



सत्यमेव जयते

Ministry of AYUSH
Government of India

20 Medicinal Plants of '21 for Covid-19 care



NATIONAL MEDICINAL PLANTS BOARD

Ministry of AYUSH, Government of India



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20 MEDICINAL PLANTS OF '21 FOR COVID-19 CARE



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Message



In the present scenario Covid-19 pandemic lack of potential antiviral medicines against infectious diseases AYUSH scientists identifying the potential phytomedicines to boosting the immune system to overcome the Covid related ailments. In view of the urgency the Covid-19 outbreak the world health organization has much focused on rapid activation of research and development activities in herbal and modern systems of medicine. There are number of medicinal plants like Asvagandha (*Withania somnifera* (L.) Dunal), Guduci (*Tinospora cordifolia* (Willd.) Miers.), Kalamegha Thulasi (*Ocimum tenuiflorum* L.) Tavak (*Cinnamomum verum* Presl) Adaraka (*Zingiber officinale* Roscoe) etc., These plants are known to be rich in antioxidants, vitamins, proteins, carbohydrates, dietary fibers, amino acids, minerals, steroids, alkaloids, antiviral, antibacterial phytochemicals which will help in rejuvenating the immune system and also helps in killing the invaded viruses. Immune systems in the body play an important role to fight against unhealthy environment and microbes such as virus, bacteria, fungus etc. and various numbers of other diseases. In order to boost the immune system the alternate source of Ayurvedic product and plant based herbal formulations which are not only provided healthy environment to body but also boost the immune system without causing any side effects. At this Covid-19 pandemic situation, various studies reveal that those people having strong immunity has higher recovery rate against Covid-19.

Ministry of AYUSH has already released the safe care guidelines

for preventive health measures and boosting immunity with special reference to respiratory health using AYUSH systems of medicines such as Ayurveda, Unani, Siddha and homoeopathy. I hope this E-Book compiled by the National Medicinal Plants Board (NMPB), Ministry of AYUSH will also create more awareness about the medicinal plants and their utilization in different ailments particularly in Covid related ailments. From time immemorial we aware that the beneficial properties of Ayurvedic and other herbal products utilizing to cure infectious and other diseases. Since these medicinal plants having low cost, minimum toxicity and almost found everywhere in country, it has potential to enhance immunity to fight against Covid-19 and other infectious disease and play an important role to build healthy India.

Hon'ble Minister

Ministry of AYUSH

Government of India

Message



The beginning of human civilization since from the time immemorial mankind has been accompanied by different kinds of infectious diseases such as Plague, Swedish Flu, Diphtheria, Flu (Influenza), Hepatitis, HIV / AIDS, Ebola, etc. COVID-19 caused by Corona virus (SARS-CoV-2) is the latest pandemic added to this list of infections. All most all the countries have been adopted with sanitary and hygienic standards like self isolation, social distancing and wearing masks for the preventive aspects during the COVID-19 pandemic. Apart from the preventive methods number of medicinal plants and its formulations has been recommended for boosting immunity, and other ailments like fever, cough and respiratory disorders. Medicinal plants have great potential through the Indian systems of medicine and the phytotherapy has been repeatedly proven its effectiveness including its ability to cope with infective diseases.

The ministry of AYUSH has contributed in prevention as well as management with the herbs and herbal formulations through AYUSH system of medicines such as Ayurveda, Siddha, Unani and Homoeopathy during the COVID-19 pandemic. In the current satiation many of the medicinal plants are recommended for the health care issues during the Covid conditions. It is also believed that only sustainable way to survive in the current situation is to boost the immune system and many herbal diets / foods, herbal extracts, are useful as immunomodulatory and antiviral drugs. In this e-book the information about effectiveness of 20

medicinal plants which have strong leads on various aspects of COVID prevention and management have been provided to create awareness among the public on the efforts of Ministry of AYUSH. These herbs may help the physicians in treating fever, cough, cold and other COVID-19 related ailments. The bio active compounds of these plants play important role in the immunity boosting as well as addressing health care issues in COVID conditions. Therefore, proper utilization of traditional medicines will be useful to safeguard the health of the subjects of COVID-19.

