

## **Important of Medicinal Plants and Herbal Remedies: A Review**

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### **Abstract**

*Medicinal Plant is of the great of the health of individual and communities. The medicinal value of plants lies in some chemical active substances that produce define physiological action on the human body. Plants are considered as a rich source of bioactive chemicals and they may be an alternative source of mosquito control agents. Such important aspects of herbal medicine and their importance have been discussed with trends, use and research scoping area of herbal remedies for betterment of human kind.*

**Key words:** *Herbal Remedies, Medicinal Plant, Ethno botany and traditional knowledge.*

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### **I. Introduction**

Medicinal plants have been playing an essential role in the development of human culture. As a source of medicine, Medicinal plants have always been at forefront virtually all cultures of civilizations. Medicinal plants are regarded as rich resources of traditional medicines and from these plants many of the modern medicines are produced (Hamburger, M. and Hostettmann, K. 1991). For thousands of years medicinal plants have been used to treat health disorders, to add flavor and conserve food and to prevent diseases epidemics.

Medicinal Plants are having tremendous potential in therapeutic and formulations. The traditional knowledge about medicinal plants is still being utilized in major parts of India, particularly the forest dwellers. It is through this traditional knowledge that ancient health care such as Ayurveda, Unnani and Siddha systems have emerged and have been greatly practiced since time immemorial (Rastogi, P. R. and Meharotra, B. N. 1990). Now a day these herbal medicines are gaining much importance in the modern drugs through survival and herbs for relieving pain and diseases (Philipson, M. N. 1990). The ancient civilizations used herbs or mixtures of them named as “corpus therapeuticum” as a comprehensive treatment of diseases. One of these compendia was *Ebers papyrus*. The medicinal herbs that were used in Egyptian culture were explained in the *E. papyrus* in about 1550 BC. German Egyptologist Dr. George Ebers purchased the papyrus in Thebes in 1872 and recognized the extraordinary importance of compendium (Cragg *et al.*, 1997).

Nowadays, in India, medicinal plants have been used under a medical system Ayurveda since 5000 years. This system includes diet and herbal remedies specifically to the body, mind, and spirit for disease prevention and treatment (Kaul, M. K. 1997). Worldwide, consumers have a positive intention toward the herbal products and believe them to be of “natural” rather than “synthetic” origin, and also assume that such products are more likely to be safe than synthetic drugs. They consider being a part of healthy life style and started avoiding contact with the conventional “western” medicine. It has been reported that herbal drugs and their constituents have advantageous effects on long-term fitness and can be used efficiently to treat human diseases or disorders (Clark, A.M. 1996). More than 50% natural drugs are being used for medication, finding their origin in some way from plants (Rossetto *et al.*, 2008).

### **Distribution of medicinal plants**

The distribution analysis of the medicinal plants shows that they are distributed across diverse habitats and landscape elements. Nearly about 70% of the medicinal plants in India are found in tropical forests in Eastern and Western Ghats, Chota Nagpur plateau, Aravalis, Vindhyas and the Himalayas. Among the Himalayas, Kashmir Himalayan region is nestled within the Northwestern folds of the recently designated global biodiversity hotspot of the Himalayas (Mittermeier *et al.*, 2005). It is an integral but geologically younger part of main Himalayan range. Floristic wealth of this region includes a fairly good representation of medicinal plants.

### **Trends in Herbal Medicines**

Presently, herbal medicines are often used for healthcare in both developed and developing countries. Herbal medicines are known as mixtures of chemical products synthesized in plants, and have limited effectiveness due to poor absorption by oral administration (Gautam *et al.*, 2011). According to the survey of the

World Health Organization (WHO), about 80% of the world population are using herbs and other traditional medicines for their primary healthcare and have established three kinds of herbal medicines: raw plant material, processed plant material and herbal products ([www.who.int/research/en](http://www.who.int/research/en)). It is a fact that herbal medicines are natural products and proved to be safe due to their minimal side-effects while being used to treat diseases and also acting at the same time as dietary supplements preventing the human body from such diseases (Hussain *et al.*, 2010).

### **Treatise of Medicinal Plants**

Theophrastus (371-287 BC) laid the foundation of botanical science with his book “*De causis Planetarium* and *De Historia Planetarium*” wherein he described about 500 plants of food, medicinal value and economic uses with their morphology particularly with respect to habit, herbs, shrubs, trees and annuals, biennials and perennials

Among others, he referred to cinnamon, iris rhizome, false hellebore, mint, pomegranate, cardamom, fragrant hellebore, monkshood, etc. On the basis of toxic action of plants, Theophrastus explored the important feature for humans to become accustomed to herbs by a gradual increase of the doses. Owing to his consideration, he gained the epithet of “the father of botany,” and has great merits for the classification and description of medicinal plants (Mirjalili *et al.*, 2009).

Pliny (Caius Plinius Secundus-23-79 AD) compiled a momental work entitled “*Historia Naturalist*” wherein he incorporated all information about plants gathered up to that time and added much to the same collected by himself from his travels far and wide. Dioscorides was contemporary of pling and like him he travelled lot and gathered information about medicinal plants. He complied his famous work “*Materia medica*” where he described about six hundreds of species of plants mentioning their local name and giving their medicinal properties (Pandit *et al.*, 2013).

### **Medicinal Plants for Human Welfare**

Dioscorides differentiated a number of species from the genus *Mentha*, which were grown and used to relieve headache and stomach ache. The bulbs of sea onion and parsley were utilized as diuretics; oak bark was used for gynecological purposes, while white willow was used as an antipyretic. As mentioned by Dioscorides, *Scillae bulbosus* was also applied as an expectorant, cardiac stimulant, and antihydrotic (Mirjalili *et al.*, 2009). It is especially noteworthy that Dioscorides pointed out the possibility of forgery of drugs, both the domestic ones such as opium forged by a yellow poppy (*Glaucium flavum*) milk sap and poppy, and the more expensive oriental drugs, transported by the Arab merchants from the Far East, such as iris, calamus, caradmomum, incense, etc.

