

Full Length Research Paper

Indigenous wild medicinal plants used by local people of Dudial area, District Mirpur, Azad Jammu and Kashmir, Pakistan

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An ethnobotanical study of common medicinal plants of Dudial area, district Mirpur AJK was conducted to investigate the traditional medicinal knowledge of plants. A total of 35 plant species belonging to 30 families were identified and recorded with the help of semi-structured and close ended questionnaires. During this study, 11 Hakims and 68 local informers were interviewed and 72 different sites were visited. Information obtained by this study is presented here.

Key words: Herbal medicines, ethnobotany, Dudial, medicinal plants.

INTRODUCTION

Dudial is a Thsiel of Mirpur, Azad Jammu and Kashmir. It includes mostly hilly areas. It has hot climate where maximum average temperature per annum is 42°C, and other geographical conditions closely resemble the adjoining district Jhelum. Many of people of this area are farmers. In Dudial, the local people are dependent upon agriculture, government service and somewhat plant sources, although most of people from this area are settled abroad and this area is very developed. In spite of this development local people of Dudial are still in contact with plants. Important crops of this area are maize, wheat, barley and fodder. Woody plants from neighboring forest are used for the purpose of fuel, timber and dugout. Due to the ruthless cutting of forest for fuel, timber and dugout, the forest cover area is very less. The forest of this area is enriched with indigenous medicinal plants. Most of this area is semi arid and small area is irrigated, the source of irrigation is rain and Mangla Dam (Mahmood et al., 2011a).

The use of herbs and indigenous plants in sub-continent and Kashmir represent a long history of human interaction with their neighboring environment. According

to the World Health Organization (WHO), more than 80% of the world's population relies on traditional herbal medicine for their primary healthy care needs (Inglis, 1994). Accordingly, an estimate in Pakistan up to 84% people depend upon traditional medicine for almost all kind of medicine needs (Hocking, 1958). All the indigenous herbal and eastern medicines are totally dependent upon the plans of specific area; every region has its specific remedies related to a specific plant. The importance of the herbal medicine can be easily understood by the saying of Hippocrates "let medicine be your food and food your medicine" (Bartran, 1995).

Azad Kashmir in Pakistan has a diversity of climate, in pothohar region (Mirpur and Bhimber), climate is hot whereas in upper region of Azad Kashmir (Neelam, Leepa, Bagh, Poonch) has cold and mild climate. This area is quite rich in medicinal herbs and plants, though scattered over a large area. It is a dreadful need to carryout pharmacological and ethnobotanical work of such crucial plants. Researchers are doing work to explore this valuable treasure. Literature is available on the ethnobotany of this region; however, there is a great need to do more work. Shehzad and Qureshi (2001) reported 31 plant species belonging to 18 families from Jatlan area of Mirpur District (Azad Jammu and Kashmir). They investigated their common ethnomedicinal uses. Akhter and Malik (2002) made the floristic survey of

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Table 1. Medicinal plants of Dudial area of Mirpur AJK and their parts used to cure ailments based on the information gathered from the locals by using the semi- structured and close ended questionnaires.

S/N	Family	Species name accession and voucher no.	Vernacular Name	Plant part used	Uses
1	Acanthaceae	<i>Adhatoda vasica</i> Nees 125374;29	Baker	leaves	Liquor of its leaves is used to treat pain in teeth gums. Used in flue, cold and cough, and to regulate menses. Its flowers attract honey bees
2	Aizoaceae	<i>Zaleya pentandra</i> 125388;43	Slathi	Whole plant	It serves as food for camel. Its roots are hanged on neck like bead, and it is thought to cure jaundice
3	Amaranthaceae	<i>Amranthus viridis</i> L. 125381;36	Ghunar	Whole plant	Carminative, emollient, tonic, rheumatism and is very energetic. It is cooked as vegetable and given to cow immediately after giving birth to young one
4	Apocynaceae	<i>Nerium oleander</i> 125382; 37	Gndeer	Flower, shoot	It is a poisonous plant; even animals are kept at a distance from it. However its flowers are mixed in vinegar and applied to forehead for headaches. Its miswak is used in toothaches. It is advised not to inhale it. This is used as ornamental plant on road beds and in gardens
5	Apocynaceae	<i>Catharanthus roseus</i> 125391;46	Sda bhaar	Whole plant	It is used as carminative, cold, flue, bronchitis, and diarrhea. It is used as ornamental plant in houses and public places.
6	Asteraceae	<i>Artemisia scoparia</i> 125394;49	Chao	Whole plant	Extract of its roots is boiled along with sesame oil, until oil remains. This is a remedy to cure white hairs. This oil gives strength to hairs
7	Boraginaceae	<i>Heliotropium strigosum</i> 125390;45	Gorakh paan	Whole plant	Diuretic, plant extract is used to relief the burning of urine. Its extract is used to neutralize the heat effects
8	Caesalpiaceae	<i>Cassia fistula</i> 125400;55	Amaltas	Leaves, flowers, seeds	Malaria, rheumatism, bile, constipation, fever, laxative. Leaves are ground into a paste, are applied to ringworm. Given to children suffering from flatulence
9	Canabinaceae	<i>Cannabis sativa</i> L. 123576,125396/51	Bhang	Leaves	It is narcotic, stimulant, diuretic. Leaves poultice is applied on wounds and swollen parts
10	Caryophyllaceae	<i>Stellaria media</i> (L.) Cyr. 125379;34	Khashkhash boti	Seeds, leaves	Applied as poultice to wounds; seeds are brushed and then applied
11	Cupressaceae	<i>Cupressus sampervirens</i> 125398; 53	Sru	Fruit	It is used for reproductive disorders, spermatoria, and constipation and also regulates the menstrual cycle in females

Table 1. Contd.

