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Ethnomedicinal Survey for Important Plants of Jalalpur Jattan, District Gujrat, Punjab, Pakistan

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Abstract

An ethnomedicinal survey was carried out in Jalalpur Jattan District Gujrat, Punjab-Pakistan for documentation of important flora and information from local community about their medicinal uses. The indigenous knowledge of local traditional uses was collected through questionnaire and personal interviews during field trips. Plants with their correct nomenclature were arranged by family name, vernacular name, part use, ethnomedicinal remedies and ethnomedicinal uses. The identification and nomenclature of the listed plants were based on The Flora of Pakistan. A total of 88 plants species were identified by taxonomic description and locally by ethnomedicinal knowledge of people existing in the region. Plant specimens collected, identified, preserved and mounted were deposited in the department of botany, University of Gujrat, Pakistan for future references.

Key words: Ethnomedicinal Survey; indigenous knowledge; Jalalpur Jattan; District Gujrat.

Introduction

Pakistan is a fairly large country endowed with a variety of climates, ecological zones and topographical regions (Hussain *et al.*, 2008). The flora is, likewise, extremely varied and diverse and highly fascinating. Nearly six thousand species of flowering plants are reported from Pakistan and Kashmir (Shinwari, 1996). The history of discovery and use of different medicinal plants is as old as the history of discovery and use of plants for food (Ibrar, 2002). Medicinal plants play a key role in traditional health care system for human and animals. Most of allopathic drugs also comprise extracts taken from medicinal plants (Rashid and Arshad, 2002).

Gujrat is an ancient district of Pakistan located between two famous rivers, the Jhelum River and the Chenab River. Because of its proximity with the rivers, the land is good for cultivation with rice and sugar cane as main crops. It is bounded on the northeast by Jammu and Kashmir, on the northwest by the Jhelum River which separates it from Jhelum District, on the east and southeast by the Chenab River, separating it from the districts of Gujranwala and Sialkot; and on the west by Mandi Bahauddin District. District Gujrat is spread over an area of 3,192 square kilometres and comprises the three tehsils of Gujrat, Kharian and Sarai Alamgir. The District Gujrat lies between 32° to 35° North latitudes and 73° 45' East longitudes. This district has moderate climate. During peak summer, the daytime temperature shoots up to 45°C, but the hot spells are relatively short due to the proximity of the Azad Kashmir Mountains. During the winter months the minimum temperature may fall below 2° C. The average rainfall on the Kashmir border is over 100 cm; at Kharian it is 75 cm, at Gujrat 67 cm, at Dinga 50 cm and at Sarsal 48 cm.

About 80% population of the world depends on the traditional system of health care (Ahmad, 2005). These medicines have less side effects and man can get the herbs easily from nature. Unani system is dominant in Pakistan but the ethno medicinal plants use is also seen in the remote areas. (Ahmad *et al.* 2003). The indigenous traditional knowledge of herbal plants of communities where it has been transmitted orally for many years is fast disappearing from the face of world due to transformation of traditional culture (Hussain *et al.*, 2008). The people, who are native to the area in which the plants occur, use around 90% of the medicinal species (Baquar, 1989). This is indicative of the vast repository of knowledge of plant medicine that is still available for global use, provided of course that it does not get lost before it can be tapped or documented. Traditional and indigenous medical knowledge of plants, both oral and codified, are undoubtedly eroding (Mujtaba and Khan, 2007).

Keeping in view the importance of medicinal flora, this study was arranged to document and collect Ethnomedicinal tibb and ethnomedicinal knowledge about the wild plants of District Gujrat-Pakistan.

Materials and Methods

Sample collection and preservation

Four field trips were arranged in order to collect information about the Ethnomedicinal tibb and ethnomedicinal uses of plants by the local people during 2009 in Jalalpur Jattan District Gujrat, Punjab-Pakistan. Standard methods were followed with regard for collection of plant materials, drying, mounting, preparation and preservation of plant specimens described by Nasir and Ali (2001). Voucher specimens of medicinal plants in triplicates were collected, prepared and identified. Plants with their correct nomenclature were arranged alphabetically by family name, vernacular name, ethnomedicinal tibb and ethnomedicinal uses. The identification and nomenclature of the listed plants were based on The Flora of Pakistan (Nasir and Ali, 1978).

