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INDIGENOUS MEDICINAL PLANTS USED BY LOCAL WOMEN IN SOUTHERN HIMALAYAN REGIONS OF PAKISTAN

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Abstract

The present work is based on the results of research conducted on traditional uses of some important plants by the local women in southern Himalayan Mountains, Pakistan. The locals especially women of the area have been using the medicinal plants for many day to day uses for various ailments and are dependent on the plants in their surroundings for food, health, medication and various cultural purposes. A total of 28 important plant species belonging to 25 families were recorded which were used medicinally and various other purposes by the local women. About 130 informants were interviewed in this regard. Mostly plants like *Viburnum foetens* Decne., *Bergenia ciliata* (Haw.) Sternb. *Berberis lycium* Royle, *Geranium wallichianum* D. Don ex Sweet and *Skimmia laureola* (DC.) Sieb. & Zucc. ex Walp. are used by the local women for medication, health care and other purposes. *Geranium wallichianum* D. Don ex Sweet is most commonly used as tonic by women especially for body strength and other internal body disorders. *Bergenia ciliata* (Haw.) Sternb., is used as anticancerous plant and for internal wounds. *Skimmia laureola* (DC.) Sieb. & Zucc. ex Walp. is another widely used plant for respiratory disorders in children by the local women. People have strong faith in herbal medication by ethnomedicinal plants and women are leading men in applying the recipe for medication by these plants.

Introduction

Ethnobotany is the study of how the people of a particular culture and regions make the use of indigenous plants, while the ethnobotanist explores how plants are used for such things as food, shelter, medicine, clothing, hunting and religious ceremonies. It is the science, which studies. The relationship between a given society and its environment and in particular the plant world (Aumeeruddy, 1996).

Indigenous knowledge is as old as human civilization but the term ethnobotany was first coined by an American botanist, John Harshburger (1896), to study the plants used by the primitive and aboriginal people. Since then it has been defined as the traditional knowledge of indigenous communities, about surrounding plant diversity and as the study of how the people of a particular culture and region make use of indigenous plants. Ethnobotany has its roots in botany. Botany, in turn originated in part from an interest in finding plants to help fight illness. In fact, medicine and botany have close ties. Many of today's drugs have been derived from plant resources.

Traditional Unani medicine is a part of our culture and Pakistan is one of those countries where traditional Unani medicine is popularly practiced among the large segment of its population. It originated in Greece, founded by old ancient Greek philosophers, and was used/documented by Muslims during the glorious period of Islamic civilization. It was brought to the Indo-Pak subcontinent by Muslim scholars and practiced here for centuries. Traditional Unani medicine heavily depends on medicinal plants, apart from using animals and minerals. Pakistan has a varied climate and is quite rich in medicinal herbs, though scattered over a large area. All the plants studied are growing wild and no systematic attempt has been made to collect and cultivate herbs in an appropriate manner (Shinwari & Khan, 2000).

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Cunningham (1993) studied African medicinal plants and suggested that priority areas of cooperative action between health care professionals and conservationists are rapidly urbanizing regions with a high level of endemic taxa, particularly West Africa, he also studied the sustainable harvesting of *Prunus africana* bark in Cameroon. He reported that *Prunus africana* is a medicinal plant in International trade and has multiple uses. Its bark is major source of an extract used to treat beginning hyperplasia, an increasingly common problem in elderly men. Shinwari & Khan (2000) described 50 species of herbs belonging to 27 families from Margalla Hills National Park, Islamabad Pakistan, as used medicinally by the local inhabitants of the park, among which 10 species are being sold in the local market. *Asparagus adscendens* Roxb., and *Viola canescens* Wall. ex Roxb. are found vulnerable to harvesting.

Bukhari (1994) worked on ethnobotany and vegetation analysis of Machyara National Park Muzafarabad AJK and reported 10 plant communities in different regions of the National Park; in the status of the plant species in the park specially the medicinal plants in the park. Zandial (1994) worked on the Ethnobotany of the National Park Machyara, AJK, Pakistan and reported 104 important species of plants including tree, shrub and herb species used ethnobotanically by the local people.

Medicinal plants used by the local people ethnobotanically are of great importance that is the reason that people are engaged in the trade of important medicinal herbs, shrubs and tree species in and out side the country. The present report gives an account of the indigenous medicinal plants used by local women in southern Himalayan regions of Pakistan. Elisabetsky (1990) reported that annual world market value for medicines derived from medicinal plants by indigenous people is US $ 43 billion.

Materials and Methods

Before starting the research work on indigenous uses of important medicinal species of the area and the general information about the area was collected from the local women. About 11 villages around the area were visited and surveyed where interviews of about 130 local informants especially women were made. Information on demographic (age, gender) and ethnobotanical information (medicinal plants and their uses) was gathered from each site by using a semi-structured and close ended questionnaire containing questions such as (1) Do you know the medicinal plants in your local area; If yes, please name them; (2) What is the use of these medicinal plants? How do you use them (as a spice or a medicine) and for which ailment? (3) Which part of these plants are used for medicinal purposes? (4) When do you collect these plants? and (5) Do you collect them for your personal use or for selling them to pharmaceutical companies?

