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Medicinal Plants Used By Traditional Healers in UNA District of Himachal Pradesh (North Western Himalayan Region), India

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Abstract: *The present study was conducted in a Swan river (Main River of district) catchment area of district Una (H.P) to accumulate knowledge regarding diversity of plant resources that are used by local people for medicinal uses and to preserve the traditional way of curing aliments which are losing its importance in young generation. The plant kingdom represents a rich house of organic compound, many of which have been used for medicinal purposes and could serve as good efficacy in various pathological disorders in the coming years. This knowledge could be utilized in formulation of drugs in various discipline of medicine. Survey Questionnaire, participatory observations and field visits were planned to illicit information. Study revealed that 57 plant species are commonly used by local people for curing various diseases. In most of cases Leaf(11spp.); whole plant parts and seed (10spp.) each ;root(6spp.);flower(4spp.) ;flower and leaf (4spp.); leaf and root(3);rhizome, root and bark, leaf and bark, root leaf and bark; fruit and root; bark fruit leaf (1spp.) each. Implication of developmental activities and changing socio economic condition on traditional knowledge is also discussed. This study too revealed that rural people in this area still continue to depend on medicinal plants at least for the treatment of primary health care.*

Keywords: *Catchment area, Diversity, Organic compound, Survey Questionnaire, Participatory observations*

I. Introduction

India is the one of the biodiversity rich country in the world. There are 4 global biodiversity hot spots namely Eastern Himalayas, Sunderland, Indo-Burma and Western Ghats and Srilanka (Anonymous, 2009) which are treasure of medicinal and economically important plants. The diverse natural habitats all over the Himalayan Region are rich repositories of plant diversity that are used for a variety of purposes i.e., food, fiber, fodder, medicine, spices, dyes, making agriculture implements etc. A large number of plants from the wild/cultivated are widely used in traditional systems of medicine.

From immemorial, the indigenous communities, all over the world, have been depending upon the ambient natural resources for their sustenance. This indigenous knowledge has evolved independently in a variety of ecosystems in different parts of the world (Jain and Sharma, 2000).However, due to changing perception of the user communities, commercialization and socio-economic transformation all over the world, there has been a general observation that the indigenous knowledge on sustainable use of resources has degraded severely (Gadgil *et al.*, 1993), and needs to be documented before it is lost forever to posterity.

In the Indian Himalayan Region the use of medicinal plants is still a tradition continued by local people or ethnic communities. Even today still traditional health care practices hold much potential or most of the people depend upon local flora due to easily approachable to their habitat. Utilization of plants for medicinal purposes in India has been documented long back in ancient literature (Charak and Drdhbala, 1996).

In India, it is reported that traditional healers use 2500 plant species and 100 species of plants serve as regular sources of medicine. The knowledge of medicinal plants has been accumulated in the course of many centuries based on different system such as ayurveda, unani and siddha. However, organized studies in this direction were initiated in 1956 (Rao, 1996) and of late, such studies are gaining recognition and popularity to preserve not only traditional knowledge but also deteriorating useful plant species.

Many studies have been carried out on the use of the economical and medicinal plants in the Himachal Pradesh State viz. Kangra valley (Ahluwalia, 1952; Uniyal & Chauhan, 1971), Kullu (Rastogi, 1960; Uniyal & Chauhan, 1972; Dobriyal *et al.*, 1997), Chamba (Gupta, 1961, 1971; Shabnam, 1964). Comparatively, information pertaining to folk and ethno botanical practices is scanty for Himachal Pradesh in general but, such kinds of studies have not been attempted in this area. Hence, an attempt has been made to document the precious indigenous wisdom on the medicinal usage of plants from the catchment area of swan river with a view not only to conserve it from being lost irreversibly to growing anthropogenic pressures but also for using them as valuable clues for social forestry endeavors, therapeutic agents, and sustainable management of species as well as their habitats

Right from its beginning, the documentation of traditional knowledge especially of traditional uses of plants, has provided many important drugs of modern day. Even today this area holds much more hidden treasure as almost 80% of human population in developing countries is dependent on plant resources for health

care. There are considerable economic benefits in developing old indigenous medicine and in the use of medicinal plants for treatment of various diseases.

