

*Short Communication***ETHNOMEDICINAL SURVY OF PLANTS FROM DISTRICT SIALKOT, PAKISTAN****Aqeel Mahmood¹, Adeel Mahmood^{2*} and Alia Tabassum³**¹ Department of Pharmacy, University of Sargodha, Sargodha, Pakistan² Department of Plant Sciences, Quaid-i-Azam University, Islamabad, Pakistan³ Department of Biochemistry, University of Veterinary and Animal sciences, Lahore, Pakistan**ABSTRACT**

From ancient times, plants are being used in various diseases. Many of today's drugs have been derived from plant sources. This study was conducted to record the ethnomedicinal information of highly medicinal plants of district Sialkot, Pakistan. Medicinal uses of plants were collected through questionnaire method, interviews and direct observation of plants and their actions. Data was recorded on questionnaires and plants were collected. 25 plants belonging to 17 families were recorded in this survey and 135 locals were visited, including 80 males 43 females and 12 Hakims. Medicinal information collected by this study is presented here. This study indicated that the district Sialkot has abundance of indigenous medicinal plants to cure a broad spectrum of human ailments. There is therefore, a need to preserve this treasure and to harvest these medicinal plants from the wild, train local collectors. Thus; the fundamental features of source, scientific origin and clinical value have been established to develop the future plans of isolation, purification and synthesis therapeutical effective medicinal plants of the area.

Key words: *Fast Dissolving Tablets, Aceclofenac, Sublimation, kyron T-314.*

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INTRODUCTION

Since the beginning of civilization, people have used plants as medicine. Perhaps as early as Neanderthal man, plants were believed to have healing powers. The earliest recorded uses are found in Babylon circa 1770 BC in the Code of Hammurabi and in ancient Egypt circa 1550

B.C. In fact, ancient Egyptians believed medicinal plants to have utility even in the afterlife of their pharaohs.

From ancient times, plants are being used in various diseases. Many of today's drugs have been derived from plant sources. Pharmacognosy is the study of medicinal and toxic products from natural plant sources (Aumeeruddy, 1994). More than six thousand species are used as medicines. Elisabeth Sky (1990) reported that Annual World Market value for medicine drives from medicinal plants is \$43 billion. More than 75% of Pakistani population depends on traditional medicines for all or most of its medicinal needs (Hocking, 1958 and Qureshi et al., 2007). Ethnopharmacological study not only envisage the possibility of identifying new herbal drug, but also brings on record the hidden knowledge confined to traditional society all over the world (Bartram, 1995. Anna,1993. Shinwari and Khan, 2000. and Yang 1988).

Since 1992, the People and Plants initiative has coined the phrase 'applied Ethnobotany', which enable work with the knowledge holders in a participatory way, to analyze knowledge and set up improved management systems, which build on local sets of practices and social dynamics (Martin, 1995 and Cunningham, 2001). Applied ethnobotany also strives to bridge the gap between traditional knowledge and scientific knowledge and to understand the relationships between local practices and knowledge systems and policies, rules and economic trends at the national and international level (Anthony, 2001).

The inhabitants of Pakistan have the knowledge of several significant medicinal plants of their area. This jewel is transferring to these people from generations to generations by their forefathers. Due to advancement in our society, people are not paying attention to save this knowledge. Modern generation prefer to cure themselves through allopathic medicines (Black 1996). Only elders have indigenous knowledge, which is also being vanished. Elders have got this knowledge from their forefathers. Now it is dare need to get this knowledge from elder. Due to the economic importance of indigenous medicinal plants, local people are engaged in the trade of this treasure (herbs, shrubs and trees) within a country or outside the country. To preserve this indigenous medicinal knowledge for further pharmacological studies, this research was carried out. This information will give momentous gift, toward the understanding for our plant prosperity of the country.

This current report gives a description of the indigenous medicinal plants used by local people and hakims in district Sialkot, Pakistan.