Secretary

Ministry of AYUSH

Government of India

INTRODUCTION



COVID-19 caused by SARS-CoV-2 has provided true definition of pandemic in 2020 and this year the second wave is proving how dreadful it is. Overall, COVID-19 made man to introspect about the healthy ways for living and natural means of living. COVID-19 has also resulted in a paradigm shift from illness oriented healthcare system to wellness oriented healthcare system. This has opened up innumerable opportunities in the field of traditional medicine. The empirical usage of HCQ, Remidesvir, plasma therapy etc., has provided ample opportunity for the AYUSH systems to surge into the COVID operations with the indigenous remedies. The organized way of Evidence Based approach made AYUSH systems more acceptable in the prophylaxis as well as in the management of mild to moderate cases is a definite success. The general public as well as scientific community today consider the usefulness of traditional medicine against COVID-19. The fundamental concepts of traditional systems of medicine viz., *Tridosha* theory of Ayurveda, *Yin and Yang* theory of TCM, *similia similibus curentur* theory of Homeopathy etc., have become more relevant as well as meaningful. As a result, India witnessed a global recognition for its contribution towards COVID-19 management / effective control. India's lowest incidence rate, low fatality rate, most effective preventive care with the support of traditional practices and vaccination is further helping the population to reduce the critical cases and fatality rate. The special campaign on immunity boosting advocated by Hon'ble prime minister through *AYUSH KADHA* and *CHYAWANPRASH* has reached common man. At the same time *Joshinda* of Unani,

Kudineer of Siddha; *Arsenicum album* of Homoeopathy have also became popular.

Further, the AYUSH-CSIR clinical studies and AYUSH-DBT preclinical studies have provided new leads for the prevention and management of COVID-19. As a result of these studies AYUSH-64 emerged as one of the effective formulation for the management of mild and moderate cases of COVID-19 when administered with standard of care. More than 120 studies conducted at 114 centers on four formulations viz., Asvagandha, Giloi, Mulethi and AYUSH-64. DBI studies have provided scientific reasoning for the preventive role of traditional usage of nasal drops like Anu taila.

On the International Biodiversity Day 2021, NMPB decided to bring out a e-book which will give the awareness and knowledge to the public on the importance and diversity of medicinal plants which are effective against COVID. The efforts of Ministry of AYUSH are appreciable in the prevention and management of SARS-COV-2 infection.

Dr. J. L. N. SASTRY, CEO, NMPB

1. ASVAGANDHA



Botanical name: *Withania somnifera* (L.) Dunal

Family name: Solanaceae

Description: A branched erect under shrub 0.3-1.5m high. Branches terete, leaves 5-10 by 2.5-5cm ovate, subacute, entire, pubescent, base acute. Flowers greenish or light yellow, sessile. Seeds 2.5 mm diam, yellow, somewhat scurfy.

Vernacular Names

English: Winter cherry, *Sanskrit:* Aswagandha, *Tamil:* Amukara, *Telugu:* Penneru, *Hindi:* Asgandha

Chemical Constituents

Withaferin A, withanone (dampen TMRSS2, enzyme function there by block spike proteins ability to (SARSCOV-2) to fuse with host cell receptor-ACE-2), withanolide WS-1, withanolide A to Y, somnirol, withasomniferin A

Properties and Action

Pungent, bitter, astringent in taste, hot in potency, pungent in vipaka, action-alleviates vata and kapha, enhances strength, rejuvenative and increases sperm count.

Pharmacological principle

Anti covid 19 activity, Anti pyretic, Anti microbial, Antibacterial, Antioxidant, Immunomodulator, Antiinflammatory, Anti malarial, cardio protective, neuro protective, hepato protective, Adaptogenic, Anti diabetic.

Parts used: Root, Leaf, Alkali.