II. Materials and Methodology

A. The study area and survey

Una has been one of the smaller districts of Himachal Pradesh, which is located in the western part of the state along its boundary with Punjab. The latitudinal and longitudinal extent of the district is from 31°-17′-52″ to 31°-52′- 0″ north and 75°-58′- 02″ to 76°-28′-25″ east respectively. The total geographical area of the district is 1540 sq. km which is about 2.8 % of the total area of the state. About two thirds of the district has an elevation between 300-600 meters and the remaining about one third between 600-900 meters from the sea level. A few ridge tops and peaks also have elevation more than 900 meters. River swan is the main river of the area fed only by rainwater situated in Shivalik foothills of northwest Himalayas. Its total length is 55kms.River overflows and erodes the banks during monsoon and causes damages to property and flora lying near the periphery of the river. Swan Catchment Area in Una district, Himachal Pradesh (The study area) shown in (figure-1).

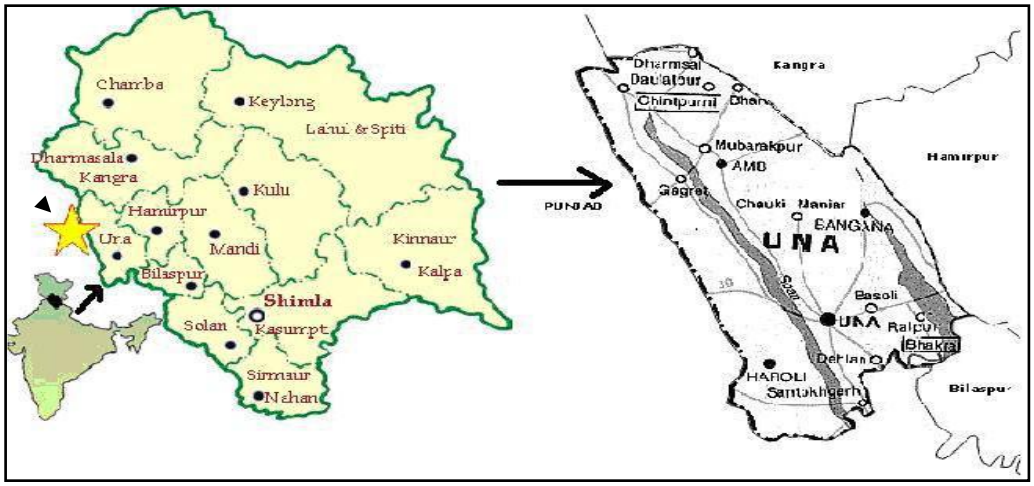

Figure 1.map of study area showing localities surveyed

B. Methodology

Data was collected according to the methodology suggested by Jain and Goel. Reconnaissance survey of the area was conducted during October 2014 to september2015.local healers called vaids (traditional healers), native people and resource persons mainly elder persons using medicinal plants for curing various diseases were interviewed for documenting the information in their local dialect (Unabi).

Authentication of the collected specimens were got done by carefully matching with authentic specimens housed in the herbarium of northern circle of Botanical Survey of India (BSI).Data was tabulated plant name, family, local name, parts used.

III. Results and Discussion

India has a rich heritage of using plants as a medicines and Indian system of medicines utilizes 80% of the material derived out of plants. In India, there are at least 2,500 plant species having great medicinal value and most of them are growing wild. Out of these750 plant species form the ingredient of 14,000 published recipes of Ayurveda, Sidha and Unani medicines (Dey, 1980). Jain (1964) wrote on the role of botanist in folklore research. He writes that folklore research study of all aspect of intellectual and material culture of indigenous or backward people. Arora (1987) described ethno botany and its role in the domestication and conservation of native plant genetic resources. He gave the detail account of the area where ethno botany has still a great to do. kapur (1996) highlighted the traditionally important medicinal plant of Bhaderwah hills. Chauhan (1999) described medicinal and aromatic plants of Himachal Pradesh. Sharma *et al*., (2003) gave an account on commercially importance of medicinal and aromatic plants of Parvati valley (Himachal Pradesh). Prakash & aggarwal(2010)highlighted the traditional uses of medicinal plants of lower foot-hills ,Himachal Pradesh. kaur *et al*., (2011)studied the uses of plants in control of different diseases in Mandi district ,Himachal Pradesh.