Ethnomedicinal knowledge

A questionnaire method was adopted for documentation of ethnomedicinal knowledge. The interviews were carried out from local community to document local name and ethnomedicinal uses. About 200 informants have been interviewed on random basis. The indigenous medicinal plants having traditional knowledge of utilization among the people have been selected as reference specimens.

Results

During the present study, ethnomedicinal data on 88 plant species was collected. Information regarding their botanical name, vernacular name, family, part used and their ethnomedicinal uses are listed below starting with family name and binomial.

1. Amaranthaceae: Achyranthes aspera L. Common Names: Puth Kanda, Chaff Plant Parts used: Whole Plant Ethnomedicinal uses: kidney problems and cough. 2. Anacardiaceae: Mangifera indica L. Common Names: Aam, Mango Parts used: Leaf and Seed Ethnomedicinal uses: Ear ache, Vomiting. 3. Apocynaceae: Nerium indicum Mill. Common Names: Kanhera, Oleander Parts used: Root Ethnomedicinal uses: Root is ground into powder and used for abortion. 4. Arecaceae: Phoenix dactylifera L. Common Names: Khajur, Date Parts used: Fruit Ethnomedicinal uses: General body weakness.

5. Asclepiadaceae: Calotropis procera (Aiton)	W.T. Aiton
Common Names: Ak, Sodom's Apple	
Parts used: Leaf	
Ethnomedicinal uses: In the treatment of asthm	a.
6. Asphodelaceae: Aloe vera (L.) Burm. f.	
Common Names: Kwargandal, Aloe	
Parts used: Leaf	
Ethnomedicinal uses: Rheumatism, body weak	ness and in the treatment of pimples or acne.
7. Asteraceae: Artemisia scoparia Waldst. &	Kit.
Common Names: Jhahoo, Wormwood	
Parts used: Whole plant	
Ethnomedicinal uses: Used as a purgative and i	n the treatment of burns.
8. Asteraceae: Carthamus oxycantha M. Bieb.	
Common Names: Poli, Carthamus	
Parts used: Seed	
Ethnomedicinal uses: Grind seed flour is used t	o treat ulcer problems.
9. Asteraceae: Eclipta alba (L.) Hassk.	
Common Names: Sofed Banghra	
Parts used: Leaf	
Ethnomedicinal uses: leaf paste applied to treat	allergy, athlete's foot and ringworm.
10. Cannabaceae: Cannabis sativa L.	
Common Names: Bhang, Indian Hemp	
Part used: Whole Plant	
Ethnomedicinal uses: Used to reduce general b	ody inflammation, intoxication, loss of appetite
11. Chenopodiaceae: Chenopodium album L.	
Common Names: Bathu, Goose Foot	
Parts used: Whole Plant	
Ethnomedicinal uses: Jaundice	
12. Convolvulaceae: Convolvulus arvensis L.	
Common Names: Vahri, Bind Weed	
Parts used: Whole Plant	
Ethnomedicinal uses: Constipation, control dat	ndruff,
13. Cuscutaceae: Cuscuta reflexa Roxb.	
Common Names: Akash Bail, Dodder	

Parts used: Stem Ethnomedicinal uses: Paralysis, Hair treatment. 14. Cucurbitaceae: Cucumis melo var. agrestis Naudin Common Names: Chibbar, Wild Water Melon Parts used: Fruit and seed Ethnomedicinal uses: Dried powdered plant used to treat skin infections, stomach problems. 15. Euphorbiaceae: Ricinus communis L. Common Names: Hernoli, Castor oil Parts used: Seed Ethnomedicinal uses: Constipation, Stomach and bowels problems. 16. Mimosaceae: Acacia modesta Wall. Common Names: Phulai Parts used: Bark and Stem Ethnomedicinal uses: Gastric pains, protection of teeth, 17. Mimosaceae: Acacia nilotica (L.) Delile. Common Names: Kekar, Gum Arabic Parts used: Pod Ethnomedicinal uses: Gonorrhea, 18. Mimosaceae: Cassia fistula L. **Common Names Amaltas.** Golden Shower Parts used: Seed Ethnomedicinal uses: Gastric problems, 19. Mimosaceae: Dalbergia sissoo Roxb.ex DC. Common Names: Tali, Rosewood Parts used: Bark Ethnomedicinal uses: Nosebleed, 20. Malvaceae: Abutilon indicum (L.) Sweet. Common Names: Peeli Booti, Indian Mallow Parts used: Leaf and seed Ethnomedicinal uses: Piles, laxative. 21. Malvaceae: *Hibiscus rosa-sinensis* L. **Common Names:** Chembarathi, Shoe Flower Parts used: Flower Ethnomedicinal uses: Burning sensation and inflammation.