Therapeutic Uses: Fatigue, weakness, emaciation, tumors, dyspnoea, insomnia,

Dosage: powder 3-6 gm

Important Formulations: Aswagandha churna, Aswagandha arishtam

2. GUDUCI



Botanical name: *Tinospora cordifolia* (Willd.) Miers.

Family name: Menispermaceae

Description: Shrub, climbing. Stem green when young and covered with dry papery bark. Leaves cordate, petiole pulvinate. Flowers in axillary raceme, male flowers polysepalous, sepals 3+3. Petals- 6, polypetalous, greenish, stamens- 6, free. Commonly found in all areas.

Vernacular Names

English: Heart leaved moon seed, *Sanskrit:* Guduchi, *Tamil:* Amrida valli, *Telugu:* Tippateega, *Hindi:* Giloe

Chemical Constituents

Tinosporin, Tinosporide, Cordifolide, Phenyl prophyll glycoside.

Properties and Action

Bitter and astringent taste, hot in potency, sweet vipaka, action- alleviates all three dashas, relieves fever, Rejuvenative.

Pharmacological principle

Anti pyretic, Antioxidant, Immunomodulator, Anti inflammatory, anti rheumatic, hepatoprotective, Anti rheumatic, hypoglycemic, Anti stress,

Parts used: Stem, leaf, aerial root

Therapeutic Uses: fever, cough, wheezing, brain tonic, hyperglycaemia.

Dosage: Fresh juice-10 -20 ml; Powder -2-6 gm; Decoction-50-100ml; satva 1-2gm.

Important Formulations: Amrithadi kashayam, amritarishtam, Amritadhi guggulu, Balaguduchyadi tailam.

3. KALAMEGHA



Botanical name: *Andrographis paniculata* (Burm. f.) Wall. ex Nees

Family name: Acanthaceae

Description: Herb erect. Leaves opposite, elliptic-lanceolate, entire. Flowers long white with pink tinge in axillary and terminal paniced racemes. Not common.

Vernacular Names

English: green chiretta, *Sanskrit:* Kalamegha, *Tamil:* Nilavembu, *Telungu:* Nelavembu, *Hindi:* Kirayat

Chemical Constituents

Contains most bitter compounds andrographolide, neoandrographolide, deoxy andrographolide others 14 – deoxy andrographolide.

Properties and Action

Bitter taste, cold potency, pungent vipaka, action –alleviates kapha and pitta, appetizer

Pharmacological principle

Antiviral, Antipyretic, Antiperiodic, Immune Enhancement, Hepatoprotective, Vermicidal, Hypoglycemic, Thrombolytic,.

Part used: Whole Plant

Therapeutic Uses: Fever, Respiratory infections, GIT infection, Sore throat, Variety of chronic infections

Dosage: Power 1-3 gm; fresh juice 5-10 ml; decoction 20-40 ml

Important Formulations: Bunimbadi Churna; Bhunimbadi Kasaya

4. TULASI



Botanical name: *Ocimum tenuiflorum* L.

Family name: Lamiaceae

Description: An undershrub, erect, much branched, aromatic. Leaves elliptic- oblanceolate. Flowers purple cream in racemes. Calyx purplish. Corolla white, purplish within. Stamens- 4, didynamous. Commonly found in all areas.

Vernacular Names

English: Sacred basil, *Sanskrit:* Tulasi, *Tamil:* Tulasi, *Telugu:* Tulasi, *Hindi:* Tulsi

Chemical Constituents

Bornylacetate, Cadinene, eugenol, eugenol methyl ether, methyl chavicol, limonene

Properties and Action

Pungent and bitter taste, hot potency, pungent vipaka, action-

alleviates kapha vata, appetizer

Pharmacological principle

Anti viral, Antifungal, Antibacterial, adaptogenic (anti stress), Hypoglycaemic, Anti spasmodic

Parts used: Leaf, root, seed

Therapeutic Uses: Intermittent fever, viral hepatitis, toxic disorders, dyspnoea, cough, worms

Dosage: Fresh juice 10-20 ml, root decoction 50-100 ml, seed powder 3-6 gm

Important Formulations: Surasadigana kashayam, tumburvadi yoga

5. VANA TULASI



Botanical name: *Ocimum basilicum* L.

