

Full Length Research Paper

Ethno-medicinal survey of plants of Soon Valley, Khushab District, Punjab, Pakistan

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The present investigation aimed to document medicinal uses of plants utilized by local communities of Soon Valley, Khushab District, Punjab, Pakistan. The purpose of this study was to collect information about the interaction of various communities of the area with plant wealth. The study presents data on 15 species belonging to 10 families. It was found out that local communities of the area have a rich tradition of using natural plant resources for their common day ailments and also to get many other value added products. People believe that these plants based medicines are easily available, inexpensive and have no side effects. It was found that common disorders such as fever, cold, cough and diarrhea could be treated with simple herbal teas and herbal powders by using a single herb or mixture. The reason for using medicinal plants by the local people of the area was that they are simple living, poor and cannot afford expensive synthetic drugs, and their knowledge about medicinal plants has been passed on from their ancestor's for generations. It was concluded that local authorities and other funding agencies should promote the cultivation and conservation of such natural resources of medicinal plants by involving the local communities of the area. It is also suggested that plants based industries and markets should be promoted in the area to alleviate the poverty problems of local communities and to improve their lives and economy. Most of the plants that have ethnobotanical uses have been categorized into rare and endangered. This lack of effort to sustain the resources may result in their depletion from natural habitats. There is a great need to create awareness among the indigenous communities about endangering of medicinal plants. It is believed that the present status of the economically and medicinally important plants of the study area needs to be determined in order to develop plans for their protection. For sustainable and long term conservation of natural resources of the area, there is a need to actively involve the quiescence of local people in evaluation, planning, implementation and monitoring processes as they are the best judges of the area.

Key words: Ethno-medicinal, survey, Soon Valley, Khushab, Punjab, Pakistan.

INTRODUCTION

From ancient times to date, people have healed themselves with traditional herbal medicines. In recent years,

one can notice a global trend of interest in the traditional system of medicines. Screening of medicinal herbs has

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herbs has become a potential source of biodynamic compounds of therapeutic value. Ethno-botanical studies have become increasingly valuable in the development of health care and conservation programs in different parts of the world (Black, 1996). The green pharmaceuticals are receiving extraordinary importance and popularity. The drugs approved as safe and efficacious a decade ago had to be recalled and relabeled because of unanticipated side effects. On the other hand, herbal medicines do not have any of such effects but have benefits due to the combinations of medicinal ingredients coupled with vitamins and minerals (Hussain et al., 2003). Pakistan is blessed with a variety of wild plants which are being used for medicinal and aromatic purposes. The properties and proper uses of some of these plants are well known at the community and end users level; many are still to be explored for their medicinal values (Shanwari and Khan, 2003). Although it has a wealth of 5700 species of medicinal plants, nearly 372 plant species are endemic.

In active trade of these plants, there are about 456 medicinal plants which are used to manufacture more than 350 classical formulations to treat various ailments. Information about 114 plant species used by the village dwellers for nutritional, utilization and medicinal purposes were collected. Local cultivation of medicinal plants and other economic species can play an important role in economic development of the area. Beside their use to cure various ailments at local level, different medicinal plants are also used as export commodities, which generate considerable income, but if over exploited to meet market demand, these important medicinal plants will never come. So, there is a need of their sustainable and wise use. Such studies are useful to identify threatened plants and to take appropriate conservation measures. The present study was conducted to record the indigenous knowledge about plants. The other objective was to prepare ethno-botanical inventory of the plant resources of the study area.

It was felt worthwhile to record the native uses of plants in areas surrounding Soon Valley before the information is lost. The ethno-botanical information gathered aims for the solution of several constraints and conservation of medicinal herbs in and around the Soon valley. The construction of model farms and demonstration of scientific cultivation of medicinal plants can promote conservation measures and sustainable utilization of medicinal plants.

The present study was conducted keeping in view the following objectives: to understand the importance of plants materials as basis of therapy; to understand the indigenous people's dependence on natural remedies; to increase awareness of the plant materials already in use as medicines; to investigate the cultural aspects of plants used as medicine; to be able to identify, classify, preserve, and describe, research and investigate plant materials.

