

Importance of Ethnomedicinal Flora of Sarai Alamgir (Boundary Side of River Jhelum) District Gujrat, Punjab, Pakistan

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Abstract

The present research work based on ethnobotanical surveys was conducted during the March 2015 to November 2015 in the designated areas of Sarai Alamgir, Gujrat, Pakistan. This study has investigated the traditional knowledge of local societies about the uses of native, medicinally important plants as ethnomedicines. Questionnaire method was used for the indigenous knowledge about native medicinal flora. The local community, knowledgeable persons and (Hakeem's) who are the main users of medicinally valuable plants were collaborated in interviews about native plants. Plant specimens were collected, identified, preserved, mounted and voucher was deposited in the Department of Botany, University of Arid Agriculture Rawalpindi, for future references.

Keywords: Ethnobotanical; Indigenous; Traditional; Preserved; Questionnaire; Documentation

Introduction

Several medicinally important plants have been used historically as one of the vital source of food for communities [1]. Still the human beings considerably dependent of plants which are significantly used as drugs sources [2]. Various studies on medicinal plants have been conceded throughout the world that revealed the traditional knowledge of local communities about the medicinal practices accompanied with the help of plants [3-12]. Commercially, most of the allopathic drugs are also obtained from medicinal plants [13]. Mostly, the roots and barks of medicinal plants are abundantly used as curing agents; it is greater threats to the sustainability of medicinally important plants [14]. Inhabitants of diverse geographical zones use different plant parts as drug source for the treatment of various ailments that varies the traditional use of plants [15]. Only a single herb can be used for the curing of various types of diseases either in animals as well as human beings [16].

Sarai Alamgir is one among the three tehsils of district Gujrat, Punjab, Pakistan. The name of Sarai Alamgir is on the name of Mughal emperor Aurangzeb Alamgir who make sarai (resting place) there during his journey. It is situated on the eastern bank of River Jhelum and covers about 575 Km². It is located at 32°54'00"N 73°45'00"E in the Gujrat district in the north of the Punjab province of Pakistan. It lies at 232 m (761 ft) above sea level. The district has a moderate climate. During the summer, temperatures can reach 45°C (113°F) for short periods. Winter months are mild, temperatures rarely falling below 2°C (36 °F). Sarai Alamgir is located south of Jhelum City, which lies across the river Jhelum. To the west of Sarai are the cities Mirpure and Bhimber. Mandi Bahauddin and Rasul are located to the east of Sarai Alamgir.

Pakistan is one of the most important countries that has enriched medicinal use which are being used as traditional medicines by Its 80% Population for health care [13,17,18]. About 6000 flowering plants species have been recorded in Pakistan including Kashmir [19]. A generous variety of economical and medicinal plants are abundantly found in Pakistan due to its variability in soil type and climate [20]. Analysis of each medicinal plant species in each territory has its own qualitative expression that showed its value among communities. Medicinal plants play a crucial role for herbal drugs preparation and cure several diseases due to their limited side effects and easily

availability in nature [21,22]. In recent time the ethnobotanical studies have become more attractive for the development and enhancement of health care system in different areas of the world [23].

Most of the people especially rural societies forcefully dependent of traditional medicinal plants for the treatment of their common illness due to lack of modern communication, ignorance and poverty [24]. Medicinal plants have proved themselves as insecticidal to protect the crops, wood for material culture, houses, boats, utensils, crude drugs, fuel, agricultural tools and different ornaments [25]. Some phytochemicals are obtained from traditionally useful plants that crucially protect plants and animals from pathogenic fungi and bacteria [26]. All life forms directly or indirectly depend upon plants because these are primary producers and require sustainable development and conservation through the local people by whom plants were used medicinally [27].

Paste of medicinal plants made easily by pestle and mortar is the major drug form in ethnoveterinary practices [28]. Large tribe communities of the world typically relay on leaves for the preparation of herbal medicines [29-32]. Because these are easily collected than underground parts of plants, leaves are the major source of metabolites that's actively involved in photosynthesis [33]. Medicinal plants are the assets of human beings and require more attention for their conservation because some of them are at of extinction risk [34].