Family name: Lamiaceae

Description: An erect herb. Leaves large. Flowers in terminal racemes. Calyx bilipped, lower lip hairy within. Corolla white; Stamen- 4, didynamous. Found in waste places.

Vernacular Names

English: Sweet Basil, *Sanskrit:* Vantulasi, *Tamil:* Tirunittru paccchillai, *Telugu:* Bhuttulasi, *Hindi:* Babui Tulsi

Chemical Constituents

Linalool, Methyleugenol, Methyl cinnamate, Phenolic acid– Rosemarinic acid; quercetin, luteolin apigenin, kaempferol, flavanoids, isoeugenol, Vitamin A, C, Calcium, Phosphorous, Beta – carotene.

Properties and Action

Pungent, cold potency, Pacifies vata, kapha, improves taste

perception, cardiac tonic, carminative

Pharmacological principle

Anti viral, Anti microbial , Anti oxidant, Anti inflammatory, Health promoting activities. Inhibitory activity in HIV – 1, fungistatic, Anti allergenic, Cytotoxic, Anti spasmodic

Parts used: Leaf, flower

Therapeutic Uses: Feverish illness (cold and influenza), lung complaints, poor digestion, nausea, insomnia, migrane, intestinal parasites.

Dosage: Juice 3-5 ml; Seed powder 3-6 gm

Important Formulations: Surasadigana kashayam, tumburvadi yoga

6. TVAK



Botanical name: *Cinnamomum verum* Presl

Family name: Lauraceae

Description: Small tree with pale brownish, smooth, aromatic bark. Leaves elliptic-lanceolate, coriaceous, shining green on upper surface when mature. Flowers foetid in panicles, yellowish-white. Fruit dark purple, single seeded berry.

Vernacular Names

English: Cinnamom, *Sanskrit:* Tvak, *Tamil:* Ilavangam, *Telugu:* Lavangapatta. *Hindi:* Dalchini

Chemical Constituents

Cinnamaldehyde, eugenol, benzaldehyde, caryophyllene, methyl eugenol, cinnazeylanin, cinnacassiol

Properties and Action

Pungent bitter and astringent in taste, hot potency, pungent

vipaka, action-alleviates vata pitta, improves strength.

Pharmacological principle

Anti complement activity, anti allergic activity.

Parts used: Stem bark

Therapeutic Uses: Rhinitis, cough, headache, indigestion, to improve taste, worm infestation, cardiac ailments

Dosage: Powder 1 -3 gms

Important Formulations: Eladi rasayanam, sitopaladi choorna, samasarkara choorna

7. ARDRAKA



Botanical name: *Zingiber officinale* Roscoe

Family name: Scitaminae/Zingiberaceae

Description: An erect, slender and herbaceous plant, grow up to 1.8 m high. Shoots (pseudostems) extend above ground, arising from buds on the underground rhizomes, which are thickened, branched, somewhat resembling a swollen hand.

Vernacular Names

English: Ginger, *Sanskrit:* Ardhraka, *Tamil:* Inji/chukka, *Telngu:* Allaem, *Hindi:* Sonth

Chemical Constituents

Alpha curcumene, citral, citronellol, gingerol, zingiberenes, zingiberol, zingerone, gingerols, gingerenone A

Properties and Action

Pungent taste, hot potency, sweet vipaka, action-alleviates vata

kapha,improves digestion

Pharmacological principle

Anti bacterial, Anti histaminic, Anti oxidant, Anti inflammatory, Hypoglycaemic, Bio availability enhancer, Hypolipidemic

Parts used: Rhizome

Therapeutic Uses: Fever, dyspnoea, cough, heart ailments, reduced appetite, diarrhoea, blotted abdomen, bleeding disease, Anaemia.

