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## Ethnophytotherapies for the Treatment of Various Diseases by the Local People of Selected Areas of NWFP (Pakistan)

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**Abstract:** The present study was conducted to document the traditional use of medicinal plants as indigenous recipes for the treatment of human and domestic animals. As the people of the area are poor and living far away from the city, so they rely mainly on medicinal plants for various diseases. Flora of the area constitutes a large number of medicinal plants including trees, herbs and shrubs. The present study comprised on data collection from local reliable people of the area by interviewing them in exploring valuable medicinal plants and traditional knowledge about them. In a total of 28 wild plant species belonging to 26 genera and 24 families were used traditionally for medicinal purposes.

**Key words:** Ethnophytotherapies, medicinal plants, diseases, NWFP

### INTRODUCTION

Ayubia and Khanaspur areas come under moist temperate forest zone of the Pakistan and are located at 33-34°N latitude and between 73-74°E longitude. The average annual rainfall is 40-80 inches. It is located in the Himalayan region, which is considered the largest mountainous system in the world. The area under study is located from 2000-3000 m above from sea level. The climate of the area is very cold. Where temperature ranges from -5 to 10°C in winter and 15-30°C in summer. Geologically, soil is mostly loamy and shallow with steep slopes<sup>[1]</sup>. Gymnosperms are present as dominant vegetation, specially conifers e.g. *Pinus roxburghii*, *Pinus wallichiana*, *Abies pindrow*, *Taxus baccata*, *Cedrus deodara* etc<sup>[2]</sup>. The area is also enriched with valuable medicinal herbaceous flora e.g. *Swertia chirata*, *Skimmia laureola*, *Bergenia cillata*, *Artemisia fragrans* etc.

Medicinal plants and their preparations are used all over the world. Most of the people in the rural area rely on herbal remedies as a principle mean of preventing and curing diseases because hospitals are too far away from most of the towns and villages. Transport facility is not reliable for people residing in distant villages. Synthetic medicines are not available or too expensive for local people. As a result local people choose to rely on divine healers and local plants medicines<sup>[3]</sup>. Among the enormous benefits of traditional medicines are that they are cheap, readily available and are the parts of the culture.

Much of the world's population depends upon traditional medicines to meet daily health requirement. Due to importance of medicinal plants a lot of work has

been done in the field of traditional Phytotherapy in Germany, China, France, U.S.A., India, U.K. etc. Germany is the biggest supplier of homeopathic medicines, almost all of which are manufactured from plants. 50% of the pharmaceutical products are derived from plants<sup>[4]</sup>. In the field of traditional medicines, India is one of the countries that had a well-documented indigenous system of medicines, e.g. Ayurvedic system of medicines<sup>[5]</sup>.

Although a little work has been done on ethnobotany but no considerable work has been on traditional Phytotherapy in Pakistan. Now a day's awareness is growing to encourage indigenous production and processing of medicinal plants. The present work is confined to collect the indigenous knowledge of local people about the uses of medicinal plants and to document the common day indigenous recipes by using medicinal plants from local community.

### MATERIALS AND METHODS

The present work was carried out through field survey by arranging many trips in Ayubia, Khanaspur and surrounding areas. The questionnaire was adapted to interview the local people. The fresh specimens were collected, usually with flower and fruits for correct identification. The plants specimens were pressed, identified with the help of Flora of Pakistan<sup>[6]</sup> and confirmation of plants was made at national herbarium of Quaid-e-Azam University, Islamabad. These plant species were mounted on the herbarium sheets and specimens were submitted in the herbarium of Quaid-e-Azam University, Islamabad as a voucher specimen for future studies.

## RESULTS AND DISCUSSION

In total of 28 species belonging to 26 genera of 24 families were recorded as used by the local people as traditional phytotherapies for the control of common day diseases. These ethnophytotherapies were arranged alphabetically by family name of medicinal plants followed by their botanical name, vernacular name, habit and habitat, part used and indigenous uses.

### Family: Acanthaceae

Scientific name: *Adhatoda vasica* L.

Vernacular name: Bahker.

Habit and habitat: It is a herb found along dry and bare places.

Part used: Leaves and young branches

Indigenous uses: leaves, young branches are very bitter in taste. Extract of leaves is used for diabetics. These are used before breakfast early in the morning daily. It is used with domestic ghee or butter.

