

A Comprehensive Review of Ethnobotanical Plants Used By The People of Pir Panjal Range in (Jammu Division) Union Territory Himalaya of Jammu & Kashmir-India

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Abstract

The current paper provides a taxonomic inventory of the medicinal plant species collected by the author during the last one decade from Pir Panjal range in (Jammu Division) Himalaya of Union territory Jammu & Kashmir- India. The inventory records a total no of 76 medicinal species belonging to 45 families of the total taxa were recorded for the medicinal Purposes.

The inventory is expected to provide scientific data. It provides baselinescientific data for further studies on plant diversity in Jammu division and can be used to facilitate the long-term conservation and sustainable use of medicinal plant resources in the Himalaya region, and among all the families Cucurbitaceae and Euphorbiaceae were found to be most dominant families in term of the species in the areas with 06 species, followed by Polygonaceae and Rosaceae.

Keywords: Ethnobotanical; Medicinal Plants; Jammu division; Pir Panjal; Himalaya; J&K-India

Introduction

Plants are remarkable source of valuable substances for human beings. These are showing variation in their habitat as well as their habit. As per climatic condition, the plants are showing their presence in different sites. Plants are essential for healthier life because they provide us medicines, which are both effective and safe, without any side effect. Some pathological conditions in human being that could not be fully treated by conventional pharmaceutical are numerous for this reason, there is a growing tendency in use of herbal preparations [1]. The world health organization (WHO) estimates that 80% of the world population depends on plants remedies for its primary health care needs The local peoples of the rural areas have good knowledge about the uses of plants and they prefer medicinal plants due to their easy availability and cheap therapy as compared to costly pharmaceuticals. The traditional Practioners are playing an important role in providing health coverage to 75% of the population residing in villages and rural areas. Maximum 76% rural peoples depend on forest products for fulfilling their daily needs. India ethnobotanical work has been

done in the past while in all these studies qualitative approaches have been adapted to document ethnobotanical information Ethnobotany of Jammu division Union territory, Jammu & Kashmir is getting various studies have been reported from various parts of the areas [2]. While in contrast, ethnobotanical research has been somewhat neglected in the south foot hilly areas of district rajouri province Jammu particularly. In province Jammu, few studies were carried out my some Scholars and Scientists in the past like, Conducted research Flora of Jammu and Plants of Neighborhood Flora of upper Liddar Valleys of Kashmir Himalaya. Ethnobotanical study of useful climbers creepers and twiners of Baba Ghulam Shah Badshah University campus and adjoining areas of district rajouri Jammu and Kashmir. Ethnobotany of medicinal plants in district Mastung of Balochistan province Pakistan. The present study can be considered as the first time and one which deals with an ethnobotanical study on medicinal plants in this region. Jammu division has also got importance for its topography as well, inside having high mountains, with desert habitats and having high rich diversity of medicinal plants. The rural areas of the Jammu division still depend on these wild plants for cure the disease and having a good ethnobotanical knowledge about medicinal plants. but currently the ethnobotanical knowledge is disappearing very fast from the urban areas of the Jammu division because of being closer to and bounded with the capital city of province Jammu' having health and other facilities [3].

The aim of the current research is to highlight the key of medicinal plants in Jammu division of Pir Panjal range Himalaya of **Union territory** Jammu & Kashmir- India.

The aim of this study was to document ethnomedicinal uses of plants and analyzed ethnobotanical information using quantitative indices of information consent factor (ICF) , fidelity level (FL), use value (UV), use report (UR) frequency citation (FC) and relative frequency citation (RFC).

Literature Review

Jammu division has an area of 26.64 km² with ten districts. Jammu, Doda, Kathua, Ramban, Reasi, Kishtwar, Poonch, Rajouri, Udhampur and Samba, Union territory: Jammu and Kashmir. According to the census 2011,

the total population of Jammu Division is 5,350,811. Its lie between... 18', East longitude and 32 degree 50' and 33 degree 30' North latitude. The Jammu division presents a composite culture Pahari, Gojri, Dogri and Kashmiri. Irrespective of ethnic groups all speak the pahari language with easily. The climate varies from semi-tropical in the sourthen part to temperate in the mountainous northen part. The sub-tropical region receives regular monsoons whereas the northen part prone to hailstorms experiences excessive rains. The Jammu division is drained by small and big rivers. Some of the tribal peoples annually migrate during winter from higher altitudes to lower, During the summer from lower to higher altitudes with their families along with Cattles (Sheeps, Goats, Horses etc.,) Migration to other countries is 14.9% for their bread and butter of all migrants. Migration starts in April ending and continues till June. The migrants return from September and continue till November [4].