Dosage: Fresh juice 5-10 ml; powder 1-2gm

Important Formulations: Ardhraka rasayana, ardhraka khandavalehya, nagaradi kashaya

8. HARIDRA



Botanical name: *Curcuma longa* L.

Family name: Zingiberaceae

Description: Rhizomatous herb, with sessile cylindric tubers. Leaves in tufts, large. Flowers in spikes. Bracts pink

Vernacular Names

English: Turmeric, *Sanskrit:* Haridra, *Tamil:* Manzhal, *Telugu:* Pasuppu, *Hindi:* Haldi

Chemical Constituents

Curcumene, Curcumenone, Curcane, Cineole, Curzerenone, eugenol, procurcumenol, epiprocurcumenol, curcuminoids

Properties and Action

Bitter and pungent taste, hot potency, pungent vipaka, action- alleviates kapha vata

Pharmacological principle

Anti bacterial, Anti oxidant, Anti inflammatory, Anti histamine, Anti septic, hypocholesterolenic, hydrochologogue

Parts used: Rhizome

Therapeutic Uses: Bronchitis, Respiratory illness, Bronchial asthma, tropical eosinophilia, diabetes, Anaemia, jaundice, skin disease, relieves toxicity

Dosage: Powder 1-3 gm

Important Formulations: Haridrakhanda, Nisamalaki Choornam

9. AMALAKI



Botanical name: *Phyllanthus emblica* L.

Family name: Euphorbiaceae

Description: A small deciduous tree, 8-12m high. Leaves oblong, 1-1.5×0.2-0.4cm; stipules minute, linear. Flowers in axillary fascicles; male and female flowers mixed, or more usually the upper male; tepals 6, oblanceolate; stamens-3, connate; styles broadly fimbriate, recurved, stigmatiferous. Drupe indehiscent, depressed-globose, fleshy, juicy, 3cm across. Seeds 3-gonous.

Vernacular Names

English: Goose berry, *Sanskrit:* Amalaki, *Tamil:* Nellikai, *Telugu:* Usirikaya, *Hindi:* Amla

Chemical Constituents

Vitamin c, phyllembin, linolic acid, indole acetic acid, corilangine, ellagic acid

Properties and Action

Predominantly sour, in taste, cold in potency, sweet vipaka, action – alleviates all three dosas, promotes longevity, Rejuvenative, aphrodisiac.

Pharmacological principle

Anti bacterial, Anti microbial, Anti oxidant, Anti inflammatory, Hepatoprotective, Hypolipidemic, Anti atherosclerotic, Hypoglycaemic.

Parts used: Fruit pulp.

Therapeutic Uses: Diabetes, bleeding disorders, dysuria, ulcer, leucorrhoea.

Dosage: Fresh juice-10-20 ml; powder 3-6 gm

Important Formulations : Chyavanaprasha avalehyam, amalakadi churna.

10. KIRATATIHTA



Botanical name: *Swertia chirata* Buch.-Ham. ex Wall.

Family name: Gentianaceae

Description: Rhizomatous herbs; rhizome thick, dull yellow. Leafy stem to 60 cm high. Leaves to 25 x 2 cm, elliptic-oblong, acuminate. Peduncles to 30 cm long, erect; spike 3-5 x 3 cm, obovoid; bracts 2.5 x 2 cm, obovate, green.

Vernacular Names

English: Chiretta, *Sanskrit:* Kiratatihta, *Tamil:* Nilavembu, *Telugu:* Nilavembu, *Hindi:* Chirayata

Chemical Constituents

Amarogetin, gentiopicrin, chiratol, swerchirin, gentianine, swertianin, kairatenol, swertenol, beta sitosterol.

Properties and Action

Bitter taste, cold in potency, pungent vipaka, action – alleviates

kapha pitta, relieves sannipata jwara.

Pharmacological principle

Anti pyretic, Anti arthritic, Anti diabetic, Hepatoprotective.

Parts used: Whole plant.

Therapeutic Uses: Fever, gouty arthritis, oedema, chronic liver diseases.