Materials and Methods

Surveyed area and collection of medicinal data

The study about the medicinal plants was confined to worthwhile flora of Sarai Alamgir (Gujrat), Punjab, Pakistan (Figure 1). Regular

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Figure 1: Medicinally Important Flora of Sarai Alamgir (Boundary side of River Jhelum) District Gujrat, Punjab, Pakistan.

field trips were organized during March 2015 – November 2015 in different villages of the area for the collection of data. The focused people were local inhabitants, farmers and also herbal doctors (Hakims). Questionnaires were directed to identify the traditional knowledge of local people about medicinally important plants having the local names, parts used and ethnobotanical uses. About 57 informants including men and women [21] have been questioned randomly.

Preservation of plant specimens

Live specimens were collected during the surveys and a general collection of plant specimens were made. Plant specimens were preserved and mounted on the herbarium sheets. This data was equated with the “Flora of Pakistan” and identified. After identification plants were placed in Department of Botany, PMAS Arid Agriculture University Rawalpindi, for future references.

Results

In the present study 49 plants species including 18 herbs, 14 shrubs and 17 trees samples have been collected and identified which were used by local inhabitants as ethnomedicines in that areas. Various plant species have been listed in tabulated form along with their botanical names, local names, habit, family, part use and ethnomedicinal uses. Most plant species not only used as medicinally but economically also have great importance for making different tools like baskets, plough,

buildings etc. and they need a stronger sustainability to allocate their benefits for mankind. This research will expose the precious nature of medicinal plants species and there is a stronger need for their conservation, keeping in mind the future aspects. This knowledge will help the communities for making links by the traditional knowledge of medicinally important plants [35] (Table 1).

Discussion

This is novelty in case of *Pongamia glabra* that it is practised in Snake bite, insect bites, poison bites, ephemeral fever and wound healing [36,37]. Interestingly *Melia azedarach* have insecticidal properties with repellency, antifeedancy, oviposition, growth inhibition and larvicidal activities but does not have any toxic or allergic effects to humans [38]. Traditionally Plants with insecticidal properties have been divided into two groups first, the plants with general anti-insect effects and second the plants with specific anti-insect effects such as mosquitoes, flies, moth, fleas, scorpions and ants [39].

The recent study will provide the information about the therapeutic uses of 49 plant species either these are used single or in combination with other plants parts. Most plants are of great importance for their unique and effective medicinal uses such as snake biting, ulcer, epilepsy, cancer and liver functions etc.

There was not a good conservation status of these medicinal plants because most of these plants are grazed by local animals or uprooted by

