

Importance of Plants in Ancient Indian Medicinal System

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Abstract

In India, medicinal plants played vital role in history of ancient health care sector. Traditional systems of therapeutics were used for providing health care to huge fragment of inhabitants, particularly in unindustrialized nations. Indian society refers medicinal plants as “the quintessence of Ayurvedic treatments and Ayurveda”. The basic principles of Ayurveda are usage of medicinal plants, sensibly with a suitable period of time for the treatment of diseases which had eventually shown phenomenal effects. The roles of medicinal plants are not confined to cure the specific disease; same plant may have different primary and secondary metabolites that may therapeutically resolve several other issues related to the human health. Because of being multiple disease drugs, Indian medicinal plants are also stated as “elixirs of life”. A comprehensive awareness about the natural food, spices, and medicinal plants have been provided in this review which helps to figure out their impending influence completely. In ancient medicinal system, different parts of plants like leaves, stems, roots and rhizomes etc. are used as a drug for instance *Ocimum sanctum* Linn (tulsi), *Zingiber officinale* (ginger), *Allium sativum* (garlic), *Azadirachta indica* (neem) and many more. Various medicinal plants and their parts with therapeutic properties have been discussed along with their pharmacological mechanism of action that were used in the history of ancient Indian medicinal system and also the future perspective of convention to use same plants in field of Research and Development, manufacturing of Drug and effect of globalization on Ayurveda and Unani.

Keywords: Medicinal Plants; Ayurveda; Therapeutics; Elixir of life.

INTRODUCTION

Folk medicine are the major contributors in Ayurveda which is traditional medicinal health care system of India. Nevertheless, the role of medicinal plants in Ayurveda is a key feature that distinguishes Ayurveda and is the most ancient system of therapeutics. It has a precise conceptual outline that is reliable all through the centuries. In intangible base, the Ayurveda is considered as the extremely advanced and far ahead of its period. Ancient Indian medicinal sector was among the initial therapeutic systems to promote an incorporated methodology in the direction of development of treatment and medicines to dissolve the issues related to health and disease. One more chief characteristic feature of ancient Indian medical system is that contrasting to other medical systems is development of concept based framework built on the ground of outcomes attained with the consumption of medications and treatment, primarily provides logical context that resolute the therapeutic practice and delivers good effects [1,2]. In ancient medical system mainly Ayurveda and Unani the prominent role of herbs that is plants and their parts have been seen from Cold; flu

– hepatoprotection - Whole plant - *Andrographis paniculata* (Burm.f.), Wallich ex Nees (Acanthaceae) [2,3,4] to Brain tonic; memory enhancer; in the treatment of depression- whole plant- *Celastrus paniculatus* Willd (Celastraceae) [2,5,6], are used for wide variety of diseases prevention, control and treatment.

BRIEF HISTORY OF ANCIENT INDIAN MEDICAL SYSTEM

The term Ayurveda is coined because of its literal meaning that is "Science of life". It is accredited that the necessary and pragmatic ideologies of Ayurveda became systematized and vocalized all over the place in 1500 BC. *Atharvaveda* is acknowledged as the ultimate part of the four great bodies of knowledge known as Vedas that is considered as the pillar of Indian sophistication, comprises of 114 *hymns* associated to preparations for the treatment of several ailments. The knowledge attained from these manuscripts are still nurtured over centuries, two most important schools and eight specialisms got advanced. Out of them one was the school of physicians named as '*Dhanvantri Sampradaya*' (Sampradaya means tradition) and another one is school of surgeons denoted in scripts as '*Atreya Sampradaya*'. Charaka Samhita to denote the school of Medicine and Sushruta Samhita to denote the school of Surgery, are the two respective representatives of these schools. The former comprehends numerous chapters dealing with diverse characteristics of medicine and interrelated topics/issues [2,5,6]. Approximately, six hundred medicines of plant, mineral and animal derivation are stated in this manuscript [1,2,7].

In 1947, after Independence of India from the British rule, the effort for revitalization of Ancient Indian Medicinal Systems expanded motion. official recognition was gained by these systems along with converted into a prominent portion of the National Health care network to offer health care facilities to the nation and its population. Government of India introduced a chain of events to progress the place of Ayurveda as solitary system and also helped to become the major health care system. Recognized as a dynamic system for providing to the primary health care requirements of the nation. Several hospitals and institutions were established for Ayurveda and its studies [2].