Dosage: Powder 1-3 gm; Decoction 50-100 ml

Important Formulations: Kiratadi kwatha, sudarsana churna, kiratathiktadi churna, kiratarishta.

11. YASHTIMADHU



Botanical name: *Glycyrrhiza glabra* L.

Family name: Fabaceae

Description: commonly known as **licorice**, is herbaceous perennial that has been used as a flavoring agent in foods and medicinal remedies. **Licorice** root has been widely used around the world to treat cough since ancient times.

Vernacular Names

English: Liquorice, *Sanskrit:* Yashtimadhu, *Tamil:* atimadhuram, *Telugu:* Athimadhuram, *Hindi:* Mulethi

Chemical Constituents

Glycyrrhizin (inhibits replication of clinical isolates of SARS virus), Glycyrrhizic acid, liquirtin, glycyrrhetic, glycyrrhetic acid, liquiritenin.

Properties and Action

Sweet in taste, cold potency, sweet vipaka, action-alleviates allthree

doshas, Rejuvenative, aphrodisiac.

Pharmacological principle

Anti pyretic, Anti inflammatory, Anti arthritis, Anti diuretic.

Parts used: Root

Therapeutic Uses: Improves strength, consumption, bleeding disorder, Rejuvenative, cardio tonic

Dosage: Powder 3-5 gm

Important Formulations: Yastyadi churna, Madhuyastyadi tailam,

12. NIMBA



Botanical name: *Azadirachta indica* A. Juss

Family name: Meliaceae

Description: Trees with dark brown barks. Leaves compound, imparipinnate, leaflets obliquely lanceolate, acuminate. Flowers fragrant in axillary panicles, sepals-5, lobed, petals-5, poly petalous, stamens-10, staminal tube apically 10- lobed. Commonly found in human settlements and also in uninhabited areas.

Vernacular Names

English: Margosa tree, *Sanskrit:* Nimba, *Tamil:* Vembu, *Telugu:* Vepachettu, *Hindi:* Nim

Chemical Constituents

Azadirachtin, Nimbin, Nimbandiol, Nimbidin, Sitosterol, Margosinolide.

Properties and Action

Bitter and astringent taste, cold in potency, pungent in vipaka,

action-alleviates kapha and pitta

Pharmacological principle

Anti microbial, Immunostimulant, Anti inflammatory, Anti arthritic, Antidiabetic, improves cardio vascular activity.

Parts used: Root bark, stem bark, leaves.

Therapeutic Uses: Fever, skin diseases, cough, alleviates toxicity, diabetes.

Dosage: Bark powder 2-4gm; Fresh juice 10-20 ml

Important Formulations: Nimba haridrakhanda, Nimbadi churna, Pancha nimba churna.

13. VASA



Botanical name: *Justicia adhatoda* Medick.

Family name: Acanthaceae

Description: Shrub, leaves oblanceolate. flowers in spikes. Calyx lobes- 5, equal, shortly connate. Corolla white, lobes -5, blipped. Stamens- 2. Almost found in waste lands and fallow fields.

Vernacular Names

English: Malabar nut, *Sanskrit:* Vasa, *Tamil:* Adhathodai, *Telugu:* Addasaramu, *Hindi:* Adusa

Chemical Constituents

Vasicine, Vascine, beta sitosterol, Vasicinol, Vit-C, Carotene, q-hydroxy vasicine, Vasicolone.

Properties and Action

Bitter and astringent taste, cold in potency, pungent in vipaka, action-alleviates kapha and pitta, cardiotoxic.

Pharmacological principle

Brochodilator activity, Haemostatic, advantages in attenuating the critical inflammatory stages of Covid 19

Parts used: Leaf, root, flower.

Therapeutic Uses: Fever, cough, dyspnoea, consumption, anaemia, bleeding disorder, diarrhea, skin diseases.

Dosage: Leaf juice 10-20 ml

Important Formulations: Vasarishtam, Vasavalehya.

14. SATHI



Botanical name: *Hedychium spicatum* Sm.

