Review On Pharmacognostic Study and pharmacological activity Of Polyherbal Plant

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ABSTRACT

Medicinal plants, having great elementary and therapeutic importance, are the gift to mankind to acquire healthy lifestyle. Emblica officinalis Gaertn. or Phyllanthus emblica Linn. (Euphorbeaceae), commonly known as Indian gooseberry or Amla.It is best source of vit.C. Sweet potatoes (Ipomoea batatas have become a trending research topic in recent years due to their special nutritional and functional properties. The bioactive carbohydrates, proteins, carotenoids, flavonoids, anthocyanins, phenolic acids and minerals are diverse nutrients present in the leaves and roots of sweet potato.Date palm is rich in protective antioxidants. Dates are a rich source of protective plant compounds which have antioxidant properties. Phoenix dactylifera, commonly known as date palm, is a flowering plant species in the palm family, Arecaceae, cultivated for its edible sweet fruit called dates.Jaggery is a good preservative.

Keywords： *Boosting Immunity, vitamin c, cholesterol level*

INTRODUCTION

Ayurveda is holistic science for herbal remedies.This incredible formulation contains a host of healthful nutrients including antioxidants like Vitamin C, proteins, dietary fibres, sodium and abundant amounts of alkaloids and saponins, making it a great supplement for the heart, blood vessels and elevated cholesterol levels. Although it has all these incredible herbs and spices, the formulation includes zero percent cholesterol, no trans-fat, and even calories from fats are quite minima.It is considered as an Ayurvedic Rasayana which helps to improve immunity and physical strength. This key traditional therapeutic herbal strategy exploits the combining of several medicinal herbs to achieve extra therapeutic effectiveness, usually known as polypharmacy or polyherbalism. Various studies show that Amla possesses anti-diabetic, hypolipedemic, anti-microbial, anti-inflammatory, antioxidant, hepatoprotective and anti-emetic activities. The drug is used as single and as ingredient in various compound formulations like Chyavanaprasa, Dhatriloha, Amalaki Rasayana, Dhatryarishta etc. Amla is a deciduous tree of the family Phyllanthaceae. It has edible fruit, referred to by the same name. Sweet potatoes were first introduced to the Philippines. Sweet potatoes are great sources of vitamin A, vitamin C, beta carotene, fiber and potassium. Sweet potatoes can be white, yellow, red, purple or orange. The orange-fleshed sweet potatoes are sweeter than the other varieties. CSPI ranked the sweet potato number one in nutrition of all vegetables. With a score of 184, the sweet potato outscored the next highest vegetable by more than 100 points. Points were given for content of dietary fiber, naturally occurring sugars and complex carbohydrates, protein, vitamins. Dry coconut is known as “Copra” in India and is made by removing the husk of the mature coconut and cracking open the kernel, exposing the meat and liquid within. The meat is then dried using either of two methods: dried out in the air and sun or hot air drying. Desiccated coconut is an ideal source of healthy fat that contains no cholesterol and contains selenium, fiber, copper and manganese. Selenium is a mineral that helps the body produce enzymes, which enhance the immune system and thyroid function. Both honey and jaggery will increase the blood sugar levels but it is better to switch to honey or jaggery because they contain micro-nutrients. Jaggery is rich in magnesium,copper and iron while honey is rich in vitamin b vitamin C and potassium.Dry fruits are loaded with essential oils, proteins, potassium, calcium that helps to increase your immunity. Also, the presence of antioxidants in it can help you to fight against various infections and illnesses.

The other important constituents such as Guduci (Tinospora cordifolia) in the formulation have exhib-ited immunomodulatory activities in experimental models.The immunologic causes of allergic rhinitis underscore the important roles of both adaptive and innate immune systems. In recent years, appreciation of the role of nasal innate immunity has grown and evidence suggests that the

patho-genesis of allergic rhinitis is partially mediated by the innate immune system.Beneficialy for this polyherbal plant. There, as such, exists a battery of evidence suggesting its multi faceted biological activity in favour of positive health.

PLANT PROFILE

Fig: Amla berry

Geographical Source:

The plant species is native to India, also growing in Sri Lanka, Uzbekistan, South East Asia, and China now-a-days .Specifically, central and southern India, Sri Lanka, southern China, Pakistan, Bangladesh, the Mascarene Islands, Malaysia, and tropical Southeastern Asia are home to the E. officinalis species.

Taxanomy

- Biological source:Phyllanthus emblica
- Family: Euphorbiaceae
- Kingdom: Plantae.
- Division: Angiospermae
- Class: Dicotyledonae
- Order: Geraniales
- Family: Euphorbiaceae
- Genus: Emblica
- Species: officinalis Geart**n**

- **Varanacular Name**
- Hindi:Amla
- Marathi : Avla
- English: Amla
- Latin : Emblica officinalis Gaertn

Chemical consituents

Officinalis, especially fruit, contain numerous phytoconstituents viz. higher amount of polyphenols like gallic acid, ellagic acid, different tannins, minerals, vitamins, amino acids, fixed oils, and flavonoids like rutin and quercetin.

