

ETHNOMEDICINAL DEMOGRAPHY AND ECOLOGICAL DIVERSIFICATION OF SOME IMPORTANT WEEDS FROM DISTRICT ATTOCK-PAKISTAN

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ABSTRACT

The present study was confined to traditional medicinal uses of weeds with special reference to ecological diversification and their botanical description. Study was conducted in 10 remote villages of District Attock in order to collect information from 100 resourceful persons including 75 men and 25 women related to the collection and use of weeds. Questionnaires were developed to collect data from local inhabitants on 15 weeds species belonging to 15 genera of flowering plants. Complete botanical description was studied by using taxonomic methods in herbarium of Quaid-i-Azam University Islamabad. Data was systematically arranged in alphabetic order of botanical name followed by English name, local name, habit and habitats, flowering period, voucher specimen number, part used and ethnomedicinal uses. It was found that the area is rich in indigenous knowledge related to weeds but still there are large number of underutilized weeds which could not prove useful yet. The knowledge is going to be lost because of interference due to modern cultural changes. Continuity of this practice will result in total loss of such knowledge. It was the first attempt to understand the importance of weeds with special reference to their medicinal uses in this area. It was concludes from this research that such type of studies should be carried out in future on utilization and conservation of important weeds.

Key words: Ethnomedicinal, Ecology, Weeds and Attock-Pakistan

INTRODUCTION

District Attock (Punjab) lies between 33° 7' and 34° North latitude and 71° 45' and 73° east longitude. It is bounded on the north and west by the river Indus. In the east lies district Haripur of NWFP and Rawalpindi districts of the Punjab. The southern side is occupied by the district Chakwal of the Punjab (Anon, 1998).

The area has a rural culture of old traditions and the local people have their own principle and choice for a village site house, family, dress and ornaments, weddings, childbirth, death ceremonies, cultural functions, festivals and socio-religious beliefs. The lack of communication with modern civilization has kept them closer to nature where they derive many of their day-to-day needs. The people in the area are very much close to natural vegetation, both in their habitat and livelihood. So, the people of the area have empirical observations of nature and by communicating with other people of their culture, they get indigenous knowledge about the local plants. They are, thus gaining the indigenous knowledge generation after generation from their ancestors. The plant and plant materials available from the nearby area are used as medicine. Similarly, local people in various villages of the area gathered native medicinally important weeds in different seasons of the year for personal use and whole community uses within the area. So, in this way, the Ethnomedicinal knowledge of weedy plants is interactively linked to local culture and history (Ahmad, *et al.*, 2005). Arshad and Ahmad (2004) gave information regarding indigenous uses of plants for medicinal as well as other purposes by the native people of the Galliyat area. The ethnobotanical data of 40 plant species belonging to 37 genera and 26 families, during summer and winter season were collected. Among them the two families belong to gymnosperms, two families of pteridophytes, one family of monocot and 21 families of dicot (Angiosperms) were studied ethnobotanically.

District Attock is unique and has a rich diversity of medicinal weeds offer an immense scope for Ethnomedicinal demography and ecological studies. The area have never been surveyed ethnomedically with particular emphasis on important weeds. So the indigenous natural flora of the District and associated areas is continuously declined because of biotic pressure from population fast growth, intensive agricultural practices, unfair means of deforestation, extensive grazing and browsing, salinity and water logging, invasion of exotic species, like, *Alternanthera pungens* (Kabli Kanda), *Prosopis juliflora* (Kabli Kiker), *Eucalyptus camaldulensis* (Sufaida), *Parthenium hysterophorus* (Gandi Booti), etc. Due to these potential threats faced by the area, Ethnomedicinal study was the need of time, in order to carry out systematic work and to record the indigenous knowledge about the weeds from the local inhabitants of the area.

MATERIALS AND METHODS

Present study was conducted in ten selected villages of District Attock including Pehti, Basia, Mula Mansoor, Pind Sultani, Bahtar, Behlol, Sojanda Bata, Shadi Khan, Shamsabad and Hasan Abdal.

Collection of Ethnomedicinal Data

For collecting Ethnomedicinal data, the following disciplines were used.

Plant Taxonomy

- i. Collecting and identifying the important weeds.
- ii. Preparation of Ethnomedicinal notes on them.
- iii. Mounting of these plants on herbarium sheets and giving them voucher numbers.

Anthropology

- i. Interviews of 100 persons.
- ii. Obtaining their folklore knowledge.
- iii. Assessment of the dependence on natural resources of weedy

plants.

- iv. Systematic surveys of local plant knowledge.

Ecology

- i. Location and exact distribution of weedy plants.
- ii. Soil and water sampling of the area (Physical characteristics).

