Ethno-Medicinal Plants of Tahsil Barawal Bandi Dir Upper Khyber Pakhtunkhwa Pakistan

Wahid Hussain1*, Abbas Ullah2, Javid Hussain3, Sajid Hussain4, Zabta Khan Shinwari5, Muhammad Ibrar2

1 Department of Plant Sciences, Kohat University of Science and Technology Kohat-26000, Pakistan. 2 Department of Botany, University of Peshawar -25000, Khyber Pakhtunkhwa, Pakistan. 3 LABIOMAR, Institute of Biology, Federal University of Bahia-40000-000, Salvador, Brazil. 4 Department of Pharmacy, Havelian Campus Hazara University -22010, KPK Pakistan. 5 Department of Biotechnology Quaid-i-Azam University-45000, Islamabad Pakistan.

ARTICLE INFO

Article history:
Received on: 11/04/2014
Revised on: 21/04/2014
Accepted on: 30/04/2014
Available online: 28/07/2014

Key words:
Ethno botany, Medicinal plants, Barawal Bandi, Medicinal uses, Pakistan.

ABSTRACT

This study is carried out to identify the folk knowledge medicinal plants of Tahsil Barawal Bandi, District, and Dir Upper Khyber Pakhtunkhwa Pakistan. Various field trips were made to collect medicinal plants and ethno botanical information. A total of 62 species belonging to 36 families have been found to be used by the local people for curing various diseases. This efforts includes the local name, family name, flowering season, part used and folk knowledge of medicinal plants.

INTRODUCTION

Barawal area is located at 35° 00’ 45.27”N and 71° 50’ 40.14”E and at altitude range from 5000-7000. The valley of Barawal lies in the extreme end of the District Dir Upper. It is bordered by proper Dir on the East side, Maidan on the south and on Samarbagh the West, while on North-west side it is bordered by the land lock country Afghanistan and Chitral District. The main Barawal valley has small sub-valleys of Attan, Shingara, Bin, Nusratt and Sonai. The valley makes part of Dir Tahsil, sub-divides in to four union councils; the total number of recognized villages is 140 with numerous small hamlets/settlements. Human population is 82000 according to the senses of 1998. The climate of Barawal is dry-temperate with precipitation mainly in the form of snow (Hamayun et al., 2007; Ali et al., 2011). Rains are mostly in winter and spring, summer months are pleasant while winter is very cold and severe. Temperature rapidly falls from November onwards and is generally below the freezing point (Hazrat et al., 2010). The relative humidity is quite high throughout the year. The rainfall is received throughout the year. The winter rainfall is more than the summer rainfall.

The maximum winter precipitation has been recorded during the month of March, which is about 242 mm (Abbasi et al., 2008). Harsh Berger introduced the term Ethno botany in 1896. Ethno botany deals with the direct, traditional and natural relationship of primitive settlements with the environment (Shinwari et al., 2001). Ethno botany, a branch of Ethno biology, is defined as the science of traditional uses of plants. It is the systematic study of the botanical knowledge of a social group and use of locally available plants for foods, medicines, clothing or religious rituals (Ahmad et al., 2006). Ethno botany deals with the direct traditional and natural relationship between human societies and plants (Ahmad et al., 2007; Khan et al., 2007). It has been recognized as a multidisciplinary science, comprising human uses of plants, History, Anthropology, Culture and Literature. Its importance has been realized mainly due to the diverse economic importance of plants among the primitive human societies.
It brings to light many little known or unknown uses of plants, some of which have potential for wider usage. It has also been in relevance with conservation of genetic resources (Nasir et al., 2011). These plants when used medicinally have synergy and harmony with human body due to combination and interaction of the chemical constituents they contain. These various chemical works to gather to reach equilibrium in the body as they do in the plant, and so produce gentle progressive healing with in a body tissue (Hussain et al., 2012; Hussain et al., 2013).

