Chapter

Ethnomedicinal Values of Legume Plants in Pakistan

Faisal Hussain and Farzana Usman

Abstract

The data on medicinal plants in the vegetation of Pakistan was studied and surveyed from September to November, 2018. Different ethnomedicinal species were recorded which are used by local inhabitants as a medicine, fodder, fuel, and for agricultural purpose. Many of the medicinal plants recorded are used for the treatment of two or more diseases by the local people. The family Fabaceae was dominant with respect to medicinal plants. The precious knowledge of medicinal flora is rapidly vanishing due to the illiteracy among the local people and also due to destruction of the medicinal plants. The present study was designed to convey the knowledge and importance of medicinal flora as well as traditional uses of such plants in daily life.

Keywords: legume, medicinal values, traditional uses, treatments

1. Introduction

The wide variation in geography, altitude, soil, climate, and culture have created a rich floristic diversity, and it is estimated that there are about 6000 species of higher plants in Pakistan [1]. Although, the country has about 6,000 species of wild plants of which about 400–600 species are considered to be medicinally important [2]. There are a number of papers and investigations which have been documented on ethnomedicinal and folk uses of flora in almost all local inhabitants of Pakistan [3–15]. Pakistan is considered as a promising agricultural country of Asia. It has fertile land often covered with dense vegetation. There are several medicinal species recorded from almost all parts of the country. Local people are using commonly available plants for the treatment of many diseases and maintenance of their health. However, introduction of allopathic and homeopathic drugs has decreased human dependency on medicinal plants for their folk uses [16].

2. Geography of the area

The Pakistan is geographically diverse and extremely temperate region with wide variety of wildlife. It covers an area of 881,913 km^2 (340,509 sq miles). The Pakistan is categorized into three geographic areas: the northern highlands, the Indus River Plain, and the Balochistan Plateau. The climate is diverse and varies from tropical to temperate, coastal south and with arid conditions. Sometime monsoon season with heavy rainfall and flooding, and during dry season significant less

Family	Genus	Species	Life-form	Folk name
Fabaceae	*Acacia* Lam.	*Acacia nilotica* (Lam.) Willd.	Phanerophyte	Bubar
	Albizia Durazz.	*Albizia lebbeck* (Linn.) Benth.	Phanerophyte	Sareehan
	Alhagi Adans.	*Alhagi maurorum* Medik.	Chamaephyte	Kandiro
	Dalbergia L. f.	*Dalbergia sissoo* Roxb.	Phanerophyte	Talehi
	Mimosa L.	*Mimosa pudica* L.	Chamaephyte	Sharam Booti
	Prosopis L.	*Prosopis juliflora* (Sw.) DC.	Phanerophyte	Deevi
	Prosopis L.	*Prosopis cineraria* (L.) Druce	Phanerophyte	Kandi
	Tamarindus L.	*Tamarindus indica* (L.) Druce	Phanerophyte	Gidamari
	Trigonella L.	*Trigonella foenum-graecum* L.	Therophyte	Hurbo

Table 1.
List of common ethnomedicinal legume plants of Pakistan.

rainfall and it seems drought conditions in whole country. Pakistan has four distinct seasons. Due to the diversity of the landscape and climate in Pakistan, It is rich in a wide variety of trees, plants and ethnomedicinal flora. Due to the lack of knowledge and awareness ethnomedicinal flora of Pakistan suffer from a number of problems and threats including highest rate of deforestation, pollution and adverse effects of the ecosystem.

The medicinal flora and vegetation are usually available in almost all rural and remote areas of Pakistan. Due to the poor administration policies, the medicinal flora is rapidly vanishing due to the reasons of overgrazing, degradation and devastation. The need of this study is crucial due to the record of folk uses/treatment against disease. It is alarming need to save this medicinal flora from under threatened factors and this flora should be cultivated and used in pharmacy and drugs industry for human health [17].

The collection of medicinal plants was undertaken during September to November-2018. Family, common name of plants, folk name of plant, habit, parts used, medicinal uses and traditional uses were documented through the interviews of local "Hakeems" (doctors) and experienced growers of field crops. All species of medicinal plants were identified in the Department of Botany, Federal Urdu University of Art, Science and Technology, Karachi and the voucher specimens have been deposited in the Botany Herbarium.

All species were identified and confirmed with the help of flora of Pakistan [18, 19].

During the present study, a total of nine species belonging to eight genera and one family of angiosperms were documented (**Table 1**). The data for habits and life-forms of plants including herb, shrub, climber and trees were recorded.

These species with their respective families, common name, folk name, parts used, medicinal and traditional uses are listed below and placed into crops, shrubs, herbs and trees.

2.1 *Trigonella foenum-graecum* L.

Family: Fabaceae
Common name: Fenugreek
Folk name: Hurbo
Habit: Annual plant
Parts used: Seeds and leaves

Medicinal uses: The leaves of fenugreek are used as vegetable and as well as salads. Whenever seeds of fenugreek are considered to warm the kidneys, disperse cold and alleviate pain.