RESULTS

1. *Trianthema portulacastrum* L. (Aizoaceae)

English Name	:	Trianthema
Local Name	:	Itsit
Habit and Habitats	:	It is very common succulent weed found throughout the area. Flowers light pink & white.
Flowering Period	:	July-August
Voucher specimen No	:	120
Part used	:	Whole Plant
Ethnomedicinal uses	:	It is used for the treatment of jaundice and liver disorders. It is diuretic and used in dropsy. Also used in swelling to body, pain in bladder, cough Asthma and fever.

2. *Achyranthes aspera* L. (Amaranthaceae)

English Name	:	Chaff flower.
Local Name	:	Puthkanda.
Habit and Habitat	:	It is annual weed found in waste places very abundantly
Part used	:	Roots, Leaves and Stem.
Flowering Period	:	September-April
Voucher Specimen No	:	5
Ethnomedicinal uses	:	Decoction in water is used for asthma, cough, stomachache, dropsy, piles and skin eruption.

3. *Amaranthus viridus* Linn. (Amaranthaceae)

English name	:	Prince feathers
Local Name	:	Chaulai
Habit & Habitat	:	It is very common weed with slender, terminal inflorescence. It occurs throughout the area.
Part used	:	Leaves.
Flowering Period	:	July –October

Voucher Specimen No : 7
Ethnomedicinal Uses : It is emollient and antidote (against) for scorpion and snake bite. Also used for joint pain.

4. *Ageratum houstoniarum* Mill. (Asteraceae)

English Name : Goat weed
Local Name : Neeli booti
Habit and Habitat : It is branched annual upto 60 cm tall weed. Flowers are purplish pink. It is commonly Found in cultivated fields and waste places.
Part used : Leaves and inflorescence juice.
Floweing Period : February - April
Voucher Specimen No : 10
Ethnomedicinal Uses : It is used to cure wounds and is antidote for snake bite.

5. *Carthamus oxycantha* M. Bieb. (Asteraceae)

English Name : Thistle
Local Name : Pohli
Habit and Habitat : It is spinose branched weed. It is very commonly found grain fields after harvesting season.
Flowering Period : March-June
Voucher specimen No : 204
Part used : Seeds.
Ethnomedicinal uses : Seeds are used for Jaundice. Oil extracted from the seed used for ulcer.

6. *Cichorium intybus* L. (Asteraceae)

English Name : Chicory
Local Name : Kasni/Neeli Shountaul.
Habit and Habitat : Perennial suberect to spreading weed. It is commonly cultivated as well as common weed of open places.
Flowering Period : June-September
Voucher specimen No : 205
Part used : Whole plant.
Ethnomedicinal uses : Plant is used as liver tonic, also used for diarrhoea, fever and enlargement of spleen.

7. *Taraxacum officinale* Weber. (Asteraceae)

English Name : Dandelion

Local Name : Dudal Bumbola.
 Habit and Habitat : A common weed with yellow flowers. Very commonly found throughout the area.
 Flowering Period : February-April
 Voucher specimen No : 207
 Part used : Leaves and roots.
 Ethnomedicinal uses : Leaves and roots are effective against snake bite, leaves are also used for diabetes. Root paste is applied on swelling and joints.
 Other Ethnomedicinal uses : Plant is grazed by goats and sheep.

8. *Calendula arvensis* Linn. (Asteraceae)

English Name : Marigold
 Local Name : Zergul
 Habit and Habitat : Branched leafy low growing annual weed. Commonly found in open places, roadsides and cultivated fields.
 Part used : Flowers.
 Flowering Period : March-May
 Voucher Specimen No : 19
 Ethnomedicinal Uses : It is used to strengthen eye sight. Also used for heart diseases and healing of the skin.

9. *Saussuria hetromalla* L. (Asteraceae)

English Name : Costus.
 Local Name : Kali Ziri
 Habit and Habitat : Erect annual weed upto 120 cm tall. Very Commonly found along roadsides, cultivated fields, graveyards and waste places.
 Part used : Roots
 Flowering Period : March-June
 Voucher Specimen No : 35
 Ethnomedicinal Uses : It is an aphrodisiac tonic and is useful in liver diseases, kidney and chest complaints.

10. *Artemisia scoparia* Waldst. & Kit. (Asteraceae)

English Name : Wormwood
 Local Name : Dona jhan
 Habit and Habitat : It is annual weed. Very commonly found in Arid and sandy soils.

Part used : Whole plant
Flowering Period : August-November
Voucher Specimen No : 16
Ethnomedical Uses : Infusion of the plant is used as purgative and is used to cure earache. It is also used for snake and scorpion bite.