22. Malvaceae: <i>Malva parviflora</i> L.
Common Names: Sonchal, Mallow
Parts used: Leaf and seed
Ethnomedicinal uses: Common Cold, cough and constipation.
23. Malvaceae: <i>Melia azedarach</i> L.
Common Names: Dherak, Chinaberry
Parts used: Leaf and fruit
Ethnomedicinal uses: Skin infection, skin diseases.
24. Menispermaceae: Tinosporia cordifolia (Willd.) Miers
Common Name: Glow, Heart Leaved Moon Seed
Parts used: Seed
Ethnomedicinal uses: Tuberculosis.
25. Moraceae: Ficus benghalensis L.
Common Names: Boher, Banyan
Parts used: Latex
Ethnomedicinal uses: Gonorrhea,
26. Moraceae: Ficus religiosa L.
Common Names: Pipal, Sacred Fig
Parts used: Bark
Ethnomedicinal uses: Gonorrhea.
27. Moraceae: Morus nigra L.
Common Names: Kala Toot, Mulberry
Parts used: Root, leaf and fruit
Ethnomedicinal uses: Bad thorax, stomach worms,
28. Myrtaceae: Eucalyptus camaldulensis Dehnh.
Common Names: Sofeda, Eucalyptus
Parts used: Leaf
Ethnomedicinal uses: Common cold, nose infections, common cold.
29. Myrtaceae: Psidium guajava L.
Common Names: Amrood, Guava
Parts used: Fruit
Ethnomedicinal uses: Improvement of appetite, and stomach problems.
30. Myrtaceae: Syzygium cumini (L.) Skeels

Common Names: Jaman, Jambolan

Parts used: Seed Ethnomedicinal uses: Diabetes. 31. Amaranthaceae: Amaranthus graecizans subsp. silvestris Common Name: Phulari Parts used: Leaves Ethnomedicinal uses: Inflamations, Piles, Gonorrhea 32. Nyctaginaceae: *Boerhavia procumbens* Banks ex Roxb. Common Name: Itsit Parts used: Root Ethnomedicinal uses: Jaundice. 33. Poaceae: Arundo donax L. Common Name: Nerra Parts used: Leaf and stem Ethnomedicinal uses: Fever, to treat dysfunctional organs of cattle. 34. Poaceae: Cynodon dactylon (L.) Pers. Common Names: Khabal, Bahm Grass Parts used: Whole Plant **Ethnomedicinal uses**: Treatment of wounds. 35. Poaceae: Desmostachya bipinnata (L.) Stapf. Common Names: Dab, Tail Grass Parts used: Leaf **Ethnomedicinal uses**: Decoction made from leaves is used to treat fever. 36. Poaceae: Saccharum spontaneum L. **Common Name:** Sarrout Parts used: Whole plant Ethnomedicinal uses: Improvement of appetite and in the treatment of abdominal pain. 37. Brassicaceae: *Cleome viscosa* **Common Name:** Parts used: Leaves, seeds root Ethnomedicinal uses: Wounds, earaches and ulcers. The seeds are anthelmintic, carminative, stimulant and vesicant.38. Portulacaceae: Portulaca oleracea L. **Common Names:** Kulfa, Purslane **Parts used**: Whole plant Ethnomedicinal uses: Jaundice, typhoid, iron deficiency and skin allergy.

39. Punicaceae: Punica granatum L.
Common Names: Anar, Pomegranate
Parts used: Exocarp of fruit
Ethnomedicinal uses: Dysentery and menstrual irregularities.
40. Rhamnaceae: Ziziphus jujuba Mill.
Common Names: Baer, Jujube
Parts used: Leaf and fruit
Ethnomedicinal uses: Skin infections where pus is present and iron deficiency.
41. Rosaceae: Rosa indica L.
Common Names: Gulab, Rose
Parts used: Flower and seed
Ethnomedicinal uses: Eye disorders and heart disease.
42. Rutaceae: Citrus limon (L.) Burm. f.
Common Names: Nimboo, Lemon
Parts used: Fruit
Ethnomedicinal uses: Toothpowder for teeth diseases and in infections.
43. Sapindaceae: Dodonaea viscosa Jacq.
Common Name: Sanatha
Parts used: Leaf
Ethnomedicinal uses: Stomach acidity and skin allergy
44. Solanaceae: Datura inoxia Mill.
Common Names: Datura, Thorn Apple
Parts used: Seed
Ethnomedicinal uses: Gonorrhea
45. Solanaceae: Solanum nigrum L.
Common Names: Kainch Mainch, Nightshade
Parts used: Leaf
Ethnomedicinal uses: Abnormal and painful secretions from ears.
46. Solanaceae: Withania somnifera (L.) Dunal
Common Name: Ak San, Winter Cherry
Parts used: Whole Plant
Ethnomedicinal uses: Asthma, Rheumatic disorders, insomnia, fever, constipation and eye
diseases, painful swellings and ulcer.
47. Tamaricaceae: Tamarix aphylla (L.) H. Karst.

Common Name: Rokh, Tamarisk

Parts used: Leaf

Ethnomedicinal uses: Skin worms and internal worms of nose and ear, Toothache.

48. Zygophyllaceae: Tribulus terrestris L.

Common Name: Bhakra, Puncture Vine

Parts used: Seed

Ethnomedicinal uses: Back pain, Gonorrhea, Urinogenital diseases.

49. Apocynaceae: Alstonia scholaris (L.) R.Br.

Common Name: Chhatiwan, sat-patia (S).

Parts used: Bark, Leaves

Ethnomedicinal uses: Fever, headache, asthma, to increase lactation, ulcer, astringent, antipyretic, stomachic properties, diarrhoea and dysentery.

50. Liliaceae: Asparagus racemosus Willd

Common Name: Satmuli

Parts used: Roots

Ethnomedicinal uses: Tonic, aphrodisiac, diuretic, carminative, appetizer, antispasmodic, mental disorders, dyspepsia, Diarrhea, dysentery and rheumatism.

51. Malvaceae: Bombax ceiba L.

Common Name: Simbal

Parts used: Flowers, Roots, bark and seeds

Ethnomedicinal uses: Dysentery, Stimulant, blood purification, constipation, snake bite and gonorrhoea.

52. Cyperaceae: Cyperus rotundus L.

Common Name: Deela

Parts used: Rhizomes

Ethnomedicinal uses: Fever, diarrhoea, dysentery and blood disorders. Tuberous, indigestion, diarrhoea, dysentery, cholera, stomachic and diuretic

53. Rutaceae: Murraya exotica

Common Name: Marva

Parts used: Leaves & roots

Ethnomedicinal uses: Anthelmintic, blood disorders, skin diseases, carminative, tonic, purgative, Stomachic, leprosy, diarrhoea and dysentery

54. Pinaceae: Pinus roxburghii Sarg.

Common Name: Chir

Parts used: Bark, Resin

Ethnomedicinal uses: Burns and scalds, boils, cough and gastric troubles.

55. Fabaceae: Tephrosia lupinifolia DC

Common Name: Fish Poison

Parts used: Roots, Leaf, Stem bark

Ethnomedicinal uses: Stomach ache, diarrhoea, rheumatism, asthma and urinary disorders.

56. Malvaceae: Abutilon indicum L.

Common Name: Peeli buti

Parts used: Leaves and flowers

Ethnomedicinal uses: As a resolvant, analgesic, inflammations, diarrhea, bleeding piles and toothache.