Plant collection and data recording for traditional/ indigenous uses of these plants in various localities were primarily done by carrying the collected specimens to local women The informants were asked questions, in Urdu (national language of Pakistan) regarding traditional uses of plants, their vernacular names, distribution, morphology and economical importance. Collected plant material has been dried, pressed, preserved (Poisoned), accessioned, identified and finally deposited in the Herbarium of the Department of Plant Sciences, Quaid-i-Azam University, Islamabad (ISL). Identification of the field collected medicinal plants was done by confirming them by the respondents and comparing them with those in the various Herbaria of Pakistan. Necessary literature has also been collected from different libraries e.g., Pakistan Museum of Natural History, Islamabad (PMNH), World Wide Fund for Nature (WWF) and National Herbarium, National Agricultural Research Centre, Islamabad (NARC).

Table 1. Ethnobotanical uses and data about treatment of various ailments based on the information gathered from the local women by using the semi-structured and close ended questionnaires.

Family	Species name and accession No.	Vernacular name	Plant part used	Flowering period	Uses
Araliaceae	*Hedera nepalensis* Koch	Harbanbal	Leaves	Sept.-Oct.	Leaves and berries are stimulant and cathartic diaphoretic, berries alone are purgative, the leaves are used in diabetes.
Asteraceae	*Achillea millefolium* L. (123826)	Dhoona, Jhan	Whole plant	Jul.-Sept.	The plant is used as diaphoretic, stimulant and tonic. The plant is also used in fever and cold.
Berberidaceae	*Berberis lycium* Royle (123594; 123595; 123596)	Sumlo, Sumbloo	Roots, leaves	April- Jun.	Decoction of roots is used for treatment of rheumatism: joint and other pains. Berries and roots boiled in water used for diabetic cure; highly recommended for bone injuries and fractures; sometimes paste is applied externally on wounds.
Cannabinaceae	*Cannabis sativa* L. (123575; 123576; 123577)	Bhang	Leaves	Jun.-Sept.	The leaves are narcotic and is used as stimulant. Women also make ropes from the fiber taken from the leaves and stem of the plant.
Caprifoliaceae	*Viburnum foetens* Decne.	Ghar Meva	Whole plant	Mar.-April	The fruit is edible. Miswak (toothbrush) made from *Viburnum* branches locally for cleaning of teeth used). Baskets are made from its branches. It is also used as fuel wood.
Ebenaceae	*Diospyros lotus* L.	Amlok, Amloak	Fruits		Fruit is edible. It is used as sedative and purgative.
Gentianaceae	*Gentiana kurroo* Royle	Nilkant	Roots	Aug.-Oct.	Root is used in stomachache in urinary infections, as tonic and astringent.
Geraniaceae	*Geranium wallichianum* D. Don ex Sweet (123891)	Srazela	Roots	Jun.-Sept.	The powder of dried root is with milk and sugar is used for backache, gout and for strengthening of the body muscles and bones relief.
Hippocastanaceae	*Aesculus indica* (Wall. ex Camb.) Hook. f.	Jawaz	Fruits		Oil of seeds is used externally to lessen the pain. Fruit is given to buffaloes and horses in cold and fever. Wood is used for of furniture and as fuel wood.
Malvaceae	*Alcea rosea* L.	Gul-e-Khaira	Roots	April-June	The roots are used in jaundice, stomach pain, urinary ulcers and liver disorders.

Table 1. (Cont'd.).

Family	Species name and accession No.	Vernacular name	Plant part used	Flowering period	Uses
Moraceae	*Morus alba* L. (124541)	Sufaid toot	Fruits		Fruit is edible used in sore throat, fever, dyspepsia and leprosy.
Paeoniaceae	*Paeonia emodi* Wall.ex Hook. f.	Mamaikh	Roots	Apr.-May	Its root powder along with roots of *Geranium wallichianum* Decne. mixed with milk, sugar which is locally called as (Halwa) and is used in backache and internal body pains
Papilionaceae	*Indigofera heterantha* Wall. ex Brand	Ghoureja	Leaves, wood	May-Jun.	Extract of crushed leaves is used in the internal body disorders, also used against infections in the mouth. It is also used as fodder.
Pinaceae	*Cedrus deodara* (Roxb. ex Lambert) G.Don (123715)	Daiyar	Wood		It is carminative used in pulmonary and urinary disorders. Extract from the bark is called locally as (Lao) which is useful in all kinds of internal disorders /pains.
Podophyllaceae	*Podophyllum hexandrum* Royle	Kakorra	Fruits	May-Aug.	Used in liver disorders. The fruit is edible. It is also used as tonic.
Polygonaceae	*Bistorta amplexicaulis* (D. Don) Green (124748)	Anjabar	Roots & leaves	Jul.-Aug.	Root is used in making tea, also used in fever and diarrhea.
Punicaceae	*Punica granatum* L.	Annar	Fruits	April-May	Fruit is edible and the pulp is cardiac stimulant. The juice is cooling and refrigerant. It is also used in diarrhea and dysentery.
Rosaceae	*Fragaria nubicola* Lindl. ex Lacaita	Jangli Straw bnerry	Fruits and leaves	Apr.-Jun.	Fruit is edible, carminative, fruit and leaves are mixed with the leaves of *Berberis lycium* and used in cure of stomach ulcers. It is also used as antiseptic on the wounds externally.
Rosaceae	*Padus cornuta* (Wall. ex Royle) Carriere	Bird Cherry	Wood and fruits	April-May	Its fruit has narcotic action. Wood is used in furniture making.
Rosaceae	*Rubus fruticosus* Hook. f.	Karwara	Fruits	May-Jun.	The fruit is edible

Table 1. (Cont'd.).

