

Ethnomedicinal Plants of the Hamirpur (H.P.) Used for Treatment of the Kidney Stone and Arthritis

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Abstract- The extensive survey was conducted in the villages of distt. Hamirpur for the investigation of use of the ethnomedicinal plants. The present study was conducted to document medico- religious beliefs associated with the local phytodiversity of the peoples of Hamirpur. During the survey in the villages of Hamirpur it is found that old age peoples much familiar about the medicinal use of the wild plants. About 22 different wild plants were used by peoples of Hamirpur for the treatment of Kidney stone and Arthritis.

Keywords- Ethnomedicine, Traditional knowledge, kidneystone, Arthritis.

I. INTRODUCTION

In the world Ayurveda is one of the oldest Health system. Sanskrit meaning of the Ayurveda is Ayu means life and veda is knowledge of science. So the translation of the ayurveda is science of life. In the india after the agriculture the largest landmass occupied by the forest, so called as the store house of the herbal plants and resource for the rural peoples [1]. India is rich in the diversity of the medicinal plants. The plants that have therapeutic properties and exert the pharmaceutical effect on the human body are generally designated the medicinal plants. The medicinal plants naturally synthesize the secondary metabolites like alkaloids, sterols, terpenes, flavanoids, glycosides, tannins, resins and volatile oils.

II. RELATED WORK

The use of the medicinal plants by tribal peoples has been studied under the Ethnobotany [2]. The ethnobotanical surveys are helpful for knowing the traditional knowledge and preservation of the same for the future generations [3, 4]. The several indigenous system Ayurveda, Allopathy use different type of the plant species for treatment of various diseases [5]. The use of the wild plants for medicine preparation has been documented in the old literatures [6]. It is reported that after the advent of the synthetic drug the plant based medicines has been lost their significance [7]. The Indian Himalayan region (IHR) is enormous hot pots of the Biological diversity [8]. It contains approximately 18% geographical area of the India. Its length is approximately 2,800 km and 220-300 km in width. Its altitude ranges b/w 200-800 nm from sea level [9]. In the rural areas herbal medicine play important role and these medicine used as Home remedies for

treatment of various ailments [10]. For the documentation of the medicinal plants large no. of studies has been carried out in the Indian Himalyan region [11, 12, 13, 14, 15, 16, 17, 18]. Approximately 60% of the world population depend upon plant drug for their primary healthcare [19]. Due to improper management of the traditional medicine and lacking awareness of social factors that influencing medicinal plants results in decreasing medicinal plants with very fast rate [20]. Approximately 70% population of the India depend on the traditional medicine In the Himalaya the state [21].

III. METHODOLOGY

The Hamirpur is located in the state of Himachal Pradesh. The altitude of district Hamirpur ranges from 400-1100 metres. The survey conducted in the district Hamirpur villages for conservation and documentation of ethnomedicinal plants. Due to increasing threats in the area medicinal plants decreasing at very fast rate. During the survey 22 plants were collected from the Hamirpur use by the local inhabitants for treatment of the Arthritis and Kidney stone.

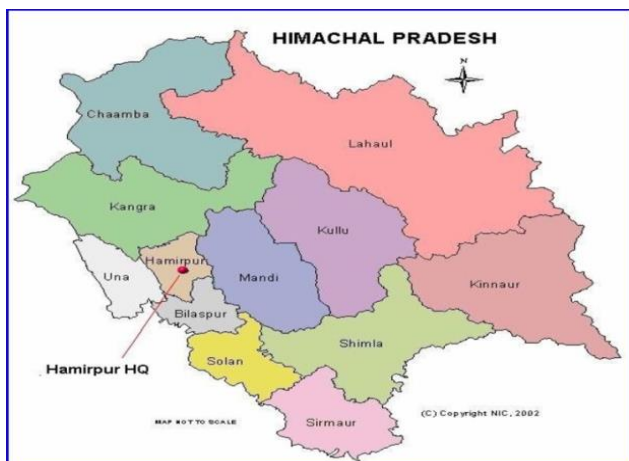


Figure 1: Location of the study area.

A questionnaire was prepared for primary data collection. For easily identification of medicinal plants various morphological characters such inflorescence, calyx, corolla, stamen, anthers and carpels as were taken in consideration. The medicinal plants are arranged alphabetically with name.

Table 1: Age details of the informants

Age group	Female	Male
20-30	4(13.3%)	5(10%)
30-39	6(20%)	6(12%)
40-49	12(40%)	9(18%)
50-59	3(10%)	10(20%)
60-69	3(10%)	8(16%)
70-80	2(6.7)	12(24%)

Table 2: Educational details of informants

Educational details	Female	Male
Uneducated	12(40%)	12(24%)
1-5 class	18(26.7%)	19(38%)
6-10 class	5(16.7%)	10(20%)
12 th class	3(10%)	4(8%)
Graduate	2(6.6%)	5(10%)

40% female were between age of 40-49 and 24% male were between the age of 70-80. Most of the informants 40% female and 38% male were educated up to fifth class.

