

ETHNO MEDICINAL SURVEY OF PLANTS FROM SALT RANGE (KALLAR KAHAR) OF PAKISTAN

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Abstract

Present investigation confined to document medicinal uses of plants utilized by local communities on salt range (kallar Kahar) 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 29 species belonging to 18 families. It was found that local communities of the area have rich tradition of using natural plant resources for their common day ailments. Local inhabitants both men and women believe that these plants based medicines are easily available, inexpensive and with no side effects. It was found that common disorders such as fever, cold, cough and diarrhoea could be treated by simple herbal teas and herbal powders. 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.

Introduction

From the ancient times to date, people healed themselves with traditional herbal medicines. In the recent years, one can notice a global trend of interest in the traditional system of medicines. Screening of medicinal 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 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 have still to be explored for their medicinal values (Khan, 2003). In Pakistan the field of ethno medicine is quite virgin. Although it has a wealth of 5,700 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 (Rizvi, 2003). Goodman & Ghafoor (1992) conducted ethno medicinal study in

Balochistan province of southwestern Pakistan. They collected information of about 114 plant species used by the village dwellers for nutritional, utilitarian and medicinal purposes. Malik *et al.*, (1990) gathered some preliminary ethno botanical information from six districts of Balochistan. Leoppratti & Lattanzi (1994) studied 27 medicinal plants ethno botanically in Makran, South Waziristan. Hoking (1958, 1962) carried out studies on medicinal plants of Pakistan. Shinwari (2000) conducted ethno botanical study in Margalla Hills National Park to record the native uses of these herbs. Ahmad (2007) conducted a study to highlight the medicinally important plants around motorway (M-2), Pakistan.

One of the objectives of this ethno botanical study was to record the indigenous knowledge about plants. It was felt worthwhile to record the native uses of plants in areas surrounding the Kallar Kahar 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 Kallar Kahar. The construction of model farms and demonstration of scientific cultivation of medicinal plants can promote conservation measures and sustainable utilization of medicinal plants. Inventory of medicinal herbs is urgent in this rapidly changing environment.

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 and are deposited in herbarium of Govt. Gordon College, Botany Museum, Rawalpindi as voucher specimens. 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 are arranged in alphabetical order of the family name. The common name for each species in local language, the botanical name, accession number of herbarium and their medicinal uses are also given for each species. The medicinal uses include parts used, methods of preparation, administration wherever available (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 are used as medicine from ancient times. A comprehensive survey of past, present and future uses of sweet flag *Acorus calamus* (Araceae) is presented. With a rich ethno botanical history dating back possibly to the time of Mosses in the old testament and in early Greek and Roman medicines, Sweet flag is thought to be indigenous to India spreading along trade routes, valued for its rhizome and fragrant oils, useful medicinally in alcoholic beverages, as a fragrant essence in perfumes and oils, and for insecticidal properties (Motely, 1994).

Table 1. List of medicinally important plants identified from Kallar Khar with their general information's and folk medicinal uses.

Family	Habitat	Voucher species No	Botanical name	Common name	Flowering period	Part used	Folk medicinal uses
Amaranthaceae	Waste places	21	<i>Achyranthus aspera</i> L.	Poth kanda	September-April	Whole plant	Both leaves and roots are used for toothache. It is also used for abdominal pain. The juice of the herb is given in dysentery, rheumatism, and skin diseases. The paste of fresh leaves is applied over insect bites.
	Very common	32	<i>Amaranthus viridis</i> L.	Chaulai	March-November	Leaves	The leaves are used as emollient and are used in amenorrhoea. Also used in scorpion sting and snakebite
Asteraceae (Compositae)	Common in waste places	14	<i>Artemisia scoparia</i> Walds and kit	Done Jhan	August-November	Whole plant	Infusion of the plant is used as purgative. Plant is also used as cure for earache. Smoke of the plant is known to be good for burns.
	Common	11	<i>Carthamus oxycantha</i> Bieb	Pholi	April-May	Seeds	The oil is extracted from the seed used for dressing ulcer and against itch.
	Fairly common in waste places	56	<i>Sonchus arvensis</i>	Dodal	March-May	Whole plant	The plants are known as diuretic, sedative, cooling, diaphoretic, antiseptic and expectorant, useful in cough, bronchitis, asthma and phthisis. The root is useful in jaundice.
	Very common	48	<i>Taraxacum officinale</i> Weber	Dodal, Kamphul	February-April	Leaves, root	The leaves are used for fomentation. The roots are diuretic and tonic, used as remedy for chronic disorder of kidney and liver.
Cannabaceae	Very common in waste places	13	<i>Cannabis sativa</i> L.	(Bhang)	April-October	Leaves and Flowering tops	Dried and crushed leaves are taken as a drink for their narcotic action also used as refrigerant. The plant is used as tonic, narcotic, sedative.
	Very common in waste places	27	<i>Stellaria media</i> (L.) Cyrillo	(Gander)	May-August	Whole plant	The plant is known as cooling, astringent, and used in plasters to be employed on broken bones and swellings.

Table 1. (Cont'd.).