### Family: Araliaceae

Scientific name: *Hedera nepalensis* K.Koch

Vernacular name: Biliary, Albhambar.

Habit and habitat: Climber of trees, present through out in the Murree.

Part used: Leaves.

Indigenous uses: Leaves in the triturated form used with milk for diabetes. Extract of the leaves is used as anti lice.

### Family: Asteraceae (composite)

Scientific name: *Artemisia fragrans* L.

Vernacular name: Chau.

Habit and habitat: Herb found in hilly areas dry rocky places.

Part used: Leaves.

Indigenous uses: In powdered form used for nausea and vomiting with salt and water also used for fever. With buttermilk used to expel intestinal worms.

### Family: Berberidaceae

Scientific name: *Berberis lycium* Royle.

Vernacular name: Sumbloo

Habit and habitat: Herb, found in hilly places in moderate conditions.

Part used: root

Indigenous uses: It is very important as medicinal point of view. Bark from the roots is removed after drying then extract is obtained from these roots by dipping in water. This extract is used directly as well as in the form of past of different things.

It is directly used for stomach heat, skin diseases (abscess/pimples) and diabetes before the breakfast early in the morning. It is also used for internal trauma. Bark's past with domestic ghee is used for articulation of bones. Dried root bark mixed with *Vigna mungo* and *Triticum vulgare* for men sexual power.

### Family: Berberidaceae

Scientific name: *Berberis lanceolatum* Royle

Vernacular name: Kala Sunmbal

Habit and habitat: It is a small herb with moderate climatic conditions.

Part used: Roots

Indigenous uses: Dry root bark in shad then root bark is tied in white cheese cloth and place it in boiling milk. The ratio between milk and bark should be 1000 and 100, respectively. After crushing the bark completely put it out from the boiling milk. Boil the milk with constant stirring until it become highly viscous. Let it cool now. Use every morning one-teaspoon with fresh milk for arthritis, physical weakness and bone fractures.

Precaution: take complete rest, not to walk and run.

### Family: Cannabinaceae

Scientific name: *Cannabis sativa* L.

Vernacular name: Bhang

Habit and habitat: It is a tall herb commonly found in both plains and hilly areas.

Part used: Leaves.

Indigenous uses: Leaves are boiled in water in 1:2 ratio, when water become half, filter it after grinding the leaves mix with milk, sugar, Badam and use for chest pain. It increases appetite in animals for food when given with flour.

### Family: Fagaceae

Scientific name: *Quercus incana* L.

Vernacular name: Rein.

Habit and habitat: A large tree found in hilly areas.

Part used: Bark.

Indigenous uses: Put the bark in the boiling water for softening and then used it in making halwa for joint pain specially back pain.

### Family: Gentianaceae

Scientific name: *Swertia chirata* Roxb.

Vernacular name: Chraita

Habit and habitat: it is commonly found in wet places near the water.

Part used: Whole plant

Indigenous uses: Extract of whole plant is mixed with

sugar and used for typhoid and malaria. Flower (1/4 kg) boiled with water (2 kg.) boil until water comes at quantity of 1/2 kg, then used for the lower fevers felt in bone of winters. It is bitter in taste and used as tonic for stomach, febrifuge and has anthelmintic properties, also used for diarrhoea and general debility.

**Family: Lamiaceae**

Scientific name: *Mentha arvenses* L.

Vernacular name: Safaid podina.

Habit and habitat: It is wild in nature often found near streams and moist places.

Part used: Whole plant.

Indigenous uses: In powdered form with salt (NaCl) Used for dyspepsia also mixed with *Carum copticum* to stop violent nausea and vomiting. It is beneficially used for blank hemorrhoids if used with slightly warm water in the morning before breakfast.

**Family: Lythraceae**

Scientific name: *Woodfordia fruticosa* Kurz.

Vernacular name: Dahavi, Dawa.

Habit and habitat: Large shrub, found in wildy areas.

Part used: Flowers and fruit.

Indigenous uses: Both flowers and fruit are used as coffee (tea) for ulcers, hemorrhoids and liver affection with diarrhea of any type flower extract obtained after boiling is used to making halwa for back pain. In dried form with water is used for leukorea.

**Family: Meliaceae**

Scientific name: *Melia azedarach* L.

Vernacular name: Dreak.

Habit and habitat: It is found both in dry and wet places.

Part used: Leaves, fruit.