12	Cuscutaceae	<i>Cuscuta reflexa</i> Roxb. 125373;28	Neeli ta,ar	Whole plant	It is mydriatic, used in headaches. Brushed plant is applied on pimples and poxes. Its liquor is used in kidney pain.
13	Cyperaceae	<i>Cyperus rotundus</i> L. 125378; 33	Deela	Whole plant	It is laxative. Its extract gives strength to stomach and heart. Liquor is prepared by boiling it along with <i>Mentha spicata</i> leaves, which is best to cure diarrhea
14	Euphorbiaceae	<i>Euphorbia helioscopia</i> L.	Dhodai	Whole plant	It is used in sexual problems; its milky juice is used to cure eruption
15	Fumariaceae	<i>Fumaria indica</i> (Husskn) Pugsley	Shaahtra	Whole plant	Blood purifier, diuretic, jaundice. Bee fly bite is treated by its poultice applying to infected area
16	Labiatae	<i>Ocimum basilicum</i> 125387;42	Neaz bu	Whole plant	Its juice along with honey is best for stomach; juice extract stops diarrhea, leaves are sniffed in flue, and leaves are chewed for mouth problems It expels mouth smell. It is energetic, tonic, carminative and diuretic. It is perfumery and its smell expels mosquitoes. People cultivate it in pods and flowers beds at homes
17	Liliaceae	<i>Aloe barbadensis</i> Mill.	Kwargndal	Whole plant	Plant is used as purgative, antiseptic, emollient. Its gel is used in various skin problems. It is cooked and is best for diabetes. Fresh plant is best for piles and dried gel is for constipation. Its jelly is eaten in case of spleen enlargement.
18	Malvaceae	<i>Hibiscus rosa-sinensis</i> 125405; 60	Ghrul	Leaves, flower	Cardiac stimulant, blood purifier. Juice of its flowers is used to give strength to cardiac muscles. Leaves extract is used by local hakims in syrups for cardiac diseases. It is used for ornamental purposes at homes.
19	Meliaceae	<i>Melia azedarach</i> L. 125404;59	Draik	Leaves flowers	Flowers are sniffed to open nostrils. Leaves extract is used to purify blood, used in skin problems. Wood is used as fuel
20	Mimosaceae	<i>Acacia nilotica</i> (L.) Del 125401; 56	Kikar	whole plant	Constipation, diarrhea, piles, cold, cough, toothaches, diuretic, mydriatic. It is used in reproductive disorders. Gum gives vigor to back bone. Pods are traded at a large scale to herbalists by local people
21	Mimosaceae	<i>Acacia modesta</i> Wall. 125402; 57	Phulae	Gum, stem	Gum is used as tonic. Branches are used as miswak.
22	Mimosaceae	<i>Albizia lebbek</i> (L.) Benth. 125403; 58	Shirin	Leaves, seeds, wood.	Leaves are brushed and extract is applied to eyes for eye burn. Seeds are used for premature ejaculation. Seeds are also beaded in a thread and worn on baby's neck as it is thought to gives relief in pain when baby starts to grow teeth

Table 1. Contd.

