

## BIOACTIVE PHYTOCHEMICAL COMPOUNDS AND HEALTH BENEFITS OF SOME MEDICINAL PLANTS

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### Abstract

*Medicinal and food plants as well as their bioactive fraction have been used by diverse human cultures since ancient times. These plants provide multiple health benefits because of the presence of different type's phytochemical compound and that are responsible for various biological activities. General composition including various bioactive and their health contribution has been reviewed in this paper.*

**Key Words:** Medicinal plants, Biochemical compound, Health benefits



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### Introduction

The term of medicinal plants include a various types of plants used in herbalism and some of these plants have a medicinal activities. These medicinal plants consider as a rich resources of ingredients which can be used in drug development and synthesis. Besides that these plants play acritical role in the development of human cultures around the whole world.

Plant products have been used in diseases prevention and treatment of disorders for decades (Hopper and Field, 1937). According to Kinghorn *et al.* (2011) and Newman and Cragg (2012), numerous pharmacologically active drugs have been derived from natural resources including medicinal plants. Te therapeutically role of a number of plants in diseases

management is still being researched and used. The little side effects associated with the use of most medicinal plants coupled with their ease of availability and affordability make the use of medicinal plants popular among populations (Dobrek and Thor, 2012).

### **Some common medicinal plants chemical compound and health benefits**

#### ***Mallotus philippinensis***

##### **Phytochemical constituents**

Major phytochemicals present in this genus contain different natural compounds, mainly steroids, phenols, flavonoids, diterpenoids, cardenolides, triterpenoids, coumarin, isocoumarins and many more to discover. The presence of secondary metabolites in plants produces some biological activity in man and animals and is responsible for their use as herbs in ailments (Sofowora, 1986).

##### **Health benefits**

According to ayurveda, leaves are bitter, cooling, and appetizer. All parts of plant like glands and hairs from the capsules or fruits are used as heating, purgative, anthelmintic, vulnerary, maturant, carminative, alexiteric and useful in treatment of bronchitis, abdominal diseases, spleen enlargement. (Table 1)

#### ***Phyllanthus emblica L***

##### **Phytochemical constituents**

The fruit is rich in quercetin, phyllaemblic compounds, gallic acid, tannins, flavonoids, pectin, and vitamin C and also contains various polyphenolic compounds. A wide range of phytochemical components including terpenoids, alkaloids, flavonoids, and tannins have been shown to possess useful biological (Kim *et al.* 2005; Arora *et al.* 2003).

##### **Health benefits**

Fruit are rich in polyphenols, minerals and regarded as one of the richest source of Vit. C (Krishnaveni and Mirunalin, 2011). Therapeutically it has energy refilling potential, aperient, antibacterial, antifungal, antiviral activities (Bhide and Nitave, 2014) along with gonorrhoea, analgesic and skin fairness (Kumar and Rana, 2012) and to stop nausea and vomiting, antitumour and hepatoprotective activity (Sharma *et al.* 2017).

#### ***Piper longum L***

##### **Phytochemical constituents**

The main lignans present in the fruits are sesamin, pulvatiolol, and fargesin. The fruits contain tridecyl-dihydro-p-coumarate, eicosanyl-(E)-p-coumarate, and Z-12-octadecenoic glycerol-monoester. The essential oils of the fruit are a complex mixture.

Excluding the volatile piperine, the three major components are caryophyllene, pentadecane (both about 17.8%), and bisabolone (11%). Others include thujone, terpinolene, zingiberene, p-cymene, p-methoxyacetophenone, dihydrocarveol, and vitamins A and E. The major organic acids present are palmitic acid and tetrahydropiperic acid (Dutt *et al.* 1975).

### **Health benefits**

Powder of fruits is administered orally to cure cough, respiratory tract bronchitis, asthma, analgesic, muscular pains, inflammation, hematinic, carminative (Manoj *et al.* 2004).

### ***Syzygiumcumini*(L.)**

#### **Phytochemical constituents**

The stem bark is rich in betulinic acid, friedelin, epi-friedelanol,  $\beta$ -sitosterol, eugenin and fatty acid ester of epi-friedelanol (Sengupta and Das, 1965),  $\beta$ -sitosterol, quercetin kaempferol, myricetin, gallic acid and ellagic acid (Bhargava *et al.* 1974), bergenins (Kopanski and Schnelle, 1988), flavonoids and tannins (Bhatia and Bajaj, 1975). The presence of gallo- and ellagi-tannins may be responsible for the astringent property of stem bark.

### **Health benefits**

Bark extract useful diabetes (Joshi and Pant, 2012) sore throat, bronchitis, asthma, thirst, biliousness, dysentery and ulcers (Ayyanarn and Subash-Babu, 2012).

### ***Aloe barbadensis***

#### **Phytochemical constituents**

Aloe vera contains 75 potentially active constituents: vitamins, enzymes, minerals, sugars, lignin, saponins, salicylic acids and amino acids. (Atherton, 1998, Shelton, 1991, Atherton, 1997).

### **Health benefits**

Aloe vera has been used from time immemorial to aid in smooth functioning of the gastrointestinal tract, mainly because of its properties of soothing, cleansing and helping the body to maintain healthy tissues. Aloe vera gel is famous for facilitating digestion, aiding blood and lymphatic circulation, as well as improving kidney, liver and gall bladder functions. Aloe vera has a minimum of three anti-inflammatory fatty acids, which help in smooth functioning of the stomach, small intestines and colon. It has a natural property to alkalize digestive juices and prevents over-acidity, which is one of the common causes of digestive ailments.

## Conclusion

Medicinal plants are the natural health care to the people. Their primary cure of diseases is based upon deep observation of nature and their understanding of traditional knowledge of medical practices. Medicinal plants have biocompounds which are used for curing of various human diseases and also play an important role in healing. Medicinal plants have antibacterial and antioxidant activities.

**Table 1: Some medicinal plants along with their Phytochemicals**

Plant	Local Name	Part used	Local use /Effective against	Phytochemicals found
Mallotusphilippensis	Kamala	hair of fruit	Bronchitis,abdominal diseases,spleen enlargement, Antifilarial, antibacterial, anti-inflammatoryand immuneregulatory activity	Phenols, diterpenoids,Steriods, Flavonoids,Cardenolides, triterpenoids coumarin, Isocoumarins
Phyllanthus emblica	Amla	fruit	Hair growth and prevent greying, piles, Diarrhea, Jaundice and inflammation	Alkaloids, Steroids, Carbohydrates, Tannins, Saponins, flavonoids etc
Piper longum	Pippal	Roots,Dried spikes	Headache,cough, Asthma, pain abdomen,worms,fever etc.	Coumaperine, methoxyphenyl, Pentenoyl piperidine, Pyrrolidine etc.
Syzygiumcumini	Jamun	Fruit	Diabetes,blood purifier, Dysentery, Asthma etc.	Anthocyanins, ellagic acid, glucoside, isoquercetin,Kaemferol and Myrecetin
Aloe barbadensis	Aloe vera	Stem	Diabetes, inflammatory bowel disease, heal wounds and treat skin problems	Alkaloids, Flavonoids, Saponin, Phenol, Glycosides and Tannins

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