Uses：

Anti Immunity Immunostimulant

Antianaemic activity:. Eye disorder

Antidiarrheal activity for children Anti-cancer

Antioxidant and free radical scavenging activity. Antimicrobial

Hypolipidemic activity**.**

Fig. Sweet potatoes.

Geographical Source

Originated in the tropical regions of Central and South America. Christopher Columbus discovered the sweet potato growing when he discovered the Americas. The sweet potato was taken back to Spain in 1500. It was cultivated on a small scale in Spain but never became popular across Europe.

Taxanomy

- Kingdom: Plantae
- Clade: Tracheophytes
- Clade: Angiosperms
- Order:Solanales
- Family: Convolvulaceae
- Genus: Ipomoe
- Species: Batatas

Varanacular Name:

- Marathi: Ratala
- English: sweet potato
- Hindi:Shakrkand
- Sanskrit:Mishtalukam

Chemical consituents： The phytochemicals: tannins, flavonoids, phenols, terpenes, and anthocyanins content of the red sweet potato are 0.967 mg/g, 1.577 mg/g, 1.867 mg/g, 6.590 mg/g and 2.660 mg/g respectively. Terpenes and anthocyanins were not found in the yellow cultivar.

Uses

Antioxidant,	hepatoprotective properties
anti-cancer,.	Immunity booster
anti-diabetic	cardioprotective

Fig: Date palm

Geographical source :

The date palm has been prized from remotest antiquity and may have originated in what is now Iraq. The fruit has been the staple food and chief source of wealth in the irrigable deserts of North Africa and the Middle East. Spanish missionaries carried the tree to the New World in the 18th and early 19th centuries.

Biological source

- Kingdom*: Plantae*
- Clade: Tracheophytes
- Clade: Angiosperms
- Clade: Monocots
- Clade: Commelinids
- Order: Arecales
- Family: Arecaceae
- Genus: Phoenix
- Species: P. dactylifera

Varanacular Name :

- Marathi: Khajur
- Hindi: Khajur
- English: Date palm
- Tamil:kattinchu
- Sanskrit:Kharjuravahaka

Chemical consituents:

The percentage composition of the P. canariensis seeds found is: ash 1.18%, oil 10.36%, protein content 5.67%, total carbohydrate 72.59% and moisture 10.20%. The major nutrients (mg/100 g of oil) determined were: potassium , magnesium (62.78), calcium (48.56) and phosphorus (41.33).

Uses:

Hepatoprotective activity Anti-ulcer activity

Anti-bacterial activity Anti-cancer activity

Anti-diabetic activity Nephroprotective activity.

Fig. Wheat grass

Geographical Source:

Wheatgrass can be grown indoors or outdoors. A common method for sprout production indoors is often on trays in a growth medium such as a potting mix. Outdoor-grown wheatgrass grows slowly through the winter in a climate like that of Kansas in the United States.

Taxanomy

- Biological source
- Family : Poaceae
- Kingdom:Plantae
- Clade;Tracheophytes
- Clade:Angiosperms
- Clade:Monocots

Varanacular Name:

- Marathi:gahu
- Hindi: gehu
- English: Wheat Grass
- Sanskrit: Godhuma
- Urdu:Gehun

Chemical consituents

Wheatgrass is known as significant source of vitamins, minerals, carbohydrates, enzymes, chlorophyll and polyphenols. Lyophilization technique helped to preserve the heat sensitive constituents and enhanced shelf-life of product. The lyophilized wheatgrass juice powder subjected to use for chemical, nutritional and antioxidant analysis. Chlorophyll, the main constituent of wheatgrass was analyzed as 7.46 mg/g and essential elements such as Fe, Mg, Zn, K and Mn having higher concentration in wheatgrass juice powder observed by AAS. The presence of vitamins B1, B2, B3, B4, B6, B10.

Uses:

Antianaemic. Antibacterial

Antioxidant. Hepatoprotetic

Anti-cancer. Antilipidermic

Antidiarrheal Immunity booster

Amla phytochemical screening

Test	**Test solution**	**Observation**	**Result**
Reducing sugar test	Felhing solution A and B	Presence of brick red colour	+ ve
	Benedict test	Green colour	+ ve
Carbohydrates test	Mollish test	Violet ring present	+ ve
Alkaloids test	Mayer test	Cream colour ppt	-ve
	Dragandraff test	Orange colour observed	-ve
Amino acid test	Ninhydrin test	Blue colour ppt observed	+ ve

Glycoside	Killer kilkari test	Red colour present	+ ve

Wheat Grass phytochemical screening and date palm phytochemical screening

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	Dragandraff test	Orange colour	+ ve
Amino acid test	Ninhydrin test	Blue colour ppt observed	+ ve
Glycoside	Killer kilkari test	Red colour ppt observed	-ve
Test for tannin and phenol compounds	Lead acetate test	Red colour present	+ ve