MATERIAL AND METHODS

In order to obtain ethno medicinal information of the area, four trips of Barawal Bandi were made from February to June for collection of medicinal plants at their flowering periods. Plants specimens were collected from various localities of research area. The collection was tagged on the spot, the local names and their medicinal uses were asked from the aged knowledgeable people of the area. The collected specimens were properly dried and pressed in plant presser in shade condition. The dried specimens were mounted on herbarium sheets and botanically identified by Taxonomist. The identified specimens were confirmed from flora comparing the plant with different herbarium specimens deposited in the herbarium of Botany Department, University of Peshawar for reference.

RESULT AND DISCUSSION

A total of 62 species belonging to 36 families have been used by the local people for treatment of various diseases. All plants are alphabetically arranged with their botanical name, local name, family and part used of medicinal plants in the Tahsil Barawal.

Total Sixty two species of medicinal plants (Table 1) were collected from Tahsil Barawal Bandi, Dir Upper, and Khyber Pakhtunkhwa Pakistan belonging to 36 families. The area is very rich as regard to Medicinal plants. Medicinal plant are considered to be important from economic point of view as these plants are used to cure various ailments as well as for other purposes like fodder, shelter, food, furniture etc (Ajaib et al., 2010). Plants are considered as chief source of medicine and also get preference as they are considered harmless as compared to synthetic drug (Arshad et al., 2011). Traditional knowledge regarding the use of medicinal plants is not uniformly distributed among the people; the old aged people and Hakims are more experienced and have knowledge about the use of wild medicinal plants, Amanthus viridis, Cynodon dactylon, Coriandrum sativum, Ficus carica, Foeniculum vulgare, Olea ferruginea, Solanum nigrum, and Taraxacum officinal were reported for curing kidney problem. Mostly they are used in the form of powder or decoction. Ajuga bracteosa, Melia azedarach, Olea ferruginea, Punica granatum, and Ziziphus sativa are used in the area for various ways as astringent, Berbris lyceum, Datura stramonium, Mentha longifolia, Oxalis corniculata and Solanum nigrum are used as antispasmodic agent. The same therapeutic action has also been reported from the inhabitant of the research area. Endo parasitic storms that causes severe gastric and other health problems especially in children were cured by traditional people using plants. Euphorbia helioscopia, Ficus carica, Fumaria officinal, Juglans regia and Punica granatum, were used as anthelmintic (A substance causes the death or expulsion of parasitic worms) drugs. Four plants such as Coriandrum sativum, Foeniculum vulgare, Mentha longifolia and Solanum nigrum are used as carminative. The Solanum nigrum and Ziziphus sativa are used as in various ways as expectorant. Similarly Artemisia maritima, Convolvulus arvensis, Euphorbia helioscopia are used as purgative. The plants which are used as emollient are Amanthus viridis, Ficus carica, and Plantago lanceolata. These plants contain rutin, lysine, carbohydrates, sugar, gum, tryosin, cravin, fixed oil, glycoside, pent sans and mucilage. These substances may be responsible for its emollient properties. Locally Artemisia maritima and Oxalis corniculata are used for diarrhea. Plants such as Artemisia maritima, Convolvulus arvensis, Euphorbia helioscopia, Fumaria officinal, are used as purgative. They contain fixed oil cusculin, latex, fatty acid, fumacic acid, trizonelline and resin. These compounds might be responsible for such action. So the result of the collected plants shows that if proper attention is given to the area, it will provide a best source of income and raw material for the synthetic drugs. Majority of them are found vulnerable due to their over use, slow growth rate, quantity of consumption and pressure like grazing, erosion and fuel wood collection.