S. No.	Botanical Name	Local Names	Habit	Family	Part Used	Ethnomedicinal Uses
1	<i>Abutilon indicum</i> (L.)	Peeli booti	Herb	Malvaceae	Leaves and stem	For boil treatment
2	<i>Achyranthes aspera</i> (L.)	Puth kanda	Herb	Amaranthaceae	Whole Plant	Pneumonia, Diuretic, Dropsy, Piles, Skin eruptions
3	<i>Aleo vera</i> (L.)	Kawar gandal	Herb	Liliaceae	Fleshy leaves	In skin diseases, Digestive disorders and gum bleeding
4	<i>Althea rosea</i> (L.)	Gul.e.khaira	Herb	Malvaceae	Whole plant	Asthma, jaundice, cough and irritated stomach
5	<i>Anagallis arvensis</i> (L.)	Billi buti	Herb	Primulaceae	Whole plant	Diuretic, vulnerary, diaphoretic, dropsy, skin infection, disorders of the liver and gall bladder
6	<i>Argemone mexicana</i> (L.)	Satyanashi	Herb	Papaveraceae	Roots, leaves, seeds and juice	skin-diseases, bilious fevers anthelmintic, Diuretic, leprosy ophthalmia, purgative and kill tape-worm
7	<i>Carthamus Oxycantha</i> (M.)	Pohli	Herb	Asteraceae	Seeds, flowers and oil	laxative, itching, Ulcers, tonic, measles strengthening liver, diaphoretic and pain relieving
8	<i>Convolvulus arvensis</i> (L.)	Lily	Herb	Convolvulaceae	Leaves, flowers and root	Reduce plentiful menstruation heal wounds, Spider bites, laxatives and fever
9	<i>Cucumis melo var. agrestis</i>	Chiber	Herb	Cucurbitaceae	Fruit	Stomach and digestion disorders
10	<i>Euphorbia helioscopia</i> (L.)	Chatri dhodak	Herb	Euphorbiaceae	Leaves, stem, roots, seeds, oil	Anticancer properties, anthelmintic, vermifuge and cholera
11	<i>Euphorbia hirta</i> (L.)	Dudhi kalan	Herb	Euphorbiaceae	Leaves and its extract	Diarrhea, burn and wounds healing, Kill intestinal worms and for ulcer
12	<i>Euphorbia prostrate</i> (L.)	Dudhi khurd	Herb	Euphorbiaceae	Whole plant	Vagina sterility, blood purification, Painful menstruation, inflammations, asthma and scorpion sting
13	<i>Malva sylvestris</i> (L.)	Pick-cheese	Herb	Malvaceae	Leaves	Ulcers, bladder, infection diuretic, indigestion Inflammation, gastric mucus, relaxing activity
14	<i>Mentha longifolia</i> (L.)	Jangli podina	Herb	Lamiaceae	Leaves and stem	Headache, fever, cough, urinary tract infections, bronchial congestion, swelling, menstrual disorders pulmonary infection, wound healing, indigestion
15	<i>Ocimum basilicum</i> (L.)	Niazbo	Herb	Lamiaceae	Leaves, flowers, seeds, root	Snake bites, intestinal worms, diarrhea, migraine, skin infections, indigestion, stomach cramps, depression, feverish illnesses, nausea and eyewash
16	<i>Oxalis corniculata</i> (L.)	Khati booti	Herb	Oxalidaceae	Flowers and leaves	Insect bites and burns, snakebite, diuretic, diarrhea, urinary tract infections, skin rashes, Anthelmintic, harrowing injuries, fever, influenza
17	<i>Solanum nigrum</i> (M.)	Makoo	Herb	Solanaceae	Whole plant	For enlargement of spleen, Dropsy and Phthisis
18	<i>Taraxacum officinale</i> (L.)	Dandelion	Herb	Asteraceae	Roots and leaves	Headaches, skin problems, constipation, eye problems, liver tonic, gout and fatigue
19	<i>Calotropis procera</i> (L.)	Ak	Shrub	Asclepiadaceae	Leaves, Flowers, root and latex	Deafness, piles, baldness, wound healing, toothache, Pain reducing and skin diseases
20	<i>Cannabis sativa</i> (L.)	Bhang	Shrub	Cannabaceae	Whole Plant	Intoxication, loss of appetite and reduce general body inflammation
21	<i>Cymbopogon Citratus</i> (L.)	Lemon ghaas	Shrub	Poaceae	Oil of whole plant	Respiratory infections, tonic for nervous system, fever, indigestion, headaches, insect repellent and infectious diseases
22	<i>Datura alba</i> (L.)	Dhatura	Shrub	Solanaceae	Leaves and seeds	Muscular rheumatism, emetic intoxication Asthma, digestion, haemorrhoids pain, spasm of the bladder and inflammation
23	<i>Dodonaea viscosa</i> (L.)	Aliar	Shrub	Sapindaceae	Leaves bark and roots	Toothache, sore throats, astringent, stings, skin rashes, diaphoretic, odontalgic and febrifuge
24	<i>Ipomea carnea</i>	Chota aak	Shrub	Convolvulaceae	Whole plant	Anti-inflammatory, anti-cenogenic and ototoxic
25	<i>Justicia adhatoda</i> Linn.	Baikar	Shrub	Acanthaceae	Leaves	Cough, asthma and treating bronchitis
26	<i>Mimosa pudica</i> (L.)	Lajwanti	Herb	Mimosoideae	Leaves, Leaves and Flowers	Swelling, wounds and antibacterial
27	<i>Ricinus communis</i> (L.)	Harnoli	Shrub	Euphorbiaceae	Leaves, Bark and Seeds	Laxative, Boils, and to start Labour pain
28	<i>Sesbania bispinosa</i> (J.)	Danchi	Shrub	Fabaceae	Whole plant	Headache, epilepsy and as food
29	<i>Sonchus asper</i> (L.)	Sgandi	Herb	Asteraceae	Aerial parts	Cancer, liver function, regulate menstrual cycle, wounds, inflammation and fever
30	<i>Vernonia cinerascens</i>	Simbla	Shrub	Asteraceae	Whole plant	Toothach, antimicrobial and Gingivitis
31	<i>Withania somnifera</i> (L.)	Asgand	Herb	Solanaceae	Whole plant	Analgesic, Diuretic and Leucoderma
32	<i>Zizyphus numularia</i> (L.)	Jangli beri	Shrub	Rhamnaceae	Leaves, Fruit and roots	Jaundice
33	<i>Acacia nilotica</i> (L.)	Desi Kikar	Tree	Fabaceae	Leaves, Bark and fruit	Coughs, cold, Ulcers, fever, dysentery, leprosy, smallpox, leucorrhea, sclerosis, gallbladder, hemorrhages, tuberculosis and ophthalmia
34	<i>Albizia lebbek</i> (L.)	Shrin	Tree	Fabaceae	Stem bark	string (insects) bites treatment, injury treatment, blood purification, Pain relieving and respiratory disorders
35	<i>Azadirachta indica</i> (L.)	Dhrek	Tree	Meliaceae	Leaves, Bark and flowers	Insecticidal, malaria fever, ulcers, rheumatism, diuretic, scabies, scrofula, tonic and anthelmintic

