Studies on diversity of medicinal plants in Dnyanganga wild life sanctuary of Buldhana district (Maharashtra) with reference to animal uses

Dr. Rasika N. Patil
rasika.707@rediffmail.com
Shri Shivaji College of Arts, Commerce, and Science, Akola, Maharashtra

ABSTRACT

India in the world is known for its indigenous biodiversity. As per India is concerned, the medicinal plants have the prime importance in the Indian religion, tradition and Ayurveda. Buldhana district is a remote and small city in the Vidarbha region covering 966 thousand hectares area situated at 19.51N' and 75.57 E - 76.40 E. Climate is dry, cold and the forest type is dry and deciduous with rainfall of 685mm. the forest coverage is of 1168 sq.km., which is 12% of the total area. It harbours relatively rich plant diversity of flowering plants, timber trees and medicinally important species. The significant information about these plants is collected from the local tribals, ayurveda and authentic publications.

Keywords: Biodiversity, Medicinal Plants, Forest, Ayurveda, etc.

1. INTRODUCTION

Plants, which have one or more of its parts having substances that can be used for treatment of diseases, are called medicinal plants (Sofowora, 1982). Medicines derived from plants are widely famous due to their safety, easy availability and low cost (Iwu et al., 1999). Herbal medicines may include whole parts of plant or mostly prepared from leaves, roots, bark, seed and flowers of plants. They are administered orally, inhaled or directly applied in the skin (Westh et al., 2004). Medicinal herbs are more significant to the health of individual and community. The medicinal value of these plants lies in bioactive phytochemical constituents that produce definite physiological action on the human body (Hill, 1952). Some of the most important bioactive phytochemical constituents are alkaloids, essential oils, flavonoids, tannins, terpenoids, saponins, phenolic compounds and many more (Solecki & Shanidar, 1975). These natural compounds formed the foundations of modern prescription drugs as we know today (Bensky & Gamble, 1993). Use of plants based drugs for curing various ailments is as old as human civilization and is used in all cultures throughout history. The primitive man started to distinguish between useful and harmful are poisonous plants by trial and errors. A well-defined herbal pharmacopoeia was developed by tribal people, which was based on information collected from local flora, religion and culture. (Hill AF. 1952) The knowledge of medicinal plants was gradually developed and passed on from one individual to other, which foundation for traditional medicine throughout the world. However, plants derived medicines are far superior than the well-defined drugs. For example, the quality and availability of raw materials is always a problem, the principles of handling are also unknown and also the quality control, i.e. standardization and stability are practically applicable but not too much easy. Herbal medicines are for superior than the synthetic drugs because they are naturally occurring, easily available without cost and have minimum side effects. Majority of plants have medicinal properties, i.e. most pharmaceutical drugs are originally derived from plants. The scientific study of indigenous medicines is called Ethno pharmacology, which is an interdisciplinary science practiced all over the world. Standardization herbal preparation is termed as phototherapeutic agents or pytho-medicine which contains active constituents, or complex mixture of plant materials in the raw or processed form. Phototherapeutic agents are usually not recommended to use in emergency treatment because of the fact that they normally do not possess an immediate or strong pharmacological action (Raffauf RF.1996). The modern field of phytoscience comprise of the use of medicinal plants and their bioactive phyto-compounds. This science is developed from merging of vast range of disciplines that have never been linked before combining several different areas of economic, biochemistry, physiology, microbiology medicines and agriculture. The development and introduction
of new drugs like antibiotics, immuno-stimulants and anti-tumor agents have led to dramatic success in control of many diseases. The drugs derived from plants, however, still from the mainstay of medical treatment in the developing countries. According to the June 1983, issue of world Health, it is estimated that more than half of the world’s population relies mainly on traditional remedies.

2. THE ROLE OF MEDICINAL PLANTS IN TRADITIONAL HEALING

The pharmacological treatment of disease began long ago with the use of herbs. Methods of folk healing throughout the world commonly used herbs as part of their tradition to tradition. Some of these traditions are briefly described below, providing some examples of the array of important healing practices around the world that used herbs for this purpose. It is also a function of the traditionally belief that the synergistic combination of several active principles in some highly used herbal preparations is responsible for their beneficial effects. (Cowan, M.M. 1999).

Methods of folk healing throughout the world commonly used herbs as part of their tradition, providing some examples of the array of important healing practices around the world that used herbs for this purpose (Chopra RN, Nayar, Chopra K. (1986)). It is also a function of the traditionally-held belief that the synergistic combination of several active principles in some herbal preparations is responsible for their beneficial effects. The introduction of plant derived drugs in modern medicine has been linked to the mostly uses of medicinally plant derived materials as an indigenous cure in traditional system of medicine. Some of the plants have been found to possess significant antibacterial, antifungal, anticaner, anti-diuretic, anti-inflammatory and anti-diabetic properties., treatment of hypertension and lowering of blood sugar by serpentine isolated from the root of Rauwolfia serpentine, treatment of Hodgkin’s, choriocarcinoma, non-Hodgkin lymphomas, leukemia in children, testicular and neck cancer from vinblastine isolated from the Catharanthus roseus (Hesse, Manfred. (1981)). treatment of acute lymphocytic leukemia in childhood advanced stages of Hodgkin’s, lymphosarcoma, cervical and breast cancer amongst others. Plant derived drugs are used to cure mental illness, skin diseases, tuberculosis, diabetes, jaundice, hypertension and cancer.

3. MEDICINAL IMPORTANCE OF SOME INDIGENOUS MEDICINAL PLANTS

Medicinal plant contains chemical compounds that dictate their therapeutic potency. Researchers have shown that different plants contain different bioactive components at various concentrations. The higher the amount of the important phytochemical in medicinal plants, the greater therapeutic potency or medicinal importance of these plants. There are more than 300 known medicinal plants in Buldhana; though the applications vary from plants to plants, culture and people believe, weather and other factors, many of these plants are not widely distributed. The following examine the common importance of some medicinal plants.