The domestic plants that were explored by Dioscorides are as follows: willow, camomile, garlic, onion, marshmallow, ivy, nettle, sage, common centaury, coriander, parsley, sea onion, and false hellebore. Camomile (*Matricaria recucita* L.), known under the name Chamaemelon, is used as an antiphlogistic to cure wounds, stings, burns, ulcers, and also for cleansing and rinsing the eyes, ears, nose, and mouth. Dioscorides deemed its abortive action and wrote, “*The flower, root, and the entire plant accelerate menstruation, the release of the embryo, and the discharge of urine and stone, provided that they are used in the form of an infusion and baths.*” This untrue belief was later embraced by both the Romans and the Arabs; hence the Latin name *Matricaria*, derived from two words: mater denoting “mother,” that is, matrix, denoting “uterus”.

The most distinguished Roman physician, Galen (131–200 AD), compiled the first list of drugs with identical action, which are interchangeable—“*De succedanus.*” Galen also introduced many new plant drugs in therapy that Dioscorides had not mentioned, for example, *Uvaeursi folium*, used as an uroantiseptic and a mild diuretic. In the 7th century AD, the Slavic people used *Rosmarinus officinalis*, *Ocimum basilicum*, *Iris germanica*, and *Mentha viridis* in cosmetics, *Alium sativum* as a remedy and *Veratrum album*, *Cucumis sativus*, *Urtica dioica*, *Achilea millefolium*, *Artemisia maritime* L., *Lavandula officinalis*, *Sambuci flos* against several insect injuries, that is, louses, fleas, moths, mosquitoes, and spiders and *Aconitum napellus* as a poison in hunting (Cragg *et al.*, 1997).

### **Ethano-botanical Knowledge**

Ethno-botany is a branch of science that deals with the direct relation between human life and plants. The US botanist John William Harsh Berger in 1885 had coined the term ethno-botany to refer the study of plants used by the aboriginals of Australia (Fonseca 2005). It has been refined from time to time by many workers. In the view of Martin, the ethnobiology implies description on local people's perspective on cultural and scientific knowledge (Kaul, M. K. 1997). It encompasses everything from interaction to interrelation of human communities with plants. In India, Jain S.K.L a renounced scientist from NBRI made pioneering investigation and affectionately known as father of Indian ethanobotany.

It needs to be noted that the high percentage of medicinal plants which are used by pharmaceutical industries, are collected from wild sources only. Only few plant species are under commercial cultivation. So, it is necessary that due emphasis has to be given for cultivation as well as conservation of medicinal plants for improving biological productivity and supply of raw materials as and when required. Traditional medicine is the garner of total knowledge, skills, practice based on theories, beliefs and experiences indigenous to different cultures that are used to manage health, as well as to prevent, diagnose, improve, or treat physical and mental illness. Traditional medicine that has been followed by other population (outside its indigenous culture) is often referred to as alternative or complementary medicine (Clark, A.M. 1996).

According to WHO data, ethno-medicine is more famous in developing countries, for example, in China traditional herbs are used to 30%–50% of the total medicinal consumption. The herbal medicine is used in first line treatment for nearly 60% children suffering from malaria in Ghana, Mali, Nigeria, and Zambia; whereas in San Francisco, London, and South Africa nearly 70% of people suffering from HIV/AIDS use traditional medicine. Some remarkable medicinal drugs, which have been developed from the ethno-medicinal plants, such as Vinblastin and Vincristine from *Catharanthus roseus* L. G. Don, are used for treating acute lymphoma and acute leukemia, Aspirin from *Salix purpurea* L. (to cure inflammation, pain, and thrombosis), Quinine from *Cinchona officinalis* L. and Artether from *Artemisia annua* L. (for treating malaria), whereas Taxol from *Taxus baccata* L. is used for treating uterine carcinoma.

### Antiquity of Plant and Human Life

The association of human life with plants could probably be traced as far back as the early middle period of the “*Pleistocene Epoch*” (2.3 million years ago) when the emergence of human in the world took place in the form of “Ape” man. During that period, climatic conditions needed a heavy diet rich in animal protein therefore they were involved in hunting; however a recent discovery indicates that they also cooked and ate plant materials. Also vegetation during that period was slightly confined in many areas.

There were some scattered conifers like pines, cypress and yews along with some broadleaf trees. On the ground, it was found the prairie grasses as well as members of the lily, orchid and rose family (Arya *et al.*, 2016). Although history of human–plant relationship of that period could never be recorded in “India”, it may be possibly garnered from the Rigveda period. “India has an over 3000 years of old medicinal heritage based on herbs. The sacred Vedas and other ancient Indian treaties give many references of these medicinal plants. One of the remotest records in traditional herbal medicine is “*Vrikshayurveda*” compiled by Parasare which formed the basis of medical studies in ancient India. More detailed accounts are in “*Atharva Veda*” (800 BC). Later came the “*Ayurveda*” the practice of which was recorded in Sanskrit. The Vedic and post-Vedic periods roughly from 4500 BC to 5000 AD had celebrated Indian Physicians and herbalists. Atreya, Mahabharat, Nagarjun, Vagbhata, Sushrut and hindu hippocrates Charak were no legendary figures of the Indian medicine. Two memorable treaties of plant medicine “*Charak Samhita*” and *Sushruta Samhita*” appeared between 400AD to 500AD. This time said to be the golden age of traditional Indian herbal medicine.

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