MEDICINAL PLANTS

"Medicinal plant" is a term which is used to state the significant role of plants as a medicine, the plants which are included in the medicinal plants are generally those which are used in herbalism and are called as herbs /herbal medicine. In recent times the word herb is used for any kind of plant or its parts (for instance: root, stem, leaf, flower, rhizome etc.) and also for the plants which are non woody. Medicinal plants listed *Tulsi*, *Aloe*, *Neem*, *Ginger* and *Turmeric* are used for the treatment of various general ailments and are accounted as home remedies in huge part of the nation. Basil (*Tulsi*) is used for preparation of medicines and is also used in black tea, in *pooja* and other activities in our day to day routine [8]. Ancient Indian medicine (or Ayurveda/Unani) is attracting other nations and are progressively prevalent in Europe, and are found to be successful with several chronic conditions reacting well to it. Though allopathic medicine dictates numerous areas in the medical market but still sometimes cannot always overtake traditional Indian ancient medicinal approaches such as Ayurveda and Unani. Conventional medicine normally depends on constant medication and patients have to depend on it throughout the life. It is found that allopathic medicines have several side effects and cause symptoms withdrawal that is when the medication is suspended it might cause problems, for such cases herbal medicines have much to offer and are found to be more beneficial. It is reported that, patient's response is positive towards ayurvedic preparations and therapy, which leads to improve the disease, and occasionally even a termination, of symptoms that disease. Maximum patients proceed with conventional medications from the date of their diagnoses, consequently ayurvedic treatments are generally unseen in conjunction with and/or after are started after conventional medical methodologies. Due to this reason it is mostly seen that Patients incline to practice ayurveda after their situations have grew more adverse. Regardless of this, considerable steps can be taken to curtail symptoms of disease and help to stop their progress. Ancient medicinal system might help in improvement of patient's condition with the help of Ayurveda by dropping their analgesic and cortisone dosage which tends to enhance quality of life of the patient [9].

PHARMACOLOGICAL ACTION OF MEDICINAL PLANTS

In India, about 90% of plants are used in ayurvedic preparations. Medicinal plants and herbs have better action on human health that could be either food or spices. Pharmacological action facilitates the herbal medicine to converse pathophysiological progressions and also helps in stabilization of the *doshas*. In review by Dahanukar et al., 2000[10] have mentioned that approximately, $\geq 13,000$ plants have been examined throughout the period of year 1995-2000. Numerous medicinal plants are investigated and reported to show and possess significant pharmacological activities in pre-clinical trials. Nevertheless, the produced results were not sufficiently surveyed up with double blind, placebo controlled clinical trials. *Boswelliaserrata* Roxb ex Coleb., *Curcuma longa* Linn., *Emblicoefficialis* Gaertn., *Terminalia chebula* Retz., *Picrorhizakurroa* Royle ex Benth, *Phyllanthus niruri* Linn, *Ocimum sanctum* Linn, *Bacopamonnieri* (Linn.) Pennel, *Gymnemasylvestre* R.Br., *Celastrus paniculatus*, *Boerhaviadiffusa* Linn, *Momordicacharantia* Linn, *Trichopuszeylanicum*, *Commiphora wighti* (Arn.) Bhandari, *Tinosporacordifolia* (Wild), *Withaniasomnifera* (Linn.) *Pterocarpus marsupium* Roxb. Miers. Ex Hook.f. & Thomson, *Terminalia arjuna* (Roxb.) Wight & Arn etc. are some of the listed herbs which are considered are important medicinal plants which have positive potential to be used at globally. The list cannot be considered as the extensive one as it is completely based on the choice of author there are many more plants and herbs and its part that can have pharmacological properties. Countless of the medications are not listed above because those are not available in India in adequate quantity. However, are accessible in other nations particularly Nigeria in which herb of *Commiphora* species are plentiful- these herbs are the majorly supplied to Indian Institute for Supply Management (ISM) centred production company. Key drawback is the deficiency of coordinated multi-disciplinary investigations which can verify clinical efficacy beyond any uncertainty. These factors and drawbacks must be kept in mind for future research endeavors and should be worked on to achieve new accomplishments in the field of herbal medicines [2].

RECENT ADVANCEMENT IN INDIAN MEDICAL SYSTEM

Keeping aside the fact that ancient Indian medicinal system is less popular but still it has rational strategy, appropriate standardization, plus cautious monitoring of traditional herbal preparations and botanicals in India, accompanied by evident scientific confirmation, are crucial for their advancement. Methodologies are essential to endorse Indian Ancient herbal medicine as present evidence-based drug. Consequently, detailed study for identifying its resources and discovery of molecular action are necessary and might be used as a means for development of new drug. It has been a source of new area of research for R&D department of Ayurveda and Unani which has displayed the potential of medicinal plants in drug discovery, however, many of plants are still not investigated and need to be examined and reported. The cautious and scientific amalgamation of herbal remedies from ISMs into the current system is vital in protection of the welfares of Indian folks and to deliver improved and active health care amenities. The advancement and achievement of Indian ancient medicinal system, exclusively Ayurveda, internationally is chiefly owing to holistic methodology used for the treatment. Ayurveda, is a health care system generated from a well scripted textbook which describes scientific interpretation on ailments and action and makes it unique sector of health care. Formerly, Ayurveda is encompassed in the Indian national health care system. Numerous nations such as the USA, the United Arab Emirates, UK, Sweden, and Indonesia, have recognized the Ayurvedic health care system, also ≥ 30 countries are going to incorporate the same in their health care system [11,12].

INCORPORATION OF MEDICINAL PLANTS

Herbal medicines which are traditional, are more widespread globally and enormous population have incorporated them laterally with new medicinal drugs to fulfil their diverse health requirements [8,13]. Numerous claims for the treatment of several diseases which are acute as well as chronic have been made by herbal medicines and even shown phenomenal results on their symptoms along with disease prevention and upgradation in human health quality [9]. Herbal medicines also hold diverse biochemical ingredients and components that shows effect individually or synergistically [12,13,14].

Some of the herbal medicines have been discussed below that are used for treatment and prevention of diseases:

- The herbs which are used for the healing of boils, sores and wounds are aloe, bayberry, burdock, black pepper, ginseng, myrrh, cinnamon, sandalwood, red clover, and safflower.
- Some of the herbs which are easy to grow, aromatic, delicious and are ornamental are Fennel, Basil, Thyme, Golden Oregano, Variegated Sage, Cilantro, Chives, Variegated Lemon Balm, Apple Mint, Rosemary etc., are accounted as medicinal plants which can be grown in the kitchen garden. Usually some of them can easily attract bees and butterflies due to their prominent aroma[8].
- Metabolic toxins are eliminated with the help of many herbs which are used as blood purifiers to adjust or does alteration in very old disorders or disease which are everlasting. 'Blood cleansers' is another term used for these kind of herbs. These herbs help in enhancement of immunity and reduce chances of conditions like fever.
- Antibiotic properties are also found in some herbs for instance turmeric which is very miraculous in eliminating and inhibiting the growth of microorganisms, bacteria and germs. Extensive usage of turmeric as a home remedy is observed to heal cut and wounds [15].
- Some of the herbs have antipyretic properties which reduces fever and the conditions that cause the generation of heat in the body for instance black pepper, *Chirayta*, safflower and sandal wood and are generally recommended by practitioners of ancient Indian medicine.
- Cinnamon and Sandalwood are the examples of prodigious astringents and are also aromatic. Sandalwood is exclusively helps in arresting the release of blood, mucus etc.
- Some herbs of category Cayenne such as Myrrh, LalMirch, Guggul and Camphoretc are specific herbs, that stimulates and upsurge the action of a system or an organ and act as stimulants[8].
- A large range of herbal medicine includes Barberry, Golden seal, Giloe, and Aloe, which are used as detox and health tonics and are very nourishing and revitalize a healthy and even unwell person.
- The herbs which can meritoriously heal wounds and fresh cut are known as vulnerary herbs. Some of the examples are turmeric, honey, liquorice and marshmallow[13].

CONCLUSION

Despite the fact that, there is significant importance of plants and their parts in ancient medicinal system, medicinal plants in this era also plays a very significant role in therapeutics. Herbal medicines are mostly preferred by people due to its least side effects and less toxic or even non-toxic property but still the belief that consumption of ayurvedic preparations without guidance is safe, might be cause of severe health problems. A systematic and detailed attentiveness is required for the usage of these plants' in preparation of medicines based on its actions and necessarily trials must be done for their safe consumption and selection. Major research in the field of herbal medicines are still going on and to find the pharmacological properties of every single plant and its parts have been still going on.

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