MATERIALS AND METHODS

During the fieldwork, trips were arranged during harvest time of the plants collected and their use by the local inhabitants. Interviews were conducted and observations were made during guided and transect walks. Plant specimens were collected identified by the taxonomist in the taxonomy laboratory of the department of biological sciences and were deposited in the herbarium of University of Sargodha. Interviews of 120 informants including local inhabitants, herbalists and pansaries were conducted on random bases. Questionnaires were adopted for interviews. The outcome of the results were rechecked and compared with literature. Analysis of the data was carried out and indigenous knowledge was documented.

RESULTS

The data collected were arranged in alphabetical order of the family name. The common name for each species in local language and the botanical name are also given for each species. The medicinal uses and the parts used are also included in this study (Table 1).

DISCUSSION

Since the beginning of civilization, people have used plants as medicines. A discussion of human life on this planet would not be complete without a look at the role of plants. Plants have been used as medicine from ancient times. With a rich ethno-botanical history dating back possibly to the time of Moses in the old testament and in early Greek and Roman medicines. One of the objective of the study was to record the indigenous knowledge of plants. A number of studies had been carried out. Hocking (1958) reported that 84% of Pakistan's population was dependant on traditional medicines for most of their medicinal needs. Dixit and Pandey (1984) studied the plants used in folk medicines in Jhansa, Utter Pardesh and India (Sankaranarayanan, 2008; Kumaran and Joel, 2007).

Similarly, Akbar and Athar (2006) stressed the conservation of medicinal plants in canal irrigated areas of Punjab, Pakistan. During this study, information was obtained about the use of plants against medical problems practiced by people and Hakims. For example, bark and gum of *Acacia nelotica* is used to cure gonorrhoea, leucorrhoea, diarrhea, dysentery also used to treat ulcers, wood is used to treat smallpox. Similarly, *Convolvulus arvensis* L. is used for cholagogue, diuretic, laxative and strongly purgative, treatment of fevers and wounds, skin diseases. *Chenopodium album* stem, leaves, seed, and root (whole plant) are used as anthelmintics, anti-rheumatic, mildly laxative, poultice, treatment of urinary problems; whereas *Withania somnifera* is used to cure weakness, purifies blood, increase sperm count and sexual potency. *Tribulus terrestris* fruits, leaves and young shoots are cooked; are used for anticancer activity, treatment of leprosy,

Table 1. List of medicinally important plants identified from Soon Valley District Khushab Punjab Pakistan with their general information and medicinal uses.

Plants	Family	Description	Common name	Part used	Medicinal uses
<i>Acacia nilotica</i>	Fabaceae	deciduous tree	Babul, Sant tree	Bark, gum	Used to cure gonorrhoea, leucorrhoea, diarrhea, dysentery also Used to treat ulcers, wood is used to treat smallpox
<i>Capparis decidua</i>	Capparaceae	Branched tree, shrub	Kair, Kerda	Fruit, leaves,	Used in folk medicine and herbalism
<i>Delbergia sissoo</i>	Fabaceae	Erect deciduous tree	Sheesham	Leaves, bark	Used in folk medicine and remedies.
<i>Salvia vergatea</i>	Lamiaceae	Herbaceous perennial	Meadow sage	Seeds, plant body	Used in herbal medicine and seeds for cooking.
<i>Solanum nigrum</i>	Solanaceae	Herb or perennial shrub	Black nightshade	Fruits, leaves, bark	Useful applicant over corrosive ulcers, pustules, in treatment of digestive disorders and chronic skin disease such as acne, eczema.
<i>Convolvulus arvensis</i>	Convolvulaceae	Perennial Climber, height 2 m	Field bindweed, (Lehli)	Root ,Leaves ,and fruit	Cholagogue, diuretic, laxative and strongly purgative, treatment of fevers and wounds, skin diseases.
<i>Chenopodium album</i>	Chenopodiaceae	Annual, height 90 cm	Fat hen, Bathu	Stem, Leaves, seed, root(whole plant)	Antihelmentic, Anti rheumatic, mildly laxative, poultice, treatment of urinary problems,
<i>Melilotus indica</i>	Fabaceae	Annual, height 100 cm	Sweet clover, meena	Leaves(cooked)	Bowel complaints, infantile diarrhoea, used externally as poultice or plaster on swelling, anticoagulant, prevent blood clotting, used as bactericide "dicumarol"
<i>Nerium oleander</i>	Apocynaceae	Evergreen Shrub, height 4 m	Oleander, Kaner	Flower, leaves, whole plant, bark	Cardiotonic, diaphoretic, diuretic, emetic, expectorant and sternutatory, treatment of scabies, reduce swellings, treatment of leprosy, anticancer properties.
<i>Sophora temetosa</i>	Fabaceae	Perennial Height about 2.4 m long	Necklace pod, Sophora	Root, seed	Stomach disorders, bone aches, purgative, expectorant
<i>Acacia modesta</i>	Mimosaceae	Deciduous tree	Phulai	Bark, gum	Anti-inflammatory, and anti-platelet activities, gum used in medicine and the tender twigs for cleaning the teeth.

