

Medicinal Plants - Old Wine in a New Bottle

Chatterjee S*, Bhakat M, Keshri JP and Chandra I

Department of Biotechnology, The University of Burdwan, Burdwan, West Bengal, India

*Corresponding author: Chatterjee S, Department of Biotechnology, The University of Burdwan, Burdwan, West Bengal, India, E-mail: sabsach@rediffmail.com

Received date: June 12, 2015, Accepted date: June 15, 2015, Published date: June 19, 2015

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Introduction

Medicinal plants have been used in Ayurvedic medicine. Every part of a medicinal plant have potential medicinal property, its processed extract can be used as a remedial source in various human diseases. These types of medicinal plants may be herb or shrub and locate in common places of particular area, but have a great content to cure many human diseases. In resent research carried out indicate its important uses. Medicinal plants have been a major source in the maintenance of health, as well as in the prevention, diagnosis, improvement or physical and mental illness. In response to the global need for scientific information on medicinal plants, the present works have some relevant information on the some biological and chemical aspects [1,2].

Traditional Uses of Medicinal Plant

Different parts of medicinal plant are known to possess various ingredients which are used by rural and tribal people along with its uses in Ayurvedic and Chinese system of medicine. Therefore, these herbs is used for treating conjunctival caused by liver fire, blurring vision due to yin and constipation caused by intestinal dryness. The leaves and seeds are also useful in treatment of leprosy, ringworm, bronchitis etc. [3].

Pharmacological Activities of Medicinal Plant

Hypolipidemic

It was seen that, many medicinal plant have hypolipidemic activity. Some of these plants are *Cassia auriculata*, *Amaranthus caudatus*, and *Rhinacanthus nasutus*. Ethanolic and water soluble fraction decreased serum and triglyceride level of total LDL cholesterol, but it increases the serum HDL cholesterol level [4].

In another study it was seen that the soluble fibers which are collected from the different extract showed hypolipidemic effect due to their ecological behavior and lipid metabolism. Its shows reduction in serum concentration of total cholesterol and triglyceride levels and increases the serum HDL level [5].

Antitumor

One of the most important compound present in medicinal plant is emodin, which is an anthraquinone compound. It is mainly present in bark, seed and many times in leaf of various medicinal plants. e.g. *Catharanthus roseus*, *Taxus brevifolia*, *Taxus baccata* and *Taxus canadensis*.

Emodins have inhibitory effect on angiogenic and metastasis regulatory processes, which make emodin a sensible and specific blocker of tumor associated events. One of the most important

features about emodin is its quinone structure which interferes with the electron transport process and alters the cellular status, which results in cytotoxic properties in different systems. This biological property makes windows open in antitumor therapy [6].

Anti-inflammatory activity

The methanolic extract of various plant leaves like, *Marchantia palmata*, *Ageratum conyzoides*, *Alpinia galangal* and *Bombax ceiba* exhibited significant anti-inflammatory activity against carragenins, histamine, serotonin and dextrin induced rat hind paw oedema as a dose dependent manner [7].

Antibacterial activity

Various medicinal plants are potent for antibacterial activity. Some of these plants are *Lantana camara*, *Saraca asoca*, and *Mangifera indica*. They contain various antibacterial compounds like torachryson, toralactone, aloe-emodin, rhein and emodin in seeds and can inhibit the strain of *staphylococcus aureus* which are methicillin resistant. Various other compounds like phenolics and glycosides from leaf and seed also shows antibacterial effects on *E. coli*, *P. aeruginosa* [8].

Antifungal activity

Anthraquinone is a major compound present in all type of medicinal plants. *Acacia nilotica*, *Achras zapota*, *Datura stramonium* and *Emblca officinalis* have the large content of anthraquinone and it have the antifungal activity against the phytopathogenic fungi i.e., *Botrytis cinera*, *erysiphe graminis*, *phytophthora infestans*, *Puccinia recondite* etc. The antifungal activity is compared with the fungicide present in market and the result is acceptable [9,10].

Antimutagenic activity

Anthraquinone compound like aglycones and naphthopyrone glycosides which are present in the seed of many medicinal plants can show antimutagenic activity. Some of these plants are *Acorus calamus*, *Hemidesmus indicus*, *Holarrhena antidysenterica* and *Plumbago zeylanica* these anthraquinone compounds are demonstrated with the aflatoxin B1 (AFB1) with *Salmonella thyphimurium* assay. The CH₂Cl and n-BuOH fraction shows the antimutagenic activity [11].

Antihelmintic activity

One major compound found in various type of medicinal plants are flavonoids, the aqueous and alcohol extract of different parts of medicinal plants shows the antihelmintic activity against *Pheretima posthuma* and *Ascaridia galli* due to presence of flavonoids [12]. Some of these potent plants are *Piliostigma thomningii*, *Butea monosperma*, and *Punica granatum*.

Anticoagulant

Medicinal plants like *Araucaria bidwillii*, *Enicostemma littorale*, and *Acheranthus aspera*, have the anticoagulant property, the methanolic and ether extract of leaf showed delaying effect on bleeding and the clotting times at 1hour interval in rabbits when tested using Wright and dukes capillary method [13].

Antidiabetic

It must note that many ethanobotanical surveys on medicinal plants used by the local population have been performed in different part of the world, there is a considerable number of plant describe as antidiabetic. Till date biguanide is the only drug approved for treatment of type II diabetes mellitus. It is derivative of an active natural compound "galegine", which is isolated from plant *Galega officinalis* [14]. Other plants also have the anticoagulant activity like, *Aegle marmelos*, *Agrimonia pilosa*, and *Allii cepa*.

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