11. *Conyza canadensis* (L.) Cronquist (Asteraceae)

English Name : Horse weed
Local Name : Paleet
Habit and Habitat : It is erect weed with many capitula without coloured ray. It is very common throughout the area.
Part used : Whole plant
Flowering Period : August-October
Voucher Specimen No : 11
Ethnomedicinal Uses : Used as homeostatic, astringent, diuretic. It is used to treat dysentery and diarrhea.

12. *Sonchus asper* L. (Asteraceae)

English Name : Prickly Sow-thistle
Local Name : Dodal
Habit and Habitat : It is annual weed with golden yellow flowers. Very common in graveyards, waste places and in near cultivated field.
Part used : Whole plant
Flowering Period : March-May
Voucher Specimen No : 46
Ethnomedicinal Uses : It is diuretic, cooling, sedative and antiseptic. It is useful in cough, bronchitis and asthma.

13. *Capsella bursa-pastoris* (L.) Medik. (Brassicaceae)

English Name : Shepherd's purse.
Local Name : Jangli Saro
Habit and Habitat : A ubiquitous spring weed in the plains and hills
Part used : Seeds.
Flowering Period : February-March
Voucher Specimen No : 24
Ethnomedicinal Uses : It is useful in dropsy, diarrhea, and healing of

wounds.

14. *Cannabis sativa* L. (Cannabaceae)

English Name	:	Indian hemp.
Local Name	:	Bhung.
Habit and Habitat	:	It is gregarious shrub found very commonly in waste places, along roadsides and graveyards.
Part used	:	Whole plant.
Flowering Period	:	April -October
Voucher Specimen No	:	53
Ethnomedicinal Uses	:	It acts as sedative, narcotic intoxicant and antispasmodic. It is useful in diarrhea. Young inflorescence is used for cattle's' diseases.

15. *Tephrosea hamiltonii* J.R. Drum. (Papilionaceae)

English Name	:	Tephrosea
Local Name	:	Sirphuka.
Habit and Habitats	:	An erect undershrub with pink flowers. Very commonly found in Lawrencepur, Kamra and Dukhnair Villages of the area.
Flowering Period	:	July-September
Voucher specimen No	:	218
Part used	:	Whole plant.
Ethnomedicinal uses	:	Dried parts of the plant are used for the preparation of local medicine used for digestive disorders and indigestion.

DISCUSSION

Most of the people of the District Attock depend on plant resources; however a large fraction of population also depends on agriculture and agroforestry. They collect a lot of medicinal plants. Human existence, grazing and cultivation exert enormous stress on the vegetation and results in environment degradation (Ahmad *et al.*, 2003). Similar situation also prevails in this valley. Some other causes include ignorance, poverty, unemployment and lack of scientific knowledge for the collection of medicinal weed.

Nearly 80% of the world population depends upon traditional system of health care. Allopathic drugs have brought a revolution throughout the world, but the plant based medicines have its own status (Ahmad, 2003). The local uses of plants as a cure are common particularly in those areas, which have little or no access to modern health services. Hence due to less communication means, poverty, ignorance and unavailability of medicinal facilities, most people of especially rural people still forced to practice traditional medicines for their treatment. Now some people especially younger generation is using alternative modern medicines for their treatment. And also forgetting about indigenous knowledge of plants. But most of the people especially old people still possess the knowledge about wild resources (Zhang, 1996).

The Ethnomedicinal uses of 15 species were recorded, which are used to cure various ailments. Collection of medicinally important weeds has threatened certain species. There is a need of careful conservation of the plants resources of the region, otherwise many weedy species may be lost forever and become extinct.

Medicinal plant is a component of Agriculture sector and contributes its share in economic development. The sustainable harvesting of plants having both medicinal and economic value has great potential. In fact, there is no local awareness about the proper collection of various species. Thus there is a need, to create awareness of the importance of these plants among local people and to provide them guidance and training in collection and processing to enhance their income.

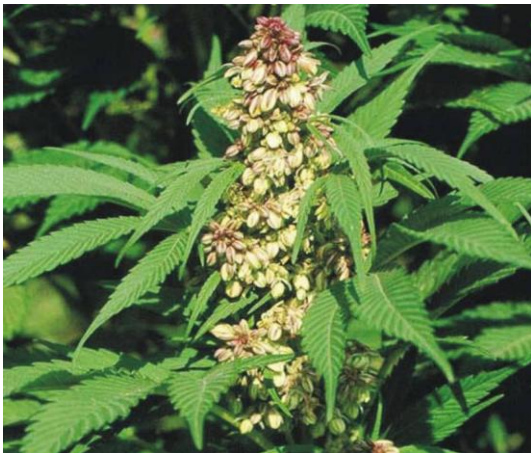
A

B



C

D





A- *Cannabis sativa*, B- *Carthamus oxyacantha*, C- *Taraxacum officinale*, D- *Tephrosea hamiltonii*

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