Family	Habitat	Voucher species No	Botanical name	Common name	Flowering period	Part used	Folk medicinal uses
Chenopodiaceae	Common weed of waste places and fields.	34	<i>Chenopodium album</i> L.	(Batho)	February-March	Whole plant	The plant is used as laxative; used in hepatic and enlarged spleen. The roots are used in jaundice, urinary diseases and rheumatism. The fruit and roots are known as antidote to snake poison.
	Common weed of waste places	26	<i>Chenopodium ambrosioides</i> L.	(Chandan bathwa)	February-March	Whole plant	The plant is used as an excellent anthelmintic and also used for piles.
Convolvulaceae	Common weed	67	<i>Convolvulus arvensis</i> L.	(Lehli)	January-March	Roots, leaves, and fruits	The roots are known as purgative. The whole plant is used for skin diseases.
Cruciferae	Common	19	<i>Sisymbrium irio</i> L.	Jangli sarson	February-April	Leaves, seeds	The seeds are described as having expectorant, stimulant and restorative properties; Infusion of the leaves is used for throat and chest infections.
Euphorbiaceae	Very common weed of cultivated and waste places	38	<i>Euphorbia helioscopia</i> L.	Chhatri dodak	February-March	Roots and milky juice	The plant is used as cathartic. Seeds with roasted peppers are given in cholera. Milky juice is applied to eruption. The roots are known as anthelmintic. Milky latex is known to be poisonous and causes swelling on the skin.
Fumariaceae	Common weed	10	<i>Fumaria indica</i> Hussk. Pugsely	Papra)	December-January	Whole plant	The juice of the plant is given in common fever. Also used for removing worms from the abdomen. It is used for the treatment of simple goiter. The plant is used in diabetes and bladder infection by taking its extract in the early morning.
Lamiaceae (Labiataea)	Common along riverbeds)	51	<i>Mentha royleana</i> L.	(Jangli podina)	June-August	Whole plant	The dried leaves are made into powder and used with curd in the summer as stomachic agent. Also used as carminative, in diarrhea and dysentery.

Table 1. (Cont'd.).

Family	Habitat	Voucher species No	Botanical name	Common name	Flowering period	Part used	Folk medicinal uses
	Uncommon	4	<i>Salvia microcroftiana</i> Wall	Lupra	March-April	Leaves, seeds, roots	The leaves are applied to wounds as poultice. The seeds are given in dysentery. The roots are used for coughs and colds
Malvaceae	Common	17	<i>Mahua neglecta</i> Wallr.	Saunchal	January-March	Whole plant	The plant is known as cooling, emollient and demulcent. The leaves are recommended in piles and scurvy. The seeds are used in bronchitis, cough.
	Very common in waste places	22	<i>Mahvesdrum coromandelianum</i> (L.) Gareke	Yard sonchal	April-October	Whole plant	The plant is known as resolvent, emollient and demulcent. The leaves are cooling and applied to inflamed sores and wounds.
	Common in waste places	19	<i>Sida cordata</i> (Burm. F.) Boiss.	Simak	Throughout the year	Whole plant	The juice of whole plant is used in rheumatism, gonorrhoea. Locally it is applied in elephantiasis. The leaves are known as demulcent and are used in ophthalmia. The roots are used as diuretic. Seeds are also considered as laxative.
Oxalidaceae	Common	62	<i>Oxalis corniculata</i> Linn.	Amrul, Khatibuti	March- December	Whole plant	The juice of the plant is given in stomach trouble. Decoction of roots is useful for worms, also used to clean rusted vessels. The extract of the plant is applied in case of scorpion sting.
Papilionaceae	Common in waste areas	25	<i>Lathyrus aphaca</i> L.	Dokani	March-May	Seeds and flowers	Ripen seeds are said to be narcotic and flowers are used as resolvent.
Papilionaceae	Common	39	<i>Vicia sativa</i> L.	Rawari	March-May	Whole plant	The plant is used as anti poison

Table 1. (Cont'd.).

Family	Habitat	Voucher species No	Botanical name	Common name	Flowering period	Part used	Folk medicinal uses
Poaceae (Gramineae)	Fairly common	41	<i>Cynodon dactylon</i> Linn.	Khabbal)	April-October	Whole plant	An infusion of the grass with milk is used for bleeding piles, irritation of urinary organs, dropsy, and vomiting. The juice is also given in dysentery.
Polygonaceae	Common in grassy areas	29	<i>Polygonum plebejum</i> R. Br.	Dremak	February-May	Whole plant	The dried and powdered plant is taken in pneumonia. The root is used in bowel complaints. The whole plant is used as an excellent remedy for cholera.
Scrophulariaceae	Common in waste places	54	<i>Varbasicum thapsus</i> Linn.	Gidhar tambaku	March-October	Leaves, flowers, seeds	The plant is rarely used for diarrhea, and dysentery of cattle. The leaves in powdered form are used for healing wounds. Extract of the plant is useful for earache.
Solanaceae	Very common in dry waste places of the area	76	<i>Solanum surrantense</i> Burm.	Harnauli	Throughout the year	Whole plant	The berries are used for toothache. The berries are boiled and the extract is applied to broken organs. The berries applied as demulcent and expectorant. The roots are used in cough, asthma. The plant is given in various animal diseases to cattle.

One of the objective of the study was to record the indigenous knowledge about 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 & Pandey (1984) studied the plants used in folk medicines in Jhansa, Utter Pardesh & India. Timbrook (1990) reported 150 plant species used for food, medicine and religious practice by the chumash Indians of South California, USA. South (1993) studied seven taxa of seaweed in the diet of Fijians. Lebbie & Raymond (1995) assessed the sacred groves in Mayamba district of Sierra Leone for the value of local herbalists and traditional folk medicine practitioners. Similarly Akbar & 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, leaves and roots of *Achyranthus aspera* are used for toothache and abdominal pain. Similarly, *Stellaria media* is used in plasters on broken bones. *Vicia sativa* plant is used as antipoison. The leaves and roots of *Trichodesma indica* are effective against snakebite. The dried and powdered plant of *Polygonum plebejum* is prescribed for pneumonia and proved a good remedy for cholera, while green leaves of *Datura stromium* are used for softening the boils. 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. However, with the migration of young people to search for better jobs in cities, the collection of plant is slowly declining. It is very important that the emphasis should be on organized cultivation, which will involve and provide jobs for local community, which is virtually absent at present.

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