36	<i>Bombax ceiba</i> (L.)	Simbal	Tree	Bombaceae	Flowers, gum, seeds and bark	ulcer of bladder, gonorrhoea, genital organs treatment and inflammation
37	<i>Cassia fistula</i> (L.)	Amaltas	Tree	Fabaceae	Leaves, bark, fruit and roots	Skin allergy, inflammation of feet, ageusia, pain relieving, fever and Constipation treatment
38	<i>Citrus medica</i> (L.)	Girgil	Tree	Rutaceae	Leaves, seeds and latex	Asthma, cough, piles, nausea, menstrual disorder, liver problems, scorpion bite, intestinal disorders, anti-poison and improve digestion
39	<i>Cordia oblique</i> (W.)	Lasoor	Tree	Boraginaceae	Gum, fruit and seeds	Anti-inflammatory, chest diseases, cough, lungs disorder and gonorrhea
40	<i>Dalbergia sissoo</i> (L.)	Tali	Tree	Fabaceae	Leaves, roots, wood	Gonorrhoea, boils, stop vomiting and eruptions
41	<i>Eucalyptus globules</i> (L.)	Safeda	Tree	Myrtaceae	Leaves and oil	Ulcers, cough, cold, lung disorders and diabetes
42	<i>Ficus benghalensis</i> (L.)	Borh	Tree	Moraceae	Whole plant	Gum bleeding, female sterility, piles and diarrhea
43	<i>Ficus elastic</i> (L.)	Bargad	Tree	Moraceae	Bark, fruits and leaves	Leucorrhoea, diabetes, heart diseases, asthma, piles, gonorrhea and ulcer
44	<i>Ficus religiosa</i> (L.)	Peepal	Tree	Moraceae	Whole plant	Ear drops, foul taste, urinary disorder, constipation, gout, vomiting, asthma and heart diseases
45	<i>Melia azedarach</i> (L.)	Neem	Tree	Meliaceae	Whole plant, oil and gum	Rheumatism, emetic, leprosy hysteria, spleen enlargement, emmenagogue and resolvent
46	<i>Morus alba</i> (L.)	Safed toot	Tree	Moraceae	Whole plant	Ophthalmic, influenza, nosebleeds, diuretic, hypotensive, fungicidal antibacterial and eye infections
47	<i>Morus nigra</i> (L.)	Kala toot	Tree	Moraceae	Fruits	Toothache, asthma, hypotensive, bronchitis and coughs
48	<i>Pongamia glabra</i> (L.)	Sukh chain	Tree	Fabaceae	Bark, leaves, flowers, seeds and oil	Snake biting, wounds healing, indigestion, liver diseases, piles, arthritis, ulcers and cleaning teeth
49	<i>Syzygium cumini</i> (L.)	Jamnu	Tree	Myrtaceae	Bark and fruits	Diabetes, liver disorder and brain tonic

Table 1: List of Medicinally Important Flora of Sarai Alamgir (Boundary side of River Jhelum) District Gujrat, Punjab, Pakistan.

inhabitants for fuel purpose. Due to lack of awareness or narrow links among the local communities, they pay not much attention to protect these medicinal plants [40].

Conclusion

It is conclude that all these are highly medicinal plants of great importance and there is much need to expose their beneficial effects and uses among the communities. A single plant not only be used for the treatment of single disease it may be used to cure various diseases.

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