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Glycoside	Killer kilkari test	Red colour ppt	+ ve
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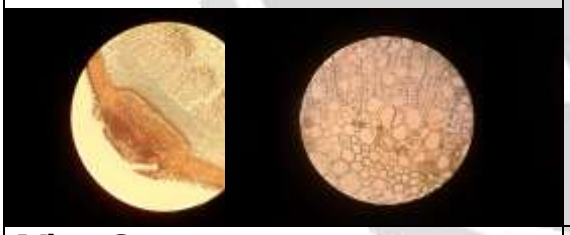
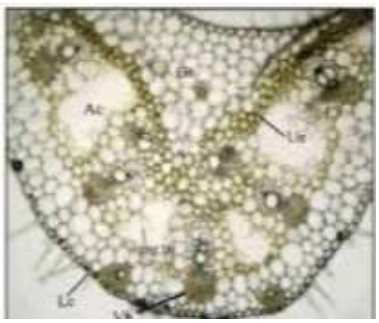
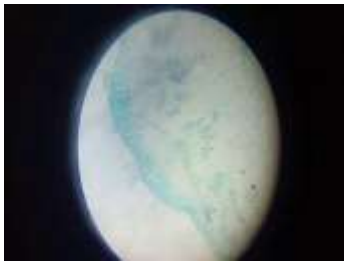
Microscopic character:.

Morphology

Amla berry 	Fruit shows an epicarp consisting of epidermis with a thick cuticle and two to four layers of hypodermis; the cells in hypodermis is tangentially elongated, thick-walled, smaller in dimension than epidermal cells; mesocarp consists of thin-walled isodiametric parenchymatous cells; several collateral fibrovascular	Colour: greenish yellow Odur: odurless Taste : sour and bitter
Wheat Grass 	The characteristic microscopic features of leaves were observed as trichomes, multicellular trichomes, xylem cells, phloem cells, collenchyma, vascular bundles, spongy parenchyma and palisade cells	Colour: green Odour: odurless Taste : sweet
Sweat potato	In vascula cylinders of sweet potato adventitious roots, usually four or five xylem poles	Colour: brown

	are produced.Both xylem and phloem are separated from the endodermis by a single-layered pericycle. The cortex forms a broad band of tissue composed of large cells with conspicuous intercellular spaces.	Odour: Neutral smell Taste : sweet

PHARMACOLOGICAL ACTIVITY

Hepatoprotective activity

EO fruits have been reported to be used for hepatoprotection in Ayurveda.[21] Phyllanthus emblica extract was investigated on ethanol induced rat hepatic injury. Protective roles of this against ethanol induced injury in rats are reported.[22] A hydroalcoholic (50%) extract of fruit of EO (EO-50) decreased the severity of hepatic fibrosis induced by thioacetamide and carbon EO-50 effectively reversed profibrogenic.

Anti ageing activity

Indian gooseberry has revitalizing effects as it contains an element which is very valuable in preventing ageing and in maintaining strength in old age. It improves body resistance and protect the body against infection. It strengthens the heart.

Antioxidant Activity

sweet potatoes have been reported to have multiple biological effects, such as antioxidant activity. Purple-fleshed variety has been reported to contain anthocyanins, which possess antioxidant activity . Antioxidants act as scavengers of free radicals reactive oxygen species inside the cell . Many evidences suggest that degenerative diseases such as cancer, asthma, diabetes, senile dementia and eye disease have their origin in deleterious free radical reactions.

Antidiabetic Activity

sweet potato has the potential of lowering the blood glucose level. In some animal and human studies, different forms of sweet potato have been reported to help in maintaining blood sugar levels and lowering insulin resistance. ‘Caiapo’ is a dietary supplement and a crude extract of white skinned sweet potato which has been sold and consumed for a long time in Japan as a remedy for diabetes [40]. ‘White star’ a sweet potato cultivar indigenous to Pakistan and ‘Beauregard’ which is indigenous to the United States lowers glucose blood level in diabetic patients [41]. The leaf extract of sweet potato reduces significantly the level of blood glucose and hepatic enzymes activities in Alloxan-induced diabetic rats .

Immunomodulator

A substance that stimulates or suppresses the immune system and may help the body fight cancer, infection, or other diseases. Specific immunomodulating agents, such as monoclonal antibodies, cytokines, and vaccines, affect specific parts of the immune system. Innate immunity is the most rapidly acting immunity. It mostly depends on neutrophils, macrophages, dendritic cells, and monocytes, while T and B cells are involved in adaptive immunity . In response to pathogens, leukocytes.

CONCLUSION

The major use of herbal medicines is for health promotion and therapy for chronic, as opposed to life-threatening, conditions. However, usage of traditional remedies increases when conventional medicine is ineffective in the treatment of disease, such as in advanced cancer and in the face of new infectious diseases. Although herbal medicine is used mostly for treating mild to moderate illnesses and participants were aware of its limits, the combination of self-medication, non-expert consultation and missing risk awareness of herbal medicine is potentially harmfull.

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