Jammu division is the major earning means of the peoples in the region. Nearly 57% of the population of Jammu division depends on agricultures. Important cultivated plants are wheat, maize, potato, onion, and other vegetables. Some of the local inhabitants collect medicinal plants from forests, deserts, mountains and plains and sell them to the local traditional herbs sellers in very cheap prices [5]. Local traditional herbs sellers then supply these plants to the pharmaceutical companies in good prices. The Jammu division has been released with diverse flora included a great numbers of medicinal plants. The rural areas of the division are still dependent on medicinal plants for their health care because of lack health centers in the area. If the sustainable use of wild flora and cultivation of medicinal plants are promoted in the area, this will strongly affect on the socio-economic condition of the local inhabitants. For the study and documentation of medicinal plants, intensive exploration trips were conducted about twelve months from January 2019 to February 2020. The questionnaire was mainly focused on the ethnobotanical claims and traditional believes of local communities and nearby peoples. The interviews were conducted using the local languages that are Phari, Gojri, Urdu, as the first author is a local person of the region for the ethnobotanical information, a total no 197 inhabitants of the area were interviewed. 86 women, 99 men, and 12, traditional healers were interviewed. The informants were divided into three different age of groups i.e. 22-42-43-63-64-84- years old. All the informal meetings were held 26 different villages of the district rajouri province Jammu [6].

The plants were collected during twelve months (January-2019- to Faburary-2020).The Jammu division covering almost all the seasons of the year and from all the parts of districts. The collected plants specimens were dired and preserved processed as per routine herbarium techniques recommended by Jain and Rao (1977) for reconfirmation of plants identification, the flora of Flowers of the Himalaya. Vouchers specimens were deposited in the herbarium, Centre for Biodiversity Baba Ghulam Shah Badshah University rajouri for futures references [7].

The index is obtained by dividing the number of informants mentioning a useful species FC or frequency of citation by the total number of informants in the survey (N). RFC value varies

from 0 (when nobody refers to plants as a useful one) to 1 (when all the informants mention it as useful). RFC index, which does not consider the use-category (UR or use-report it is a single record for use of a plant mentioned by an individual) [8].

Where UV is the use value of a species, 'U' is the number of use reports cited by each informants for a given plant species and 'n' is the total number of informants interviewed for a given plant. The UV is applied in determining the plants with the highest use (most frequently indicated) in the treatment of an ailment, while use report (UR) is the use recorded for every species. A total no of 197 inhabitants of the Jammu division (40%) women, (30%) men and (09%) men traditional healers of different age of groups were interviewed. The informants were divided into three different ages of groups. Most of the informants above belonged to the age of 60 year and many informants were categorized in total 45 families and 76 species with local name of the plants, family name their uses and parts of the plants used for their medicinal values, use repot(UR) use value,(UV) frequency citation (FC) and relative frequency citation (RFC) are listed. The best represented used families in terms of the number of species are cucurbitaceae. The results of the study showed that Cucurbitaceae is the largest medicinal plant family. The values and characteristics of family, Curcurbitaceae as a Predominant in this area, among all the families Cucurbitaceae and Euphorbiaceae were found to be most dominant families in term of the species in the area with 06 species, followed by Polygonaceae and Rosaceae [9].

It was also noted that the leaves are more accessible or available in nature and are relatively more abundant as compared to other plant parts which may explain why they are used, while the frequent use of whole plant in the region may be that the area is mountainous and very less rain falls in the region, mostly plants are herbaceous and wild bushes. The informant consensus factor (ICF) of medicinal plants in our study ranges from (0-1.0) Antidote category has highest ICF Value (1.0) in which only one species *Calotropis procera* is used for snake bite and scorpion stung. The second highest value observed is for respiratory disease (0.39). the least agreement between the informants was observed for plants used for nose, ear and throat disease (ENT) (Earache, throat inflammation) and eye disease both having the zero ICF. Majority of the people of the areas are educated but especially in the rural areas are 56% illiterate of the division and the earning sources of the locals are only agriculture and livestock. Some of the local inhabitants collect medicinal plants. *Momordica charanita*, *Punica granatum*, *Phyllanthus emblica*, *Raphanus Sativus*, *Zanthoxylem armatum*, *Zingiber officinale* *Mentha arvensis*, *Litsea glutinosa*, *Lathyrus aphaca* and sell them to the local herb sellers in very cheap prices and these species are traded to the pharmaceutical companies in good prices. Over grazing point, urbanization, and uprooting of medicinal plants and serious threat in the areas, these threats increase the risk of their extinction and calls for a strict control over their protection by the authorities. The sustainable use of wild flora for cultivation of medicinal plants should be promoted in the area. This will strongly improve the socioeconomic condition of the local inhabitants [10].

Conclusion

This study first documented the information about the traditional medicinal plants in Pir Panjal range in Jammu division Himalaya of **Union territory** Jammu & Kashmir-India. The area is rich in medicinal plants and these plants are still commonly used for medicinal purpose of people in their daily lives. There is a gradual loss of traditional knowledge about these medicinal plants in new generation. Thus it is felt important to document and reconstitute the remainders of the ancient medical practice which exist in the area as well as other part of the region and Preserve this knowledge for future generation. Provide a list of some alpine plants reported their concise taxa-ethnobotanical observation made in some rural areas of Rajouri. Thus, such type of study may also bring to light some new source of drugs for control the disease. This study also provides basic for the conservation of the local flora; It will also provide various socio-economic dimensions associated with the common people.

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