MATERIALS AND METHODS

Area was visited three times to conduct the ethno medicinal survey. The survey was conducted from March 2008 to February 2010. The methodology was based on interviews using checklist and questionnaire of information. The interviewees in the villages were chosen at random. Total number of interviews conducted is 135 consisting of 80 males 43 females and 12 Hakims. The interviews were mainly Government employees and Government servants, who were enough educated. Despite of these people elders were focused to get information. Parameters followed for the study were; use of herbal medicines, parts of the plants used, ailments treated, problem

related to herbal medicines business, types of people treated, number of people treated per day, trend in use of medicinal plants.

Standard method was followed with regard to collection of plant materials, drying, mounting, preparation and preservation of plant specimens (Nasir and Ali, 2001). Voucher specimens of indigenous plant species in triplicates were collected and identified from Herbarium of the Department of Plant Sciences, Quaid-i-Azam University Islamabad (ISL), Pakistan. Plants with their correct nomenclature were arranged alphabetically by family name, local name and medicinal uses. This identification and nomenclature of plants were based on The Flora of Pakistan.

RESULTS AND DISCUSSION

The scientific detailed; family, botanical origin, nomenclature, parts used, status and habitate of the crude drugs along with their therapeutical value is as under,

Table 1. The scientific detailed of the collected crude drugs along with their therapeutical/ medicinal value.

Family	Botanical Name	Local Name	English Name	Flowering Period	Part used	Status	Habit	Habitat
Amaranthaceae	<i>Achyranthes aspera</i> L.	Puthkanda	Prickly cough flower	July-Nov.	Whole plant	Wild	Herb	Terrestrial
Aizoaceae	<i>Trianthema portulacastrum</i> L.	Bishapra	Desert Horse-Purslane	June-November	Whole plant	Wild	A small succulent prostrate herb	Terrestrial
Asclepiadaceae	<i>Calatropis procera</i> (Willd.) R. Br.	Dasi Ak	Milk Weed	July-Sept.	Whole plant	Wild	Shrub	Terrestrial / Desert (Sandy)
Asclepiadaceae	<i>Periploca aphylla</i> Dcne.	Batta/Barri	Milk Broom/Silk vine	Mar. -July	Whole plant	Wild	Shrub	Terrestrial
Asclepiadaceae	<i>Caralluma tuberculata</i> N.E. Brown	Choongan	Carrion	January-June	Whole plant	Wild	Herb	Terrestrial
Asteraceae	<i>Echinops echinatus</i> Roxb.	Ount Katara/lay	Globe Thistle	April-July	Whole plant	Wild	An annual herb	Terrestrial
Asteraceae	<i>Conyza canadensis</i> (L.) Cronquist	Paleet	Canadian erigeron	September-November	Whole plant	Wild	Herb	Terrestrial
Asteraceae	<i>Carthamus tinctorius</i> L.	Safflower	Carthamus	May-Aug	Flowers and leaves	Cultivated	Herb	Terrestrial
Asteraceae	<i>Saussurea hetromalla</i> L.	Kali Ziri	Costus	March-June	Whole plant	Wild	Herb	Terrestrial
Bombacaceae	<i>Bombax ceiba</i> L.	Simbil	Silk cotton tree	December-March	Roots, gum and flowers	Wild/Cultivated	Tree	Terrestrial