23	Moraceae	<i>Ficus palmata</i> Forassk. 125393;48	Phagwari	Fruit, milky latex.	Fruit as condiment, kidney problems, energetic
24	Moraceae	<i>Ficus religiosa</i> L. 125385;40	Peepal	Whole plant	Highly medicinal for emetic, constipation, diuretic, toothaches. It is especially used in reproductive disorders, to regulate menstrual disorders
25	Myrtaceae	<i>Eucalyptus citrodora</i> 125377;32	Sufaida	Leaves	It is used for cold, flue, and cough. Leaves are sniffed to open nostrils in severe flue
26	Nyctaginaceae	<i>Mirabilis jalapa</i> L. 125392;47	Gll-e- abasi	Whole plant	Emollient, purifier, pile, jaundice, vigor, and laxative. Poultice is applied externally on poxes and pimples. It is used as ornamental plant in houses and public places
27	Papilionaceae	<i>Pongamia pinnata</i> 125380;35	Sukh chain	Branches	Its branches are used as miswak; it gives strength to teeth. It is also used for toothaches
28	Papilionaceae	<i>Bauhinia variegata</i> 125395;50	Kchnar	Flowers	Carminative, flowers are cooked as vegetable. This dish is blood purifier and cure poxes
29	Platanaceae	<i>Platanus orientalis</i> L. 125399;54	Mashrki chinar	Bark, leaves	Bark is used as toothaches, and diarrhea. It is a national tree of Kashmir people; it is cultivated as an ornamental tree traditionally
30	Poaceae	<i>Cymbopogon citratus</i> 125397;52	Lemmon grass	Leaves	It is carminative, emetic, and sedative. It is used as a tea. Liquor is used for headaches
31	Rhamnaceae	<i>Zizyphus jujuba</i> 125384;39	Bari	Leaves , fruit	Fruit, barriers are used as condiments and it is energetic and emetic. Leaves are boiled in water and used to wash hairs. Leaves are ground and applied to hairs, it stops hair fall
32	Sapindaceae	<i>Dodonaea viscosa</i> (L.) Jacq. 125376;31	Sntha	Leaves, branches	It is carminative, used in powdered form. Branches are widely used as fuel
33	Sapindaceae	<i>Sapindus mucorossi</i> 125389;44	Retha	Fruit	In ground form, it is applied to cure leucoderma. Emollient, gives strength to stomach. It is used to wash cloths
34	Solanaceae	<i>Datura innoxia</i> Mill. 125383; 38	Datura	Whole plant	Fruit is sedative, seeds are narcotic and antiseptic. Seeds are used for sexual problems. Leaf poultice is used for rheumatism
35	Zygophyllaceae	<i>Tribulus terretris</i> L. 125375; 30	Pakhra	Fruit , seeds	Diuretic, cause cooling effects, used to break kidney and bladder stone, cure premature ejaculation. Used in powdered form

Leepa Valley Azad Kashmir. They recorded 620 species, out of which 80 species were found to be ethnobotanically important. Mahmood et al. (2011b) reported 38 wild medicinal plants belonging to 22 families for their ethnomedicinal values from district Bhimber Azad Kashmir.

MATERIALS AND METHODS

Before starting, the field work on medicinal uses of medicinal plants of the area, general information about that area was collected from local people. A preliminary survey was done along with local persons. About 72 different sites were visited and indigenous medicinal plants that are being used in that area to treat diseases were collected, poisoned with formalin finally placed in polythene bags. These plants were then fetched to the local old people, showed them and asked the medicinal uses of those plants. About 68 local informants were interviewed including 11 hakims also, who gave the exact uses of medicinal plants.

Plants collected from area were identified and deposited in the herbarium of the Department of Plant Sciences, Quaid-i-Azam University, Islamabad (ISL), Pakistan.

Questionnaire form was compiled in an ordered form. Questionnaire paper contained various questions. Data collected from area was arranged in English language as interviews were done in Urdu, the National language of this country. Ethnobotanical uses and data about treatment of various ailments based on the information gathered from local people by using questionnaires are given in Table 1.

RESULTS AND DISCUSSION

This present study provides ethnobotanical information of about 35 indigenous medicinal plants belonging to 30 families. Medicinal benefits of these plants were studied and described by local informers and habitant. These medicinal plants, which are growing naturally in different seasons of study area, are used locally in various forms to treat many ailments. People use plants as extract, powder and condiments. In early 1950, up to 84% of Pakistani population was dependent on traditional medicines for all or most of their medicinal use (Hooking, 1958). Today, people living in urban areas have almost no knowledge about indigenous medicinal plants. In rural areas, people especially old people have sufficient information about this natural treasure. In the study area, people are somewhat dependent upon indigenous medicinal plants. Old people prefer to cure themselves by plants. Due to unavailability of better health facility and higher prices of allopathic medicines, people are very much dependent on the local herbal medicines (Qureshi et al., 2006). It is noticed that hakims that treat their patients with medicinal plants avoid sharing their knowledge with common people of this area. Most of Hakims purchase herbs from herbal stores; they have insufficient knowledge about growing plants. They know about some old traditional medicinal plants like kikr, pipal, daraik etc (*Acacia nilotica* (L.) Del, *Ficus religiosa* L.,

Melia azedarach L.) and more or less some herbs. They focus on old methods to cure ailments, mentioned in their literature. Most times, local people visit these hakims.

Edible wild food plants often help in preventing starvation during drought, while economically important species provide a buffer against unemployment during cyclical economic depression (Mahmood et al., 2011c). Despite the immense importance of these plant resources, their value is rarely taken into account specially; in land use planning, but infact they are destroyed and lost forever from the area. Same is the case in our area and many parts of the country that the medicinally and economically important species are harvested unsustainably and hence destroying the biodiversity and the loss of species from the area (Anthony, 2001).

This country (Pakistan) has every type of climate and its soil is rich with medicinal plants and herbs which are growing naturally in different season of years. Study area (Dudial) is enriched with such plants. There are many wet patches in this area as it is surrounded by Mangla dam. Dudial is a hilly area and is located in the vicinity of the dam. These hills are rich with plants communities; number of medicinal plants is found here. Cultivation, collection and proper storage of these plants in a planned way is required as there is no proper way to screen these plants. It is suggested that there should be a systematic attempt to preserve this treasure to avoid its loss.

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