Indigenous uses: Traturation of fruit is used with pint of sugar before breakfast for hemorrhoids (blank or bloody) and used for diabetes without sugar. Extract of leaves is used for skin disease especially in eczema, as because it is much bitter so, used with sugar.

**Family: Moraceae**

Scientific name: *Ficus palmata*. Forssk

Vernacular name: Phagwara.

Habit and habitat: It is found in dry and wet places especially in alkaline areas.

Part used: Fruit and leaves.

Indigenous uses: Should be dried in sunlight only, in triturated form used with milk or water early morning daily for diabetes. Fruit is also considered best remedy for constipation and has an affinity for lungs and urinary

tract. Leaves are boiled with Goat's milk for intestinal problems and also cooked in buttermilk as curry.

**Family: Myrsinaceae**

Scientific name: *Myrsine africana* L.

Vernacular name: Bebrange. (Khukhal)

Habit and habitat: It is found in hilly areas only both at dry and moist places.

Part used: Only fruit is used.

Indigenous uses: Dried fruit in powered form used with butter milk for expulsion of all types of intestinal worms including tap, hook, round and thread worms. Its powerful action kills 95% of worms providing a prophylactic platform for reoccurrence of parasites. It is also useful for cough if used with warm and cream free milk.

**Family: Plantaginaceae**

Scientific name: *Plantago major* L.

Vernacular name: Chamchipatra, Batti

Habit and habitat: Small herb commonly found in wet places but also present in dry places.

Part used: Seeds.

Indigenous uses: Seeds are used with salt and water for rumbling dyspepsia. It is also useful for chronic dysentery, diarrhea and habitual constipation.

**Family: Punicaceae**

Scientific name: *Punica granatum*. L.

Vernacular name: Darunny.

Habit and habitat: Wild and hilly areas.

Part used: Whole plant.

Indigenous uses: Rind of fruit dried in sunlight and powered form mixed with flour Administrated to the domestic animals for reverse of peristalsis. Juice of the fruit is boiled with *Capsicum annuum* is used for astringent and cough. Bark of the fruit, water of the boiled flowers are also useful for diarrhea.

**Family: Polypodiaceae**

Scientific name: *Dryopteris ramosa*

Vernacular name: Pakhi

Habit and habitat: It is a small herb found in moist places.

Part used: Leaves and roots

Indigenous uses: Leaves and roots in the powdered form used with butter as ointment for burned skin.

**Family: Ranunculaceae**

Scientific name: *Paeoni emedi* L.

Vernacular name: Mamaikh

Habit and habitat: It is herb found in hilly areas.

Part used: Root

Indigenous uses: Dried root mix with *Geranium wallichianum* and boil them in milk and after filtration, filtrate is used for muscular pain and back pain.

**Family: Rhamnaceae**

Scientific name: *Zizyphus jujuba* Lam.

Vernacular name: Beri

Habit and habitat: Wild plant found also at dry and moist places.

Part used: Leaves and fruit.

Indigenous uses: It is a blood purifier also useful in flu and cough. Extract of leaves is used with sugar for diarrhea and fever. Fruit of *Zizyphus*, *Rosa brounii* and *Rosa indica* flower are boil and mix sugar is used for obstinate constipation. It is also used with butter milk for stomach problem in cattles.

**Family: Rosaceae**

Scientific name: *Rubus fruticosus* L.

Vernacular name: Akha.

Habit and habitat: It is an herb commonly found in cold and moist hilly areas

Part used: Root, Fruit

Indigenous uses: Boil the roots in water in 2:3 ratio, then bark with of water used for making halwa for acne fractures, hepatitis and abscess. Leaves and root are used with honey for infantal hepatitis. Fruit is used for diarrhea

**Family: Rosaceae**

Scientific name: *Fragaria nubicola* Lindl. Ex. Lacaita

Vernacular name: Punjakha

Habit and habitat: Wild herb and found in moist hilly areas

Part used: Fruit and leaves

Indigenous uses: Leaves and fruits in the powdered form mixed with *Berberis lycium* used for stomach ulcer. Its extract is also used for curing external wounds.

**Family: Rutaceae**

Scientific name: *Skimmia laureola* M. Roem

Vernacular name: Nair

Habit and habitat: Small shrub only present in the hilly areas.

Part used: Whole plant

Indigenous uses: Leaves are burned near the small pox patient for cure. It is soaked in water for some time and then this water is given to the animal for the skin cures. Stem without bark is crushed and used in scorpion and snake bite. Traditionally its smoke is used to get rid of ghosts affecting human race.