Cactacea	<i>Opuntia dillenii</i> Haw.	Thore	Opuntia	March	Whole plant	Wild	Shrub	Terrestrial /Desert
Chenopodiaceae	<i>Chenopodium album</i> L.	Bathu	Goose foot, Fat Hen	December-May	Whole plant	Wild/Cultivated	Herb	Terrestrial
Convolvulaceae	<i>Convolvulus arvensis</i> L.	Laily/Haran khuri (Bahar bel) vehri booti	Field bind weed	March-May	Leaves	Wild	An annual climbing herb	Terrestrial
Cucurbitaceae	<i>Cucumis melo</i> var. <i>agrestis</i> Naudin	Chiber	Wild melon	July-September	Fruit and leaves	Wild	Herb	Terrestrial
Euphorbiaceae	<i>Euphorbia thymifolia</i> L.	Choti-dudhi	Large Spurge	July-October	Whole plant	Wild	Herb	Terrestrial
Euphorbiaceae	<i>Euphorbia tircucali</i> L.	Sij	Spurge	May-July	juice	Wild	Herb	Terrestrial
Meliaceae	<i>Azadirachta indica</i> A. Juss.	Neem	Lilac/Margosa tree	April-May	Whole plant	Wild	Tree	Terrestrial
Mimosaceae	<i>Prosopis cineraria</i> (L.) Druce	Jund	Prospis	December-March	Leaves	Wild	Shrub	Terrestrial
Orobanchaceae	<i>Cistanche tubulosa</i> (Schenk) R. Wight	Harni Ka Khaj	Yellow Broomrape	October-December	Whole plant	Wild	Herb	Terrestrial
Papilionaceae	<i>Pongamia pinnata</i> (L.) Merrill	Sukhchain	Mullikulam Tree, Pongam	March	Leaves, bark and oil	Wild	Tree	Terrestrial
Papilionaceae	<i>Dalbergia sissoo</i> Roxb.	Tahli	Pakistani rose wood, Sissoo	April-July	Leaves and wood	Wild	A tall cultivated/wild tree	Terrestrial
Papilionaceae	<i>Alhagi maraaurum</i> Medic.	Pawaha	Thorny-weed/Arabian manna/Camel thorn	April-July	Leaves	Wild	Herb	Terrestrial
Portulacaceae	<i>Portulaca oleracea</i> L.	Kulfa	Purslane	June-October	Whole plant	Wild	Herb	Terrestrial
Tiliaceae	<i>Grewia asiatica</i> L.	Dhaman/Falsa	Stone cane	March-September	Wild	Fruit and bark	Tree	Terrestrial
Typhaceae	<i>Typha angustata</i> Borry & Chaub.	Kundar	Long-bracted cattail	Most of the Year	Leaves and roots	Wild	Herb	Terrestrial /Aquatic

Therapeutical value and medicinal value

Trianthema portulacastrum L.: The whole plant is used as a strong anthelmintic plant medicine. It has curative action for constipation and asthma. Used in amenorrhoea leaves are diuretic, recommended in edema and dropsy, diarrhea, urinary tract infections and kidney problems. It is used for treatment of jaundice.

Achyranthes aspera L.: Plant is purgative, diuretic, astringent. A decoction of roots is used for syphilis and as an emetic against malaria. It is used in vomiting, heart diseases and useful in ulcers. The infusion of root is given as a mild astringent. Every part of the plant is recommended in treatment of snakebites.

Calatropis procera (Willd) R. Br.: The plant is laxative, purgative, anthelmintic, cures leprosy, leucoderma, ulcers, tumors and piles, diseases of spleen, the liver and abdomen. Leaves fruits and roots are used in headache severe body pain, malarial fever and convulsion. Roasted leaves in the mustard oil are applied on chronic scabies and other skin ailments.

Periploca aphylla Dcne. : Roots are stimulant. It is used for constipation, urticaria and tumor.

Caralluma tuberculata N.E. Brown: Whole plant extensively used for paralysis and joint pain and fever. It is very effective in blood diseases. It has cooling effects.

Echinops echinatus Roxb: Root and root bark is used in sexual debility, delivery, stomach diseases and jaundice. Decoction of whole plant is diuretic aphrodisiac, antipyretic, and analgesic. It is used as fodder for the camels. Leaves are harvested and after losing turgidity, it is used as fodder. It is also used as firewood.