Family name: Zingiberaceae

Description: Small hardy rhizomatous perennial herb, grows 1-2m, leaves green, flowers whitish orange.

Vernacular Names

English: Spiked ginger lily, *Sanskrit:* Sathi, *Tamil:* Kacholam, *Telugu:* Kachchuralu, *Hindi:* Kapurkachari

Chemical Constituents

Hedychenone, 7-hydroxy hedychenone

Properties and Action

Pungent, bitter, and astringent in taste, hot potency, pungent vipaka, action –alleviates kapha vata, relieves cough, dyspnoea.

Pharmacological principle

Anti bacterial, anti fungal, Anti inflammatory, Hypoglycaemic,

Vasodilator, relieves paroxysmal attack of dyspnoea, Tranquilizer

Parts used: Rhizome

Therapeutic Use: Cough, dyspnoea, hiccough

Dosage: Powder : 1-3 gm

Important Formulations: Sathyadi churna

15. PUSKARAMULA



Botanical name: *Inula racemosa* Hook.f.

Family name: Asteraceae

Description: Perennial herb, reaching height 0.5 to 1.5 mt, stem grooved, rough and hairy. Leaves elliptic, hairy with long petioles. Flowers bright yellow.

Vernacular Names

English: Elicampane, *Sanskrit:* Puskaramula, *Tamil:* Pushkaramulam, *Telugu:* Pushkaramulamu, *Hindi:* Pokharmul

Chemical Constituents

Alantolactone, Iso alantolactone, inunolide, dihydro iso alantolactone, beta-sitosterol, neo alantolactone

Properties and Action

Bitter and pungent taste, hot potency, pungent vipaka, action – alleviates kapha vata, cardiac tonic, appetizer.

Pharmacological principle

Anti pyretic, Anti fungal, Anti microbial, Bacteriostatic, Fungistatic, Anti inflammatory, Anti histaminic, effective against bronchospasm, Hypoglycaemic, Anti anginal, hypolpidemic

Parts used: Root

Therapeutic Uses: Cough, dyspnoea, brochospasm, pulmonary infections, blotted abdomen, anaemia, cardiac ailments

Dosage: Powder 1-3 gm

Important Formulations: pushkaradi churna, pushkaradi kashaya

16. BHARNGI



Botanical name: *Clerodendrum serratum* (L.) Moon

Family name: Verbinaceae

Description: Large shrub with quadrangular stems. Leaves whorled and opposite, serrate. Flowers blue, in lax pyramidal panicles. Drup purple.

Vernacular Names

English: Blue-flowered Glory Tree, *Sanskrit:* Bharnagi. *Tamil:* Kavali, *Telugu:* Gantubharangi *Hindi :* Babhanaiti

Chemical Constituents

Hispidulin, 7-o glucuronides, scutellarein, uncinatone, pectolinarigenin

Properties and Action

Bitter and pungent taste, hot potency, pungent vipaka, action-alleviates kaphavata

Pharmacological principle

Anti histamine, Anti pyretic

Parts used: Root

Therapeutic Uses: Fever, rhinitis, cough, dyspnoea, oedema

Dosage: Powder 3-6 gm

Important Formulations: Bharngyadi kashaya, Bharngi guda.

17. LAVANGA



Botanical name: *Syzygium aromaticum* (L.) Merr. & L.M.Perry

Family name: Myrtaceae

Description: small-medium sized evergreen tree, 8-30 m tall, brown, dried, unopened flower buds are called cloves.

Vernacular Names

English: Clove, *Sanskrit:* Lavanga, *Tamil:* Kirambu, *Telugu:* Lavangamu, *Hindi:* Laung

Chemical Constituents

Beta-caryophyllene, eugenol, furfural, vanillin, isoeugenitol, eugenone, eugenine

Properties and Action

Bitter and pungent taste, cold potency, pungent vipaka, action alleviates kapha pitta, improves taste, appetizer, digestive

Pharmacological principle

Anti viral, bactericidal, fungicidal, Anti inflammatory, Anti carcinogenic

Parts used: Floral bud

Therapeutic Uses: Consumption, cough, dyspnoea, thirst, vomiting, bleeding disorders

Dosage: Powder 1-2gm

Important Formulations: Lavangadi vati, Lavangadi churna, Devakasuma arka

18. LAMAJJAKA



Botanical name: *Cymbopogon jwarancusa* (Jones) Schult.