In the present study, 57 species belonging to 31 families were reported after undertaking the survey and having conversation with traditional healers, elder local persons (table1). It was found that dominated medicinal plants of this region are main source of primary health care. Majority of elder persons had sound knowledge of

medicinal plants and use of these plants in their daily life, while younger generations lack this. These plants are used in the forms of decoction, juice, powder, paste and whole plant extract. Three species belongs to monocotyledons and the remaining 53 species to dicotyledons. amongst the dicotyledonous families, Fabaceae(8spp.) with the most dominant family followed by , Euphorbiaceae (6spp.), Solanaceae(4spp.) Amaranthaceae, Moraceae and Combretaceae(3) ,Acanthaceae, Liliaceae, Rutaceae, Meliaceae ,Menispermaceae(2 spp.) and the rest of the families are represented by one species each. These medicinal plants are mainly used for the treatment of rheumatism and joint pain, diuretic, cough, diarrhea, skin disorder, fever, asthma, intestinal infection, stomach problem, burns, obesity, jaundice and digestion. leaf was the most widely usedplant parts accounting for 11 species in total of 53 reported plants followed by whole plant parts and seed (10spp.) each ,root(6),flower ,flower and leaf (4spp.)each, leaf and root(3),rhizome, root and bark, leaf and bark, root leaf and bark, fruit and root ,bark fruitleaf (1spp.) each. The growing population and increasing socio-economic necessities creates pressure on land use/land cover, this increased pressure results in unplanned and uncontrolled changes in the diversity of flora especially medicinal plants .medicinal too facing threats from mechanized farming , utilization of fertilizers, pesticides and herbicides.

IV. Conclusion

The present study shows that swan river catchment area in una district is rich with valuable medicinal flora and traditional knowledge seems confined to elderly people while younger generation is ignorant about the vast medicinal resources available in their surroundings. This knowledge passed orally from one generation to another but not documented as such. So this documentation is necessary for safe guarding this valuable information for the well being of future generation. Parts of these plants may be assessed pharmacological point of view for its effective utilization. Therefore this study would be help for future investigation of its potential to be used as drugs which may be helpful in modern healthcare system.

Fig.2: Family wise distribution of medicinal plants recorded from swan river catchment area.

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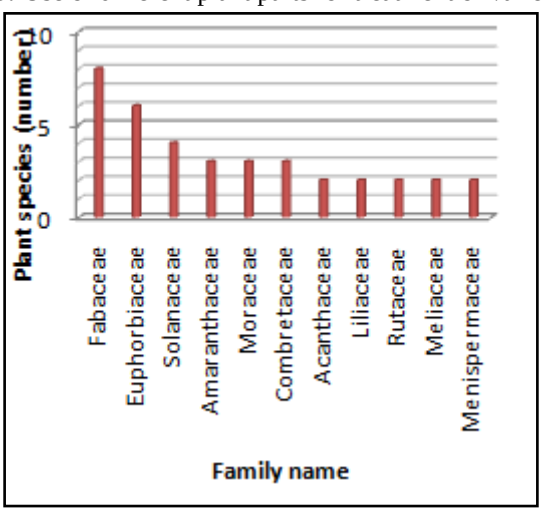
Fig 3: Use of different plant parts for treatment of various diseases recorded from swan river catchment area.



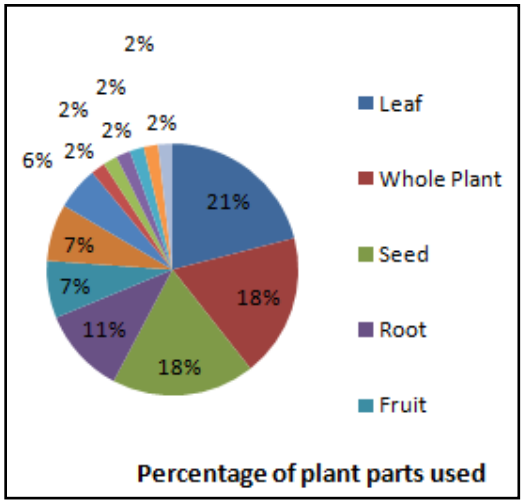


Table 1: status of medicinal plants of swan catchment area of district una,H.P.