Table 1. Contd.

<i>Acacia modesta</i>	Mimosaceae	Deciduous tree	Phulai	Bark, gum	Anti-inflammatory, and anti-platelet activities, gum used in medicine and the tender twigs for cleaning the teeth.
<i>Mentha piperata</i>	Lamiaceae	Herbaceous rhizomatous perennial plant growing to 30–90 cm	Podina, pepper mint	Stem, Leaves,	Nutritious, scenty, enhance memory, used as tea and for flavouring ice cream.
<i>Withania somnifera</i>	Solanaceae	3 to 4 feet	Ashwagandha	Ashwagandha powder	Cures weakness, blood purifier, increases sperm count and sexual potency.
<i>Tribulus terrestris</i>	Zygophyllaceae,	Flowering sp. native to warm temperate and tropical regions	Puncture vine, caltrop, Bhakra.	Fruits, leaves and young shoots are cooked;	Anticancer activity, treatment of leprosy, psoriasis, congestion, liver, ophthalmia and stomatis.
<i>Albizzia labbeck</i>	Fabaceae	Growing to a height of 18–30 m	Siris, Shiren	Leaves	Antibacterial activity, relieving stress, anxiety, and depression

psoriasis, congestion, liver, ophthalmia and stomatis. Whereas *Albizzia labbeck* leaves have antibacterial activity, relieving stress, anxiety, and depression. *Solanum nigrum* fruits, leaves, and bark are useful applicant over corrosive ulcers, pustules, in treatment of digestive disorders and chronic skin disease such as acne and eczema. *Mentha piperata* stem and leaves are nutritious, scenty, enhance memory, used as tea and for flavoring ice cream. *Acacia modesta* bark and gum are used as anti-inflammatory and anti-platelet activities; gum is used in medicine and the tender twigs for cleaning the teeth. *Sophora tomentosa* root and seed are used as stomach disorders, bone aches, purgative, and expectorant. *Nerium oleander* flower, leaves, whole plant and bark are used as cardiotoxic, diaphoretic, diuretic, emetic, expectorant and sternutatory, treatment of scabies, reduce swellings, treatment of leprosy, anticancer properties. *Melilotus indica* leaves (cooked) are used as bowel complaints,

infantile diarrhoea, used externally as poultice or plaster on swelling, anticoagulant, prevent blood clotting, used as bactericide “dicumarol” biochemical analysis and pharmaceutical screening and other medicine related of these species need to be carried out in order to cross check local information and check side effects if any. The medicinal herbs were collected by local people living in the study area on daily payment basis from local herbal practitioners without any consideration of age and size of the plants, resulting in depletion of their natural resources from the area. Organized cultivation is the need of the hour which will involve and provide jobs for local community, which is virtually absent at present.

Conflict of interests

The authors have not declared any conflict of interests.

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