Family name: Poaceae

Description: *Cymbopogon iwarancusa* is an evergreen, clump-forming grass with short rhizomes; it produces erect to ascending, densely tufted culms 30 - 150cm tall. The plant is commonly harvested from the wild for use as a medicine and as a source of essential oils.

Vernacular Names

English: Lemon grass/Cetronella, *Sanskrit:* Lamajjaka, *Tamil:* Elumichampullu, *Hindi:* Lamjak

Chemical Constituents

Piperitone, borneol, cadinene, camphene, champhor, farnesene, geraniol, alpha and beta pinene

Properties and Action

Cooling bitter, digestible, alexiteric, appetizer, stomachic,

astringent,

Pharmacological principle: Diaphoretic, stimulant, Anti oxidant, Anti rheumatic, blood purifier, carminative, diuretic, lithontriptic, emmenagogue

Parts used: Whole plant

Therapeutic Uses: Fever, gout, rheumatism, skin disease

Dosage: Powder 3-5 gm

19. KATUKI



Botanical name: *Pichrorhiza kurroa* Royle ex Benth.

Family name: Scrophularaceae

Description: Kutki is a perennial herb with an elongated rhizome. The leaves are basal and alternate, approximately 5–10 cm long, Terminal Spikes, Calyx divide equally in 5 parts. The corolla 4 or 5 lobes, bilobate, Stamens 4, inserted on corolla tube, Stigma capitate. Fruit an acute capsule,

Vernacular Names

English: Picrorhiza, *Sanskrit:* Katuki, *Tamil:* Katukarohini, *Telugu:* Katuka rohini, *Hindi:* Kutki

Chemical Constituents

Kutkiol, Kutkisterol, Phenol glucosides, kutkin, Picroside, 1,2,3, Picrorhizin.

Properties and Action

Bitter in taste, cold in potency, pungent vipaka, action-alleviates

kapha pitta, appetizer, cardio tonic, alleviates fever, laxative.

Pharmacological principle

Anti pyretic, Anti inflammatory, Anti bacterial, Reduce frequency of asthmatic attacks, Hydro cholerectic.

Parts used: Root, underground stem.

Therapeutic Uses: Fever, intermittent fever, dyspnoea, cough, skin diseases, diabetic.

Dosage: Powder 0.5-1 gm; 3- 6 gm (purgative)

Important Formulations: Tiktakadya ghritam . katukadya ghritam, Arogyavardhini vati.

20. STAR ANISE



Botanical name: *Illicium verum* Hook.f.

Family name: Schisandraceae

Description: An evergreen tree up to 15 m tall. Trunk about 25 cm in diameter with white bark. Glossy, leathery leaves, Flowers Solitary, yellow-green, sometimes flushed pink to dark red, fruits Star-shaped, consisting of a ring of single-seeded, dark reddish-brown

Vernacular Names

English: Chinese star anise, *Sanskrit:* Mishi, *Tamil:* Annasi poo, *Hindi:* Chakr phool, anasphal

Chemical Constituents

Volatiles Seco-prezizaane-type, Shikimic acid (primary precursor in synthesis of anti influenza drug), sesquiterpenes, phenylpropanoids, lignans, flavanoids, linalool, quercetin, anethole, gallic acid, limonene

Pharmacological Principle

Anti viral, Anti microbial, Anti fungal, Anti oxidant, anti bacterial, expectorant, analgesic, spasmolytic, carminative

Parts used: Fruit

Therapeutic Uses: abdominal pain, digestive disturbances, cough diuretic, influenza

Dosage: Powder 3gm

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