Sr. no	Scientific name	Local name	Family	Part used	Medicinal Uses
1.	*Abrus precatorius L*	Ratti	Fabaceae	R.	Diuretic and anti-timorous.
2.	*Acacia catechu*	Khair	Mimosaceae	R.	Paste of fresh root is applied on the joint once day for week for rheumatism
3.	*Acacia nilotica Delie*	Babul	Mimosaceae	L.	Paste prepared by grinding leaves with mustard oil is applied on burn thrice a day till it cures.
4.	*Achyranthes aspera Linn.*	Puthkanda	Amaranthaceae	W.P	Decoction of herb is used as diuretic; seeds are used in treating hydrophobia and snake bite.
5.	*Acorus calamus Linn.*	Barya	Liliaceae	Rhi.	Rhizome paste along with warm mustard oil for fever and with honey against cough.
6.	*Adhatoda vasica Nees*	Basuti	Acanthaceae	L and R	Leaves and roots are useful in case of Rheumatism
7.	*Argemone mexican L.*	Kandayi	Papaveraceae	S	Dry powder of seeds applied on gums a day reduces the gum problem
8.	*Aegle marmelos (L.) Cnorr. Serr.*	Bel	Rutaceae	F	Unripe fruit is astringent, digestive and stomachic, used for diarrhea and dysentery.
9.	*Aloe barbendensis*	Kwareya	Liliaceae	L	Juice extract used for stomach problems, and for treatment of ear pain

10.	*Amaranthus Caudatus L.*	Chauli	Amarnthaceae	L	Fresh juice of leaves mixed with curd is taken orally thrice a day in case on intestinal inflammation
11.	*Amaranthus Virids*	Kanha	Amarnthaceae	L	Used as laxative
12.	*Azadirachta indica*	Neem	Meliaceae	W. P	Used in treatment of fever, diarrhea and skin diseases.
13.	*Boerhavia diffusa L.*	Itsit	Nyctaginaceae	R&L	Root paste mixed with honey to cure cough. Leaves used for body pain.
14.	*Barleria cristata L.*	Rakta jhinti	Acanthaceae	R&L	Root and leaves and root used for coughs and inflammations
15.	*Bauhinia variegata L.*	Karal, kachnar	Fabaceae	R and l	Root carminative decoction prevents obesity
16.	*Bombax ceiba L.*	Semal	Malvaceae	W.P	Bark demulcent, tonic, emetic and styptic.
17.	*Brynopsis laciniosa L.*	Shivlingi	Cucurbitaceae	S	Seed used for fever for fever
18.	*Butea monosperma*	Plah	Fabaceae		Seed powder given to expel germs
19.	*Cannabis sativa L.*	Bhang, ganja	Cannabaceae	W.P	Source of hemp fiber and Seed oil extracted by heating applied on joints in case of arthirits treatment taken at bed time only.
20.	*Cassia fistula L.*	Amaltas	Fabaceae	R and B	Used as emetic, febrifuge, laxative. It is useful, leprosy, constipation, fever and heart disease.
21.	*Cassia tora L.*	Panwar	Fabaceae	W.P	purgative used in ringworm and other skin diseases
22.	*Cuscuta reflexa Roxb.*	Akashbel	Convolvulaceae	St.	Wath in warm decoction of stem is used on swelled part and for rheumatism
23.	*Cynodon dactylon (L.) Pers.*	Durva	Poaceae	W. P	Used in dysentery, dropsy, haemorrhage and scabies.
24.	*Cissampelos pareira*	Patindu	Menisprmaceae	L.	Heated leaves applied to cure pimples,leaves against dysentery
25.	*Datura inoxia*	Datura	Solanaceae	S.	Seed mixed with mustard oil applied on external swelling
26.	*Eclipta alba*	bhringraj	Asteraceae	L.	Used for stomach by applying paste of leaf
27.	*Euphorbia hirta L.*	Dudhi	Euphorbiaceae	W. P	Used in cough, asthma and digestive problems.
28.	*Ficus benghalensis L.*	Bargad	Moraceae	F., l	Fruits are eaten at the times of scarcity. Leaves lopped for fodder. Latex applied in rheumatism and lumbago.
29.	*Ficus racemose Roxb.*	Gular	Moraceae	R.	Root used in diarrhea and diabetes
30.	*Jatropa curcus linn.*	Jablota	Euphorbiaceae	S.	Oil is extracted from seed used for swelling, seed powder used for constipation
31.	*Ocimum sanctum L.*	Tulsi	Labiateae	W. P	Leave oil have antibacterial and insecticidal properties
32.	*Phyllanthus niruri L*	Bhoomi aamla	Euphorbiaceae	R	Decotion of roots is recommended for two weeks in the treatment of jaundice, heptatis and other liver disorder.
33.	*Mentha Longifolia*	Podina	Lamiaceae	L.	Boiled leaves with tulsi leaves used for stomach pain as soup named as cardu in local language.
34.	*Moringa oleifera lamk.*	Sunane	Moringaceae	S	Green pods mixed with rye prepared as achar (pickle) for stomach pain and seed oil used for rheumatism.
35.	*Morus alba L.*	Toot	Moraceae	L and f	Fruits eaten in sore throat and skin infections. Leaves helpful in lowering blood pressure
36.	*Mallotus philippensis (Lam.) Muell.-Arg..*	Kamila	Euphorbiacae e	F	Anthelmintic
37.	*Melia azedarach L.*	Drek	Meliaceae	L and B	Insect repellant, anthelmintic, diuretic.
38.	*Murraya koenigi (L.) Spreng.*	Ghandhela	Rutaceae	R, l and B	Bark and roots are used as stimulants. Leaves used for diarrhea and dysentery and for curries.
39.	*Oxalis corniculata L.*	Khati ambi	Oxalidaceae	L	Used for leucorrhea :leaf extract put on patasha(candied sugar) consumed early in the morning daily for a week
40.	*Portulca oleracea linn*	Kulfa	portulacaceae	L	Leaves used as vegetables (sag & chatni) good source of vitamin c
41.	*Plumbago zeylanica linn*	Chitra	Plumbaginaceae	R	Root used for toothache
42.	*Phyllanthus niruri linn*	Bhumi aamla	euphorbiaceae	W.P	Juice whole plan mixed with doob grass used for ulcer
43.	*Riccinus communis Linn*	Erand	Euphorbiaceae	S	Seed oil is prescribed for Rheumatism pain.
44.	*Sesamum indicum Linn.*	Til	Pedaliaceae	S	Seed Oil extracted from the seeds is used in Rheumatism

45.	*Solanum nigrum*	Mako	Solanaceae	L	Leaves used in case of arthirits and gout
46.	*Solanum xanthocarp*	Bhindi	Solanaceae	S	Seed powder for nasal infection
47.	*Syzygium cumini (L.) Skeel.*	Jamun	Myrtaceae	L and F	Ripe fruits edible, used for spirituous liquor. Fruits also used for making preserves, jams, squashes, and jellies. used for diabetes.
48.	*Tamarindus indica*	Imli	Fabaceae	F,R	Root for jaundice and for digestion.
49.	*Terminalia arjuna (Roxb. ex DC.) Wight. &Arn.*	Arjun	Combretaceae	B, F and L	Cardio tonic. Juice of leaves used in earache.
50.	*Terminal bellirica (Gaertn.) Roxb.*	Bahera	Combretaceae	F	Astringent, bitter, laxative and area used in piles, diarrhea.
51.	*Terminal chebula (Gaertn.) Retz.*	Harad	Combretaceae	F	Fruits laxative, stomachic, tonic and alterative. Bark diuretic and cardio tonic.
52.	*Tinospora*	Giloe	Menispermaceae	Fresh St.	Stem is anti arthritis, anti asthmatic used as soup by boiling in water for 10 minutes.
53.	*Trichodesma indicum*		Borganaceae	L	Leaves extract by crushing in palm used for skin diseases.
54.	*Tribulus terrestris*	gokharu	zygophyllaceae	W. P	Used as powder of seeds for genital problems.
55.	*Vitex negundo Linn*	Bana	Verbenaceae	St.	Inhalation of vapour evaporating by boiling stems is good for pain by injury, arthritis, specially good after delivery
56.	*Verbascum Thapsus*	Jungali tambacoo	Scrophulariaceae	F, L	Leaf burn coal used for cutting, smoke of flower &leaves used for asthma
57.	*Wathinia somnifera*	Ashawgandh	Solanaceae	R	Roots used in treatment of rheumatism.

St=stem,f=flower,L=leaf,st=stem,rhi =rhizome,r=root,b=bark

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