Acne, Dots and Bumps, Treat Bacteria in the Throat, Prevent Kidney stones, Anti-Cancer Work.

09. *Calotropis gigantea* [14]

Chemical constituents: Root bark- α -amyrin, β -amyrin, taraxasterol and its ψ -isomer taraxasteryl isovalerate, taraxasteryl acetate, gigantol, giganteol, isogiganteol, β -sitoster and wax. cardiac glycosides, seven oxypregnane-oligoglycosides, calotroposides A-G. Calotropis A and B, Latex - akundarin, 0.45% uscharin, 0.15% calactin, 0.15% calotoxin also contains α β -calotropeol, β - amyrin. Latex also contains glutathione and a proteoclastic enzyme.

Pharmacological activities: An analgesic, Anti-inflammatory and Antipyretic, Antidiarrheal, Anticonvulsant and central nervous system function, Anxiolytic, Wound Healing, Hepatoprotective, Antitumor, Antitumor activity cytotoxic, antibacterial activity, Contraceptive activity, Procoagulant activity, Free release activity, Antimicrobial activity, Antifungal activity, Antitussive activity and Antifeedant activity.

10. *Daucus carota* [15]

Chemical constituents: Alkaloids, Carbohydrates, Chlorogenic Acids, Flavonoids, Phenols, Essential Oils, Terpenoid and Coumarin,

Protein $1.067 \pm 0.058\%$, Crude Fat $0.367 \pm 0.089\%$, Fiber crude% 1.0.167 and 3.

Pharmacological Activities: Cytotoxic, Antioxidant, Antidiabetic, Antimicrobial, Smooth muscle relaxant, Hypotensive effect and reduction of intraocular pressure, Gastro-protective, Nephro-protective, Hepato-protective, Cardio-protective, Antidepressant, Improve memory, Anti-inflammatory, healing function wound.

11. *Emblia officinalis* [16]

Chemical constituents: Leaves - Gallic acid, chebulic acid, ellagic acid, chebulinic acid, chebulagic acid, amlic acid, phyllantine alkaloids and phyllantidine. Seeds - Fixed fats, phosphatides and a small amount of essential oils. Concentrated fats (12.7 acid content; saponification value 185; iodine total 139.5; acetyl 2.03; unsaponifiable matter 3.81%; sterol 2.70%; saturated fatty acid 7 % Contains linolenic acid (8.78%), linoleic(44%) (28.40%), steric (2.15%), palmitic (2.99%) and miristic acid (0.95%). Bark - Leukodelphinidin, tannin and proanthocyanidin. The roots- Contain ellagic acid and lupeol. Tannins, flavonoids, saponins, terpenoids, ascorbic acid.

Pharmacological activities: Antimicrobial, Antioxidant, Anti-inflammatory, Radio-protective, Hepatoprotective, Antitissuive, Immunomodulatory, Hypolipedemic, Anticancer, Anti-HIV-reverse transcriptase, Antidiabetic, Antidepressant, Antiulcerogenic, wound healing activity, Anti-bacterial activity. -antifungal, Radical free expulsion function, Insecticidal

activity, Larvicidal and mosquitocidal function, Antimutagenic activity.

12. *Ficus carica* [17]

Chemical constituents: alkaloids, tannins, Glycosides, Flavanoids, Saponins, Coumarin, Sterols, Terpenes, Carbohydrates, Phenols and Proteins. Monoterpenes- Limonene, Menthol. Sesquiterpenes- α -Cubenene, α -Guaiene, α -Ylangene, Copaene, β -Bourbonene, β -Elemene, α -Gurjunene, β -Caryophyllene, β -Cubebene, Alloaromadurnene, α -Ledene, α -Elemene, α -Cadinene, α -Muurolene. Norisoprenoid- β -Cyclocitral.

Pharmacological Activities: Antibacterial and Antifungal, Antiviral, Antiparasitic, Antioxidant, Anticancer, Antimutagenic, Anti-angiogenic, Antiinflammatory and Antipyretic, Antidiabetic, Nephro- and -hepato-Protective, Reproduction and endocrine, Antispasmodic and antidiarrheal, Antiplatelet, and Antiterase activity, Choline Choline.