57. Moraceae: Ficus religiosa L.

Common Name: Pipal

Parts used: Bark, Fruit, Seed

Ethnomedicinal uses: Asthma, urinary problems, constipation and vomiting

58. Myrtaceae: Eucalyptus globules

Common Name: Sufaida

Parts used: Leaves, Seeds

Ethnomedicinal uses: Cold, cough, throat lozenges, malaria and toothache.

59. Poaceae: Zea mays

Common Name: Makai

Parts used: Stigma of female flowers

Ethnomedicinal uses: Urinary disorders, Bladder cleaning and kidney disorders.

60. Solanaceae: Withania coagulens L.

Common Name: Chota ak

Parts used: Fruit & Seed

Ethnomedicinal uses: Digestive disorders, gastritis, diabetes and blood purification.

61. Lamiaceae: Leucas aspera (Jacq.)Ait. f.

Common Name: Jhumka booti

Parts used: Leaves

Ethnomedicinal uses: Gastritis

62. Convulvulaceae: Ipomea pentaphyllum

Common Name: Beli

Parts used: Leaves and Seeds

Ethnomedicinal uses: Skin diseases, Constipation, Vomitting

63. Asteraceae: Vernonia scinerescens

Common Name: Simbla

Parts used: Leaves, Rhizomes

Ethnomedicinal uses: Gastritis, Urinary infections, Male sterility, navel- aches constipation and internal ulcers

64. Asteraceae: Xanthium strumarium Linn.

Common Name: Chhota Dhatura, Cocklebur

Parts used: Roots, fruit & Seeds

Ethnomedicinal uses: Stomach diseases, demulcent, smallpox and dysentery.

62. Aizoaceae: Trianthema portulacastrum L.

Common Name: Itsit, Hog weed

Parts used: whole plant

Ethnomedicinal uses: Joint swellings, Asthma, Jaundice, abdominal diseased, Useful for fever.

63. Poaceae: Avena sativa Linn.

Common Name: Jao, Oat

Parts used: Seeds

Ethnomedicinal uses: Tension and skin alergies.

64. Euphorbiaceae: Euphorbia helioscopia Linn.

Common Name: Chattri dodak, Lun spurge

Parts used: Whole plant

Ethnomedicinal uses: Cathoratic, Antihelminthic, Purgative.

65. Euphorbiaceae: Euphorbia hirta Linn.

Common Name: Aam dodak, Doddak

Parts used: Whole plant

Ethnomedicinal uses: Expectroant, used in bronchitis, cough and asthma.

66. Oxalidaeae: Oxalis Corniculata Linn.

Common Name: Khuti booti, Yellow oxalis

Parts used: Leaves

Ethnomedicinal uses: Diarrhoea & dysentry.

67. Euphorbiaceae: Euphorbia hypericifolia

Common Name: Pui Booti.

Parts used: Whole plant

Ethnomedicinal uses: Fresh milky juice which is acrid irritant is applied externally to relieve warts.

68. Poaceae: Desmostachya bipinnata Stapf.

Common Name: Ghar Chichona

Parts used: Leaves

Ethnomedicinal uses: As diuretic and in dysentry and menorrhagia.

69. Euphorbiaceae: Euphorbia hirta L.

Common Name: Dodhi, Spurse

Parts used: Leaves and inflorescence

Ethnomedicinal uses: Treatment of eye complaints such as redness of eyes and to remove foreign body from eyes and hair tonic.

70. Asteraceae: Conyza canadenisis Linn.

Common Name: Horse weed

Parts used: Whole plant

Ethnomedicinal uses: Inflammations, asthma and diseases.

71. Euphorbiaceae: Euphorbia prostrata L

Common Name: Hazar daani

Parts used: All plant

Ethnomedicinal uses: Skin diseases, itching and for ringworms.

72. Asteraceae: Launea procumbus

Common Name: Bhatter

Parts used: Whole plant

Ethnomedicinal uses: Tooth diseases, diabetes, constipation, intestinal disorders, painful urination, gonorrhea, relief in cold, cough, flu and wound infection.