<table>
<thead>
<tr>
<th>Sr.no</th>
<th>Botanical name with Family</th>
<th>Common name</th>
<th>Medicinal uses for animals</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Achyranthus aspera L. (Amaranthaceae)</td>
<td>(Aghada)</td>
<td>Leaf juice is applied externally as a lotion against wounds and maggots and septic wounds once a daily till cured.</td>
</tr>
<tr>
<td>2.</td>
<td>Alternanthera sessilis L. (Amaranthaceae)</td>
<td>(Kanchari)</td>
<td>Feed leaves of as green fodder daily to the cattle for 15 days against Galactogogues.</td>
</tr>
<tr>
<td>3.</td>
<td>Balanites aegyptica (L.) Del (Balanitaceae)</td>
<td>(Hingan)</td>
<td>Fruit paste is applied on the affected eye one daily for 3 days against Corneal opacity.</td>
</tr>
<tr>
<td>4.</td>
<td>Dendrocalamus strictus (Roxb.) Nees (Poaceae)</td>
<td>(Bamboo)</td>
<td>Feed leaves a day for two days against Diarrhea and Dysentery.</td>
</tr>
<tr>
<td>5.</td>
<td>Digera muricata L. (Amaranthaceae)</td>
<td>(Kunjar)</td>
<td>Whole plant is given against indigestion and urinary disorders.</td>
</tr>
<tr>
<td>6.</td>
<td>Ficus bengalensis L. (Moraceae)</td>
<td>(Wad)</td>
<td>Milk sap is applied on the wound to kill maggots twice daily for two days against septic.</td>
</tr>
<tr>
<td>7.</td>
<td>Ficus religiosa L. (Moraceae)</td>
<td>(Pimpal)</td>
<td>Leaf extract are given orally to cure against dysuria.</td>
</tr>
<tr>
<td>8.</td>
<td>Gmelina arborea Roxb. (Verbenaceae)</td>
<td>(Shivan)</td>
<td>Stem bark juice is drenched for one time daily against difficulty in delivery.</td>
</tr>
<tr>
<td>9.</td>
<td>Mangifera indica L. (Anacardiaceae)</td>
<td>(Amba)</td>
<td>50 of leaves are boiled in half liter of water for 15 mins and 200 ml of this decoction is given orally twice a day for one day against Retained placenta</td>
</tr>
<tr>
<td>10.</td>
<td>Moringa oleifera Adans. (Moringaceae)</td>
<td>(Shevaga)</td>
<td>Decoction of bark is massaged on the affected on the parts is given to the animal to get relief from the arthritis pain.</td>
</tr>
<tr>
<td>11.</td>
<td>Mucuna pruriens L. (Fabaceae)</td>
<td>(Khaj kuiri)</td>
<td>4g bristles of Mucuna pruriens are mixed with 50 ml of butter milk and it is given orally as a single dose against Intestinal worms</td>
</tr>
<tr>
<td>12.</td>
<td>Securinega virosa (Roxb.) Baill (Euphorbiaceae)</td>
<td>(Kodarsi)</td>
<td>10 ml leaves extract mixed with 200g of curd and drenched twice a day for two days against Diarrhea and Dysentery</td>
</tr>
<tr>
<td>13.</td>
<td>Tectona grandis L. (Verbenaceae)</td>
<td>(Saag)</td>
<td>Apply resin collected from stem bark externally on the affected hooves once daily till cured against foot rot</td>
</tr>
</tbody>
</table>
4. CONCLUSION
Leaves, bark, and other parts of many other trees also have medicinal value and are used to make various ayurvedic medicines. 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 a critical role in the development of human cultures around the whole world. Moreover, some plants consider as important source of nutrition and as a result of that these plants recommended for their therapeutic values. Other plants their derivatives consider as an important source for active ingredients which are used in aspirin and toothpaste. Typically successful intervention will lead to low enough level of disease to be acceptable, depending upon the value of the plant, plant disease epidemiology is often looked at from a multi-disciplinary approach, requiring biological, statistical, agronomic and ecological perspectives. Agronomic practices often influence disease incidence for better or for worse. Ecological influences are numerous. Native species of plants may serve as reservoir for pathogens that cause disease in crops. Comparisons between patterns of disease progress for different diseases, cultivars, management strategies, or environmental settings can help in determining how plant disease may best be managed. As medicinal plants are used for various purposes by tribal peoples including vegetables as well as medicines. The knowledge of herbal medicines for complicated treatment of diseases is confined to mostly the practicing by various herbalists or plant scientists. Although some herbs may have lots of medicinal values, sometimes the medicinal preparations inflict certain side effects also. The special significance of medicinal plants in treatment of diseases relates to the phytochemical present. The present study showed that all the medicinal plants contain bioactive components known as phytochemicals. Therefore, the therapeutic or medicinal applications of these plants could be due to the presence of unique bioactive components presented in various medicinal plants. Tribal People began life on as forest dwellers. They were very good food gatherer and depended on the forest to meet a lot of their needs. Even today people depend on the forest for paper, timber, fuelwood, medicine, and fodder. Fodder from the forest forms an important source for cattle and other grazing animals in the hilly and the arid regions and during a drought. There are many varieties of grasses, trees, and shrubs that are nutritious for the livestock. Trees that produce a large crown above the reach of cattle are preferred.

5. REFERENCES
[4] Antimicrobial and Antiviral activity of
[33] Knowledge of food sources, intake.
[43] Sona Inc, Canada & USA. their Discovery and Distribution. New York, the