Traditional uses: The seeds of fenugreek are swallowed early in the morning with hot water and used before brushing the teeth and eating something. It considered effective against therapeutic and healing joint pain.

2.2 *Alhagi maurorum* Medik.

Family: Fabaceae
Common name: Camelthorn-bush
Folk name: Kandiro
Habit: Shrub
Parts used: Whole plant

Medicinal uses: The plant of camel thorn acts as a blood purifier used in skin allergy and possesses antioxidant activity. It is also considered as a treatment for glandular tumors and has antiseptic properties.

Traditional uses: The extract of plants is used as a pain killer of bones.

2.3 *Mimosa pudica* L.

Family: Fabaceae
Common name: Touch me not
Folk name: Sharam booti
Habit: Herb
Parts used: Roots, leaves, and flowers

Medicinal uses: The roots of *M. pudica* are commonly used for the treatment of vaginal and uterine problems, fatigue, asthma, and blood diseases.

Traditional uses: The leaves and flowers are traditionally recommended for the prevention of fever, ulcer and piles.

2.4 *Acacia nilotica* (Lamk.) Willd.

Family: Fabaceae
Common name: Acacia
Folk name: Bubar, babul
Habit: Tree
Parts used: Bark, flower, leaves, gum, and fruit

Medicinal uses: The leaves and flowers are used against hepatitis, ulcer and infertility of women. The leaves and fruits provide control of diarrhea and dysentery.

Traditional uses: The young stem of acacia is used as a tooth stick for the remedies of toothache. Its bark is used for the control of cough.

2.5 *Albizia lebbeck* (Linn.) Benth.

Family: Fabaceae
Common name: Siris/rain tree
Folk name: Sareehan
Habit: Tree
Parts used: Leaves and seeds

Medicinal uses: The siris is used as antiasthmatic in tuberculosis and trauma.

Traditional uses: The leaves of siris are used for the treatment of eye infection, whereas seeds are effective against boils or pimples.

2.6 *Dalbergia sissoo* Roxb.

Family: Fabaceae
Common name: Rose wood, shesham
Folk name: Talehi
Habit: Tree
Parts used: Leaves
Medicinal uses: The leaves of rosewood are considered effective for the hotness of body.
Traditional uses: The fresh twigs of rosewood are traditionally applied to relieve the ringworm and foot pain.

2.7 *Prosopis cineraria* (L.) Druce

Family: Fabaceae
Common name: Khejri, Jandi, and Ghaf
Folk name: Kandi
Habit: Tree
Parts used: Fruits and leaves
Medicinal uses: Prosopis is medicinally used as an anthelmintic, tonic, leprosy and asthma.
Traditional uses: The paste of leaves is externally applied over the injuries or cuts. The smoking of dry leaves is fruitful for eyes pain.

2.8 *Prosopis juliflora* (Sw.) DC.

Family: Fabaceae
Common name: Velvet mesquite
Folk name: Deevi
Habit: Tree
Parts used: Fruits and leaves
Medicinal uses: The velvet mesquite is used as antibacterial agent in alcoholic extracts. It is used in the treatment of colds, diarrhea, flu, and head cold.
Traditional uses: The fruit is used for the treatment of measles, eye infection, sore throat and wounds.

2.9 *Tamarindus indica* (L.) Druce

Family: Fabaceae
Common name: Tamarind
Folk name: Gidamari
Habit: Tree
Parts used: Fruit and Leaves
Medicinal uses: It is used against the treatment of spermarrhea and hepatitis. It is also used as a natural coagulant.
Traditional uses: The fruit of tamarind is considered as a promoter to sex hormones in females.

The almost all above mentioned recorded plant species are major source of medicinal purpose and it is also included in the ingredients of drugs and pharmacy industry. Some chemical compounds and active ingredients are beneficial against

several human diseases and pathogens including epidermal, stomata and respiratory organs. During present study, it is observed that local and remote areas people communities prefer to use the traditional medicines against the diseases and these are easily approachable for everyone. The extract of these herbal plants are cheaper and quite safe as compared to synthetic and antibiotic treatments. However, allopathic treatment is not affordable to everyone. Due to the lack of awareness, shortage of water, overgrazing of domestic animals, salinity, floods, low rainfall, illiteracy and poverty in country, the precious flora is under threatened.

3. Conclusion

Rapid of population growth is also a principal cause of diminishing the ethnomedicinal plant vegetation. Certain species such as *Prosopis cineraria*, *Calotropis procera*, and *Grewia asiatica* are disappearing day by day in Pakistan. The documentation and survey indicates that Pakistan has very high potential flora for ethnomedicinal purpose. Therefore it is an urgent need for our local communities and educated peoples that they should be directly involved in creating the awareness about medicinal plant vegetation and their significance.

Author details

Faisal Hussain* and Farzana Usman
Laboratory of Plant Pathology and Aerobiology, Department of Botany, Federal Urdu University of Art, Science and Technology, Karachi, Pakistan

*Address all correspondence to: faisalhussain@fuuast.edu.pk

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