73. Convulvulaceae: Convulus arvense

Common Name: Leli/weli

Parts used: Leaves & seeds

Ethnomedicinal uses: Inflammations and stomach disorders.

74. Amaranthaceae: Digera arvensis L.

Common Name: Tandla

Parts used: Leaves

Ethnomedicinal uses: It is used cure weak bones, Infections etc

75. Mimosaceae: Albizzia lebbeck

Common Name: Siris

Parts used: Bark

Ethnomedicinal uses: Inflammations, boils, cough, eye infections, flu, gingivitis, lung problems,

pectoral problems, tonic, abdominal tumors, hernia, secondary infertility.

76. Asteraceae: Sonchus asper

Common Name: Asgandh, dodak

Parts used: Whole plant

Ethnomedicinal uses: Whole plant is ground and powder is applied on burns

77. Moraceae: Ficus benjamina

Common Name: Weeping fig

Parts used: Whole Plant

Ethnomedicinal uses: Blood purifications

78. Rubiaceae: Gardenia jasminoides

Common Name: Chandna

Parts used: Leaves and flower buds

Ethnomedicinal uses: Used in Stomach ache.

79. Malvaceae: Hibiscus rosa sinensis L.

Common Names: Gurhal, Shoe Flower

Parts used: Flower

Ethnomedicinal uses: Apply paste to reduce burning sensation

80. Apocynaceae: Catharanthus roseus

Common Name: Sada Bahar

Parts used: Leaves

Ethnomedicinal uses: Diabetes mellitus

81. Poaceae: Paspalidium flavidum

Common Name: Madhana Ghas

Parts used: Leaves

Ethnomedicinal uses: Skin diseases, eyes, teeth, heart, skin itching, headache liver diseases, dropsy, prevent abortion, miscarriage and uterine pains after delivery.

82. Araceae: Syngonium podophyllum

Common Name: Nephthytis

Parts used: Leaves

Ethnomedicinal uses: It is effective against cancer and cure mouth and feet diseases.

83. Papilionaceae: Meliolotus parviflora

Common Name: Sainji

Parts used: Whole Plant and seeds

Ethnomedicinal uses: It is useful in treatments of swellings and bowel complaints.

84. Annonaceae: Polyalthia longifolia **Common Name**: Ulta ashok Parts used: Leaves, Root, stem Ethnomedicinal uses: Fever, diabetes, hypertension, skin diseases & helminthiasis 85. Apocynaceae: Plumaria obtusa **Common Name:** Chelota Parts used: Flower Ethnomedicinal uses: Skin diseases, fever & ague. 86: Amaranthaceae: Althernanthera punjens Common Name: Haglon/waglon Parts used: Leaves, Fruits Ethnomedicinal uses: Itching. 87. Typhaceae: Typha latifolia Common Name: Typha **Parts used**: Leaves and Pollens Ethnomedicinal uses: Astringent, diuretic, sedative and anticoagulant. It is used in the treatment of kidney stones and painful menstruation. 88. Fabaceae: Rhyncosia minima **Common Name**: Jungli moath Parts used: Whole plant Ethnomedicinal uses: Used for bath after delivery for body care.

Discussion

The need for a specific definition of traditional knowledge is impelled by the push from the formal sector to control, manage and market the knowledge and to bring it under a regulatory framework (Shinwari and Khan, 1999. Traditional knowledge provides useful leads for scientific research, being the key to identifying those elements in a plant with a pharmacological value that is ultimately destined for the international markets. Indeed, such traditional knowledge is very valuable. Annual global sales of products derived from the manipulation of genetic resources lie between US\$ 500 and US\$800 billion annually (Kate and Laird, 1999). Due to the lack of modern communications, as well as poverty, ignorance and unavailability of modern health facilities, most people especially rural people are still forced to practice traditional medicines for their common day ailments (Azaizeh et al. 2003). Most of these people form the poorest link in the trade of medicinal plants (Khan, 2002). A

vast knowledge of how to use the plants against different illnesses may be expected to have accumulated in areas where the use of plants is still of great importance (Diallo et al. 1999).

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