**Family: Rutaceae**

Scientific name: *Zanthoxylum alatum* Roxb.

Vernacular name: Timber, Timmer

Habit and habitat: It is a shrub commonly found in moist areas.

Part used: Fruit

Indigenous uses: Dry fruit is mixed with salt, *Mentha arvensis* and *Carum capticum* for blanks, dyspepsia and headache.

**Family: Saxifragaceae**

Scientific name: *Bergenia strechei* (Hook. f. and Thoms.) Engl.

Vernacular name: Batvia, butphay

Habit and habitat: Herb, found only in hilly areas at the rocks

Part used: Root.

Indigenous uses: Roots dry only in sunlight, after removing the bark grind and used with yogurt for bladder problems, with milk cream for hemorrhoids and with cold water or milk used for gastric ulcer.

**Family: Scrophulariaceae**

Scientific name: *Verbascum thapsus* L.

Vernacular name: Geeder tumbacoo.

Habit and habitat: Herb found in both dry and moist alkaline areas.

Part used: Leaves and flowers.

Indigenous uses: Extract of flowers with olive oil is used to reduce the pain and inflammation of ear, insect bites and sore joints. It is traditionally smoked by the people for lung congestion, urine tract infection and diarrhea.

**Family: Solanaceae**

Scientific name: *Solanum nigrum* L.

Vernacular name: Kachmach.

Habit and habitat: It is common weed found along the road side and cultivated fields.

Part used: Leaves and fruits.

Indigenous uses: Extract of the leaves is used for eye diseases, diarrhea, rumbling and swelling. Extract of leaves with honey is specially is used in infantile jaundice and also used as curry. Fruit has special affinity for lungs and blood vessels.

**Family: Urticaceae**

Scientific name: *Urtica dioica* L.

Vernacular name: Bichoo booti.

Habit and habitat: Shrub found mainly hilly area and also plane areas.

Part used: Leaves.

Indigenous uses: It is used for animals to increase the milk production and improve the general health. One gallon young nuttle tops, two leeks onion, two heads small cabbage, 1/4 pound rice and one teaspoon salt are combined, boiled them and give them with butter.

**Family: Violaceae**

Scientific name: *Viola canescense* Wall. Ex. Roxb.

Vernacular name: Gull-e-Banafsha.

Habit and habitat: It is small herb found in moist places

Part used: Flower, root

Indigenous uses: Decoction of the whole plant is used for catarrh, flu and cough. It is used with petals of *Rosa indica*, flowers of *Rosa brononii* and sugar for hepatitis, fever and headache.

**Family: Violaceae**

Scientific name: *Viola odorata* Wall. Ex. Roxb

Vernacular name: Banafsha.

Habit and habitat: Small herb found only in hilly areas.

Part used: Leaves and flowers.

Indigenous uses: Violet leaves and flower are used to make cough syrup and relieve sinus and lung congestion. Tea of violet leaves is used for congestive headache and also used for fever. 1/2 cup sugar, 1/2 water, with a fist of violet petals and three lemons. 1st mix all the ingredients except lemon let it boil for 10 min at low fire temperature then let it be cold, now add lemon juice and blend well.

**DISCUSSION**

A study based upon indigenous knowledge of medicinal plants was made in Ayubia, Khanspur and surrounding area of NWFP. A total of 28 species of 26 genera belonging to 24 families were reported during study, as used by the local people of the areas. The medicinal plants of the areas are interactly linked with the tradition and culture of local people and due to the same reason the survey yielded interesting results.

During the study it was also found that some medicinally important plants are over harvested due to their extensive usage and because at the edge of extinction, e.g. *Berberis lanceolatum* which is used for arthritis, general debility and bone fracture in a very interesting manner. Root is dried only in shady places then root bark is tied in white cheese cloth. Bark is put in boiling milk in 1:10 ratio, respectively. When bark is completely crushed, put the bark out keeping milk to boil until it become highly viscous. After cooling, use it early morning one teaspoon with fresh milk. According to the local people precautionary measures should be made e.g. lifting of weight or walking too much should be avoided.

It was also noted that the young generation is not fully aware of valuable medicinal flora as compared to old persons. Government should start awareness programs to involve local people in conserving medicinal plants. Moreover government should give incentives to local people to become able for this deed.

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