13. *Ficus bengalensis* Linn [18]

Chemical constituents: Ketones- 20-tetratriacontene-2-one, 6heptatriacontene-10-one, pentatriacontan-5-one. Flavonols and flavonoids- quercetin-3-galactoside, rutin, 5, 7 Dimethyl ether Leucoperalgonidin-3-O- α -L-rhamnoside. Terpenoids-friedelin, 3-friedelanol, beta sitosterol, 20-traxasten-3-ol, Lupeol or Betulinic acid. Coumarins. Esters- Keto-n-cosanyl stearate, Hydroxypentacosanyl palmitate and Phenyl tetradecanyl oleate. Carbohydrates-

galactose, α -D Glucose, lectin. Serine protease.

Pharmacological Activities: Analgesic and Antipyretic, Anti-inflammatory Activity, Hypolipidemic, Anthelmintic, Antibacterial Activity, Immunomodulatory Activity, Anti-Depression and Antiallergic Activity, Antioxidant Activity, Antidiarrhoeal activity, Antiatherogenic activity, Antidiabetic and ameliorative activity, Wound healing work, Wound healing work, Wound healing work.

14. *Ficus Racemosa* [19]

Chemical constituents: Leucoanthocyanins, leucocyanidin-3-O- β -glucopyranoside, leucopelarogonidin-3-O- α -L-rhamnopyranoside, β -sitosterol, long ketone, ceryl behenate, lupeol, lupeol acetate, α -amyrin acetate, heglantrianol, heglantrianol acid, esters of taraxasterol, friedelin, phytosterol, tetracyclic triterpenes glauanol acetate.

Pharmacological Activities: Antibacterial Activity, Anti-Inflammatory Activity, Hepatoprotective Function, Memory Enhancement Function, Antioxidant Activity, Enzyme Altering Aciotensin Activity, Heart Protection, Diabetes Problems, Renal Oxidative Injury, Wound Healing Work.

15. *Ficus religiosa* [20]

Chemical constituents: Bark-Tannins, saponins, flavonoids, steroids, terpenoids and cardiac glycosides, bergapten, bergaptol, lanosterol, β -sitosterol, stigmasterol, lupen-3-one, β -sitosterol-d-glucoside (phytos1, vitamin k1), tannin, wax,

saponin, sitosterol, leucocyanidin-3-O- β -D-glucopyranoside, leucopelargonidin-3-O- β -D-glucopyranoside, leucopelargonidin-3-O- α -L-rhamnopyranoside, lupeol. Leaves, -campesterol, stigmasterol, isofucosterol, α -amyrin, lupeol, tannic acid, dendrolasine α -ylangene, α copaene, β -bourbonene, β -caryophyllene, α -trans bergamotene, aromadendrene, α -humulene, alloaromadendrene, germacrene, bicyclogermacrene, γ -cadinene and gam-cadinene, gam-cadinene, mytinneor, mytinneornoids and quercetin. Seeds-Alanine, threonine, tyrosine.

Pharmacological Activities: Antidiabetic Activity, Anti-Inflammatory Activity, Analgesic Activity, Antioxidant Activity, Anticonvulsant Activity, Antimicrobial Activity, Wound Healing Work, Anti-Amnesic Activity, Anti-Activity acetylcholinestrase, Proteolytic activity.

CONCLUSION : In the next few years, herbal medicines may be the new era of human disease management. About 80% of the world's population rely on traditional medicine for basic health care. Over the past decade, there has been a growing interest in the investigation of the medicinal plant as a potential source of herbal medicines. Natural plant-based products have been recognized for many years as a source of medicinal properties. A detailed study of the medicinal plants is needed to find and develop the novel bioactive agents that can help reduce human suffering. The main purpose of the current review is to search and collect information about traditional medicinal plants with potential

therapeutic activity. These revisions include that important information about its components and the chemical elements present in a particular plant.

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