Family	Species name and accession No.	Vernacular name	Plant part used	Flowering period	Uses
Rubiaceae	*Gallium aparine* L.	Cleavers	Bark and leaves	Jun.-Aug.	Leaves are used in jaundice, externally used on wounds as antiseptic. It is also anticancerous.
Rutaceae	*Skimmia laureola* (DC.) Sieb. & Zucc. ex Walp.	Nazar Panra	Leaves		The smoke produced from burning of dry leaves is used in cleaning the nasal tract. It cures cold, fever and headache. The dried leaves are also used as insecticides and pesticides.
Rutaceae	*Zanthoxylum armatum* DC.	Dambara	Whole plant	April-May	Wood is used as Miswak (Toothbrush made from branches locally for cleaning teeth) cures toothache. Ripen edible fruit is used in cardiac disorders.
Saxifragaceae	*Bergenia ciliata* (Haw.) Sternb.	Pathar chat	Rhizome and leaves	Mar.-Jul.	The crushed rhizome is used in all kinds of ulcers mainly stomach and duodenal internal infections. Used as tonic and in muscular disorders and as anticancerous drug. It is externally used on wounds as antiseptic.
Solanaceae	*Atropa accuminata* Royle ex Lindley	Bargak	Roots & Leaves	Jun.-Aug.	The plant is sedative, stimulant, antispasmodic and used in cough. Leaves alone are narcotic and diuretic
Taxaceae	*Taxus wallichiana* Zucc.	Banya	Leaves, fruits and wood	Mar.-May	Bark is used in cancer and pneumonia.
Urticaceae	*Urtica dioica* L. (124627)	Bichu Buti	Roots & leaves	Aug.-Sept.	Thorns of the plant are poisonous. Plaster made from crushed root is used for bone fracture/external injury. The roots and leaves are used to make medicine for the cure of chambal (A disease in which white spots are formed on the body).
Violaceae	*Viola canescens* Wall. ex Roxb.	Banafsha	Whole plant	Mar.-May	Flowers and leaves are used in cough, cold and fever. The whole plant is also used in jaundice.

Discussion

The present study provides information on the indigenous uses of 28 important ethnobotanically important plants belonging to 25 families. The important objective of this study was to record the indigenous uses of these plants used by the local women for various purposes. The ethnobotanically important plants are a source of income and cure for the local women.

Ethnobotany helps us in identifying conservation issues such as cases where a rate of harvest exceeds the rates of re-growth. There is an urgent need of conserving the medicinal plants that are over harvested so that in future the coming generations could benefit from these precious plants that are a real gift of nature for the mankind. It is a collaborative venture between people in local communities and various scientists and specialists. A tragedy of the modern times is that the precious ethnobotanical knowledge is disappearing very fast. Westernization, breakdown of traditional cultures and even the extinction of whole tribal groups are responsible. A chief goal of such a study is to ensure that local natural history becomes a living tradition in communities, where it has been transmitted orally for many years. The results of this work can later be applied to biodiversity, conservation and community development. (Martin, 1995).

All over the world the medicinal plants are used with great interests and are active participants in the trade and economy of the country. In China as many as 2394 traditional Tibetan medicines are used all from plants (1106), animals (448) and natural minerals (840) (Yang, 1988). Many of the important medicinal plants are sold at higher prices in the market. As Elisabetsky (1990) reported that annual world market value of the medicines derived from the medicinal plants by the indigenous people is US $ 43 billions. Most of the plants used by the local people are not conserved but are over exploited. It is therefore necessary to find the ways of promoting the local people towards conservation as Shenji (1994) suggested that ethnobotany is the science of documenting the traditional knowledge on the use of plants by the indigenous people and for further assessing human interactions with the natural environment.

Local women are using the plants for various purposes i.e., medication, food, cosmetics, and fodder for the cattle. They have faith on these plants. The ratio of the women using allopathic medicines is negligible because they are directly dependent on plants for medication and other basic needs. The ethnobotanically important and other beneficial plants are quite useful for the basic health and hygiene of the local women. Local women are directly dependent on these plants for cure of different diseases, food, skin care, cosmetics and fodder for the cattle. These plants are a source of interaction between the women and the natural resources of the area. It is very important that the precious ethnobotanical knowledge about the plants should be transferred to the younger generation, which is disappearing very fast. The data can be used in future for pharmacological studies.

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