Conyza canadensis (L.) Cronquist: The herb is haemostatic stimulant, astringent, diuretic, used in dysentery diarrhea and uterine hemorrhage oil is given in dysentery, bronchial catarrh and cystitis. It is also used as fodder.

Carthamus tinctorius L.: Flower is used for fever, cough, throat problems and typhoid fever. Locally the petals are used as dye for making color bread particularly in Eid festival days. Herbal Tea made from seeds cures cough. The powdered flowers mixed with milk, cure itching of body rashes. The dried plant is used as fire wood.

Saussurea hetromalla L.: It is an aphrodisiac tonic and is useful in liver diseases, kidney and chest complaints. It is used as fodder for buffaloes. It is troublesome weed of wheat crop.

Bombax ceiba L.: The root is restorative, alternative and astringent. Gum is astringent given in diarrhea, dysentery and menorrhagia flowers are used to cure leucorrhoea.

Opuntia dillenii Haw: Poultice of phylloclades is used to remove guinea worm. Fruit Juice is used to check diabetes. The plant is bitter, laxative, stomachic, carminative and antipyretic. It is used in urinary complaint tumors, piles, inflammation anemia ulcers and enlargement of spleen. The flowers are bronchitis and. The juice of plant is healing alexiteric and leucoderma. It is used in ophthalmic liver complaints. The juice is used as cure for earache. The fruit used in gonorrhoea. Fruits are laxative, carminative and digestive. Also used in cough and jaundice.

Chenopodium album L.: Cooked leaves are used in urinary troubles and colic pain. Leaf extract is used in piles, cough and worms. Root powder is useful in spermatoria. Whole plant is used as laxative. Stem is useful in removing kidney stone and used as laxative in liver disorder, hepatic disorder, jaundice used as tonic after delivery and stimulating memory glands for milk production. The plant improves the appetite, oleaginous anthelmintic, diuretic, aphrodisiac, Tonic, Useful in biliousness abdominal pain; eye diseases throat troubles, diseases of blood heart and spleen.



Figure1. *Carthamus tinctorius*; Flowering branch

Convolvulus arvensis L.: It is anthelmintic. Also applied in skin disorders the leaves are crushed in bottle and juice is used to remove from stomach.

Cucumis melo var. *agrestis* Naudin: Fruit decoction is used to treat dysuria, difficult and painful urination and leucorrhoea. Preserved fruits are fried and given to treat digestive problems. Leaf paste is applied to treat eczema and other skin infections. The fruit of plant is used as laxative.

Euphorbia thymifolia L.: Whole plant is used as astringent, anthelmintic and laxative. Plant decoction is given to treat diarrhea. Plant paste is applied to treat ringworm diseases of the skin. Root paste is given to treat stomach ulcer. Root decoction is given to treat amenorrhagia.

Euphorbia tirucalli L.: Milky juice is rubifacient, purgative, vesicant, used in rheumatism neuralgia toothache, earache, cough and asthma.

Azadirachta indica A. Juss: Whole plant is medicinal. The flowers are used as stimulant and also used an excellent tonic for rejuvenation. Flower decoction is given to treat bile disorders. Roasted flowers are given to treat jaundice. Oil extracted from seeds is used as tonic, anthelmintic and stomachic. Seed oil is applied to treat scabies, leprosy and also applied on head to promote hair growth. Bark infusion (about 1 cup) is given in morning and evening to treat temple pain and malaria. Bark decoction is used to rinse the mouth to control tooth ache. Stem

bark extract is given as contraceptive. Bark decoction is given to control irregular menstruation. Tender leaves are chewed to control allergies.

Prosopis cineraria (L.) Druce: Leaves are useful in leucorrhoea and menorrhoea. It is ground with *Coccinia grandis*, mixed with palm jiggery and given orally (or) ground with sugar and butter milk given orally.

Cistanche tubulosa (Schenk) R. Wight: Whole plant is used as blood purifier, episatasis, cough, fever and bleeding nose. It is also laxative and digestive. It is used to remove the pain of stomach. It is also used as flavoring agent in pot herbs.