Table 1: Medicinal plants of Tahsil Barawal Bandi, Dir Upper Khyber Pakhtunkhwa Pakistan.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Voucher number</th>
<th>Botanical Name</th>
<th>Family</th>
<th>Local name</th>
<th>Part used</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>11310</td>
<td>Acorus calamus Linn.</td>
<td>Araceae</td>
<td>Skhawaja</td>
<td>Dried rhizome</td>
</tr>
<tr>
<td>2.</td>
<td>11311</td>
<td>Ajuga bracteosa Wall ex. Benth.</td>
<td>Lamiaceae</td>
<td>Gouti</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>3.</td>
<td>11312</td>
<td>Amanthus viridis L.</td>
<td>Acanthaceae</td>
<td>Khorrai</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>4.</td>
<td>11313</td>
<td>Andrachne cordifolia wall. ex Decne</td>
<td>Euphorbiaceae</td>
<td>Kameray</td>
<td>Leaves and Twigs</td>
</tr>
<tr>
<td>5.</td>
<td>11314</td>
<td>Artemisia maritima Linn.</td>
<td>Asteraceae</td>
<td>Tarkha</td>
<td>Flowering Tops</td>
</tr>
<tr>
<td>6.</td>
<td>11315</td>
<td>Avena sativa L.</td>
<td>Poaceae</td>
<td>Jawdar</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>7.</td>
<td>11316</td>
<td>Barberis lyceum Royle</td>
<td>Berbideracea</td>
<td>Kwarey</td>
<td>Leaves, Root, Fruit and Bark</td>
</tr>
<tr>
<td>8.</td>
<td>11317</td>
<td>Capsella bursa pastoris L.</td>
<td>Brassicaeae</td>
<td>Bumbusa</td>
<td>Aerial parts</td>
</tr>
<tr>
<td>9.</td>
<td>11318</td>
<td>Cannabis sativa L.</td>
<td>Canabinaeae</td>
<td>Bhang</td>
<td>Leaves and Flowering tops</td>
</tr>
<tr>
<td>10.</td>
<td>11319</td>
<td>Celtis australis L.</td>
<td>Ulmaceae</td>
<td>Tagha</td>
<td>Leaves, Fruit and Wood</td>
</tr>
<tr>
<td>11.</td>
<td>11320</td>
<td>Cichorium intybus L.</td>
<td>Asteraceae</td>
<td>Karseh</td>
<td>Leaves and Roots</td>
</tr>
<tr>
<td>12.</td>
<td>11321</td>
<td>Coriandrum sativum L.</td>
<td>Apiaceae</td>
<td>Dania</td>
<td>Fruit and Leaves</td>
</tr>
<tr>
<td>13.</td>
<td>11322</td>
<td>Convolvulus arvens Linn.</td>
<td>Convolvaceae</td>
<td>Pirwatkai</td>
<td>Whole Plant</td>
</tr>
<tr>
<td>14.</td>
<td>11323</td>
<td>Conyza canadensis L.</td>
<td>Asteraceae</td>
<td>Ghajabaie</td>
<td>Whole Plant</td>
</tr>
</tbody>
</table>
CONCLUSION

The relationship between humans and plants has always been very important. Plants play a vital role in every aspect of our lives and without them life is impossible. Plants not only maintain the concentration of gases in the atmosphere, but organisms also capable to trap solar energy into chemical energy on which all other forms of life ultimately depend upon. The present study work indicated that the study area is rich in medicinal plants and the knowledge of medicinal plants is limited to traditional healers and elderly persons, who are living in the rural areas. Certain species like, Ajuga bracteosa, Berberus lyceum Mentha longifolia, Mentha piperita, Punica granatum and Viola serpens, are being exploited by the local inhabitants, who are unaware of the importance of these plants. In order to conserve these useful implementation and monitoring processes. Forest rule must be overhauled by taking villagers into confidence; collection of medicinal plants carried out by collectors may be streamlined in such a manner to provide sufficient regeneration time to the plant, and no more extraction may be allowed for a period of few years. In order to avoid further loss of endangered, endemic and rare species, conservation method should be practiced. Many people in the study areas of Tahsil Baraval still continuously depend on this knowledge for future generations.
REFERENCES


Abbasi, AM, Khan MA, Ahmad M and Zafer M. Herbal medicines used to cure various ailments by the inhabitants of Abbottabad District, NWFP, Pakistan, Indian Journal of Traditional Knowledge, 2008; 9 (1) 15-183.

Ahmad M, Khan MA, Zafer M and Sultana S. Treatment of common ailments by plant based remedies among the people of District Attock (Punjab) of Northern Pakistan, Afr J Trad CAM, 2007; (1) 112-120.


Hamayun M. Traditional uses of Medicinal plants of Swat valley, Pakistan, Indian Journal of Traditional Knowledge, 2007; 6 (4) 636-641.


How to cite this article: