

MEDICINAL PLANTS: Importance & Limitations

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Abstract – Use of medicinal plants is as old as human civilization, India has a tradition of health care system based on plants from Vedas. These literatures are very oldest and have vast knowledge about it. Rigveda, Atharva veda and Charak Samhita also describe the concept and theories of plant medicine in an organized way. It is necessary to make an ardent, systematic and organized effort to preserve, propagate, collect, store and manufacture these medicinal plants, according to prescribed methods only. Therefore it is a very important work to clarify the main active ingredients which can be extracted from medicinal plants.

Key Words: Medicinal plants, rigveda, Atharvaveda,

1. INTRODUCTION

“You herbs born at the birth of time more ancient than the gods themselves.

O plants with this hymn I sing to you

Our mothers and our gods”

– The Rig Veda

India is very much spiritual & cultural country and known to be rich repository of medicinal plants from ancient period to current era. In historical period of documents describe that our Rishimuni's were familiar with tree and plants which was very important for human health. In that time medical science was not like today's world, but they had knowledge almost all type of medical diseases and medicine were made through medicinal plants and herbs.

In Indian ancient literature include various types of plants and its name from Sanskrit words. Vedic period (2500BC to 600BC) and vedic plants are categorized in 3 types

1. Briksha (tree)
2. Osadhi (herbs)
3. Virudh (creepers)

Then all plants again classified in fruits, flowers, non flowers etc.. Rigveda and Atharvaveda has a very detail knowledge about these plants with its characteristics therapeutic properties. In India 17000 species of higher plants 7500 are known for medicinal uses. The oldest medical system Ayurveda has describe approx 2000

medicinal plants species. Charak Samhita also documented almost 300+ herbal drugs and their indigenous uses.

In rural area of india have environment of man earth relationship. They are very fond of plants and tree for medicinal uses. In rural part of india still not access of modern medicine, so they are more dependent on traditional medicinal system.

Recent archaeo-botanical excavations give evidence for the use in the Middle Gangetic region of medicinal plants since the 2nd millennium BCE that are still used by Ayurvedic physicians and folk healers[1]

Vedic Period

The Vedic hymns of the migrant Aryan tribes are the earliest literary source of information about healing practices in the sub-continent. These hymns provide insights into diseases prevalent during the period and their perceived causes.

Post-Vedic Period

The Sanskrit-speaking Vedic Aryan influence eventually spread eastward from the Punjab and Doab region towards the Middle Gangetic plains, which had its own socio-cultural and linguistic context. This was a period when diverse cultures were interacting in small kingdoms and urban centers and there was growing awareness of the influence of life-style and regimens on health and well-being. In such a context, in the region east of the confluence of Ganga and Yamuna, Buddhism, Jainism and other new ascetic and philosophical movements arose. Many of these movements promoted free spirit of enquiry and experimentation in all fields of knowledge, especially in medicine.

Emergence of the Ayurveda Tradition

The spirit of scientific enquiry influencing the intellectual world since the time of Buddha led to old belief systems being questioned and tangible proofs being sought after. In this cultural milieu in the Indo-Gangetic and lower Himalayan regions, tribal and wandering healers, learned physicians, ascetic and yogic traditions such as Buddhism and Jainism, and philosophical schools such as Samkhya, Visheshika and Nyaya all contributed to the emergence of a formal scientific culture of healing that became Ayurveda.

Persian and Arab Influences

Trade and exchange of medicinal plants and knowledge of their uses have gone on for centuries between the Indian subcontinent, West Asia and the Indian Ocean world. From the end of the first millennium C.E.

Unani, Rasashastra, Siddha and Sa-Rigpa Traditions

There are other formal systems of medicine such as Unani, Rasashastra, Siddha, and Sa-Rigpa that have been practiced in the subcontinent. Unani is an Arab medical tradition that has its origin in the Greek Ionian medicine (the word Unani being an Arabic adaptation of the word Ionian). During its development in India, Unani incorporated elements of indigenous materia medica from Ayurvedic and folk sources.[1]

2. Properties of medicinal plants

Medicinal properties derived from plants can come from many different parts of a plant including leaves, roots, bark, fruit, seeds, flowers. The different parts of plants can contain different active ingredients within one plant. Thus, one part of the plant could be toxic while another portion of the same plant could be harmless.[2]

Medicinal properties can be derived from the following:

Bark: The protective outer layer of a tree trunk that is formed by layers of living cells above the wood. Active ingredients are often found in higher concentrations in the bark. Examples of bark used for medicinal properties are quinine bark, oak bark, peppercorn, and willow bark.

Bulb: A bulb is defined as a fleshy structure comprised of numerous layers of leaf bases otherwise known as bulb scales. Onion species and garlic bulbs are popular for medicinal uses.

Essential Oil: These are defined as volatile oils that are generally extracted from plants using a steam distillation process. Examples include camphor and peppermint oil.

Fatty Oil: These are defined as non-volatile vegetable oils that are pressed from the seeds or fruits of plants and are insoluble in water. Examples of fatty oils used in medicine are castor oil, olive oil, and safflower oil. Some fatty oils have direct medicinal properties while others are used as carriers in liquid formulations and ointments.

Flowers: The flowers of plants have always been popular in traditional medicine. Examples include clove and chamomile flowers. Flower parts are also used such as saffron stamens, the stigmas of maize, or pollen.

Fruit: Fruits have been heavily used for medicinal purposes. Dried whole fruits or portions of fruits can be

used. Many members of the carrot family have fruits that are used in medicine including fennel fruit and anise.

Gum: Gums are solids that are mixtures of polysaccharides (sugars). They are water-soluble and are in part digestible by humans.

Leaf: The leaves of plants, shrubs, and trees can be used for medicinal properties. Leaves can be used alone or can be mixed with twigs, stems, and buds. Examples include maidenhair tree.

Resins: Resins are a mixture of essential oils and terpenes that are usually not soluble in water. They are excreted by specialized cells or in ducts of plants. Examples include frankincense, myrrh, and mastic.

Roots: The fleshy or woody roots are used for medicinal purposes. Roots may be solid (ginseng), fibrous (stinging nettle), or fleshy (devil's claw).[2]

3. Use of Medicinal Plants

Medicinal plants ingredients are rich resources which can be used in drug development either pharmacopoeial, non-pharmacopoeial or synthetic drugs. These plants play an important role in the human cultures around the whole world. Some plants are considered as important source of nutrition and as a result of that they are recommended for their therapeutic values. Some of these plants include ginger, green tea, walnuts, aloe, pepper and turmeric etc. Some plants and their derivatives are considered as important source for active ingredients which are used in aspirin and toothpaste etc.

Some herbs with their medicinal values[2]

Herbs such as black pepper, cinnamon, myrrh, aloe, sandalwood, ginseng, red clover, burdock, bayberry, and safflower are used to heal wounds, sores and boils. Basil, Fennel, Chives, Cilantro, Apple Mint, Thyme, Golden Oregano, Variegated Lemon Balm, Rosemary, Variegated Sage are some important medicinal herbs and can be planted in kitchen garden. These herbs are easy to grow, look good, taste and smell amazing and many of them are magnets for bees and butterflies. Many herbs are used as blood purifiers to alter or change a long-standing condition by eliminating the metabolic toxins. These are also known as 'blood cleansers'. Certain herbs improve the immunity of the person, thereby reducing conditions such as fever. Some herbs are also having antibiotic properties. Turmeric is useful in inhibiting the growth of germs, harmful microbes and bacteria. Turmeric is widely used as a home remedy to heal cut and wounds. To reduce fever and the production of heat caused by the condition, certain antipyretic herbs such as Chirayta, black pepper, sandalwood and safflower are recommended by traditional Indian medicine practitioners. Sandalwood and Cinnamon are great astringents apart from being aromatic.

Sandalwood is especially used in arresting the discharge of blood, mucus etc.

4. Limitations

Increase human population the main concern for daily requirement of food and medicine, so in rural area still dependant on forest and plants and its extracts. But as we know that cutting of forest are increasing day by day and for the reason the species of plants are destroyed or rarely available for people's

Many herbal products which are available in market are not subject to drug approval process so they are not very safe and effective. These product have poisonous organic substance like lead, arsenic, mercury etc. are present and it is very harmful for humans. Ayurvedic product are not standardize and not even establish quality standards.

Due to heavy pressure of demand of plant based drugs therefore over harvesting is there so many medicinal plants species have narrow geographic ranges, low population densities and slow growth rates medicinal plants are prone to extinction.

Knowledge of therapeutic plants has decline or obsolete because information on use of plants are lack of reorganization by young generation, there knowledge as been passed from one generation to next through oral tradition.

5. CONCLUSIONS

In this paper we described an overview of On the basis of above historical periods of documentation in India from the ancient books and literature, it may be concluded that study of plants (plant taxonomy and study of medicinal plants) had been developed during Vedic period (2500 BC to 600 BC). Many medicinal practices were subtly interwoven with the culture, rituals, customs and various ceremonies just in order to make people follow these medicinal practices and remain healthy and take the benefit of the nature as a whole. The religious activities as well as hypothesis act as conserving tool for biodiversity and nature, which will play an important role in betterment of human beings.

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