Pongamia pinnata (L.) Merrill: The decoction of leaves and bark is used as bath for fever. The oil is used for the cure of skin diseases and rheumatism.

Dalbergia sissoo Roxb: Decoction of leaves is used in gonorrhoea. Wood is used in leprosy and to stop vomiting. Fuel wood i.e. ash is extensively used in making snuff. The bark and wood are bitter, easy to digest and a good epitezer, astringent cures dysentery and diarrhoea, also cures skin diseases and fevers. An infusion of the small leaves is given as cooling medicines in fevers.

Alhagi maraaurum Medic: Its crushed flowers along with sugar are taken orally to cure bleeding piles. Decoction is used as diuretic and laxative.

Portulaca oleracea L: Plant powder is given on empty stomach to treat jaundice. Plant paste is given to treat diseases of liver, spleen, kidney and bladder. The plant is used in medicines.

Grewia asiatica L.: The ripe fruit is useful for cooling digestible, toxic; aphrodisiac allays thirst and burning sensation, cures inflammation heart and blood disorders fever and consumption. It is good for troubles of throat helps removal of dead fetus. The bark cures biliousness, removes troubles and burning in vagina.

Typha angustata Borry & Chaub: Leaf paste is given to treat dropsy. It is generally used for thatching purposes. The leaves are used as fodder especially in dry condition. Leaves are used for mating young shoot and roots are sometimes eaten. Root is diuretic and astringent.

Human healthcare in this world is incomplete without a glance at the role of medicinal plants. In the recent years, pharmacists are paying remarkable attention on indigenous medicinal plants for the formation of new drugs. Preservation and record of indigenous medicinal knowledge is necessary to establish the modern pharmacognocny. Pharmacognocny that relies on indigenous medicinal knowledge of plants and utilization of this knowledge in modern healthcare system is totally dependent upon ethno medicinal information.

People who reside in city area have almost no knowledge about indigenous plants (Alcorn, 1984; Altieri *et al.*, 1987). However people of villages are well known to this treasure. Elders and females are the main source of this indigenous treasure. Villagers are rich in having indigenous knowledge; its main reason is the poor life style of villager. They prefer to cure themselves with plants. Allopathic medicines are out of their range, so, they utilize herbal remedies (Qureshi *et al.*, 2006).

Our country is diverse with medicinal plants, which grow throughout the year and in every season. District Sialkot is a plain area. People of this are mostly relying on agriculture and sports

plus leather industries for their economy. Locals of this area are not well literate. Total area is plain and rich with plants community. Promotion, collection and proper storage of these plants in planned way is required as there is no proper way to screen these plants (Pei and Sajise, 1995). Mostly they use *Achyranthes aspera* L., *Calatropis procera* (Willd.) R. Br., *Chenopodium album* L., *Azadirachta indica* A. Juss. and *Prosopis cineraria* (L.) Druce in their daily life. From this are few plants were found that are very effective against jaundice and hepatitis i.e. *Trianthema portulacastrum* L., *Echinops echinatus* Roxb. and *Opuntia dillenii* Haw. *Achyranthes aspera* L., *Chenopodium album* L. and *Grewia asiatica* L. were reported effective against cardiac diseases. Local Hakims used these plants to treat cardiac problems. Two plant species were recorded that are valuable against tumor; these species are *Calatropis procera* (Willd.) R. Br. and *Periploca aphylla* Dcne. and are found commonly. A number of plants which can break kidney and bladder stone were came to know through this research investigation. In district Sialkot local Hakim prefer to treat their patient through their local indigenous plants. Various other valuable medicinal plants were reported in this work. This data can provide a good source for the production of new drugs.

Through this research work, various new drugs can be synthesized by screening the biological activities of highly medicinal plants of study area. This survey was conducted in this scenario to find out the highly medicinal plants, which can be good source of new valuable drugs.

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