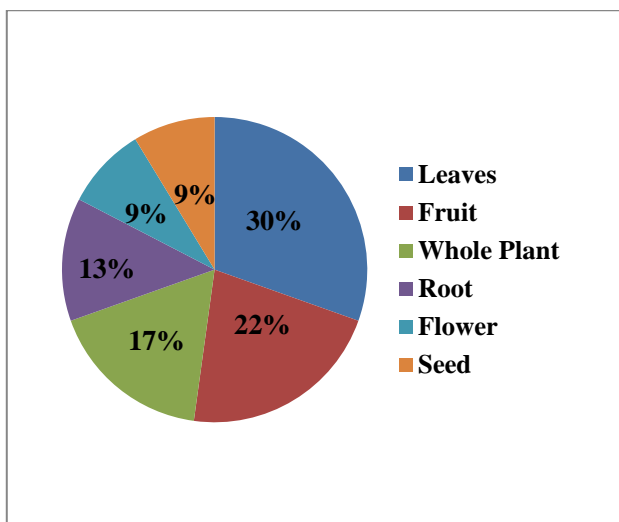


Figure 3: Plants parts used to treat Arthritis and Kidney stone.

IV. RESULTS AND DISCUSSION

The ethnobotanical information about various plants was collected through the questionnaire, interviews, and informal meetings with elder and experienced peoples of the villages of district Hamirpur. The study revealed that 22 plants used by tribal peoples of Hamirpur for the treatment of the Arthritis and Kidney stone belonging to 14 families. The most Dominant families are Amranthaceae, Poaceae and Solanaceae. The table and graph shows that leaves of maximum plants used for treatment of Arthritis and Kidney stone, followed by fruit 5 times, whole plant 4 times, root 3 times, stem 2 times seed 2 times and flowers 2 times.

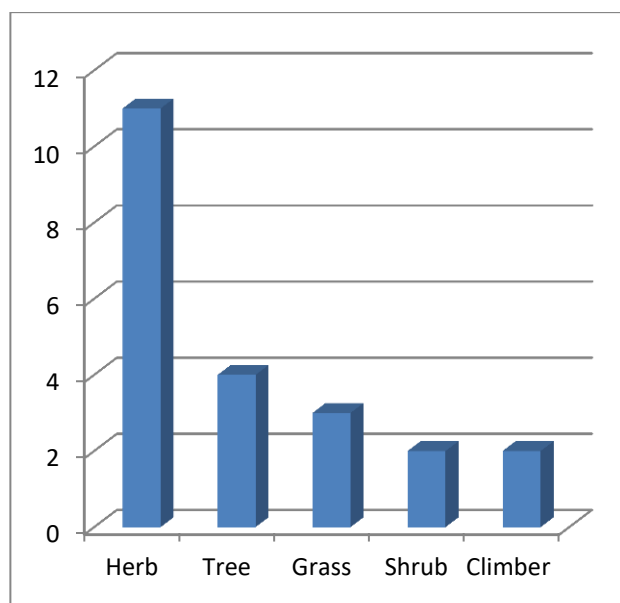


Figure 2: Life form of Ethnobotanical plant of study area

In the ancient time tribal peoples completely depend on the traditional medicines due to lack of modern facilities. The indigenous medicine prepared from leaves, flowers, roots, stem, or sometimes whole plant. Most of the indigenous medicine prepared from the herbs. Water is used as solvent for medicine preparation. The indigenous medicine is prepared in the form of powder, paste, dry ash and decoction. The medicine is applied to infected area and sometimes taken as orally. The ethnobotanical survey increases the knowledge about the traditional medicine and help in the development of new drug. Most of the medicinal plants are wild. For the field work and collection of ethnobotanical information emphasis is given to the May and June month. This paper provides detailed information how medicine is prepared from various parts of the medicinal plants for the treatment of kidney stone and arthritis. The peoples of the Himachal Pradesh maintained rich diversity of the cultivated and wild edible plants. The people’s lives in the villages growing the aromatic plants for medicinal purposes. The aromatic plants are used in the pharmaceuticals, food and cosmetic industries as raw materials. The aromatic plants are also

source of the income for tribal peoples. Due to modernization there is an urgent need of documentation of the medicinal plants. Due to the use of the underground parts of the plants for indigenous medicine preparation lead to extinction of the medicinal plants from nature. There are many factors that lead to extinction of the medicinal plants including forests fires, grazing of the

animals, illegally collecting and selling of the medicinal plants. There is an urgent need of the generate awareness among the peoples about the importance and conservation of medicinal plants.

Table 3: Ethnomedicinal plants of Hamirpur used for treatment of Arthritis and Kidneystone.

S. no.	Botanical name	Vernacular name	Family name	Habit	Plant parts used	Mode of use
1.	<i>Achyranthes aspera</i> L.	Puthkanda	Amaranthaceae	Herb	Root, fruit, stem	Decoction of root stem leaves for treatment of kidney stone.
2.	<i>Boerhavia diffusa</i> L.	Punarva	Nyctaginaceae	Herb	Root, flower	Juice of root and flowers for treatment of kidney stone.
3.	<i>Bryophyllum pinnatum</i> (Lam.) oken	Patharchata	Crassulaceae	Herb	Leaves	Decoction of leaves for treatment of kidney stone.
4.	<i>Butea momosperma</i> (Lam.) Taub	Plah	Fabaceae	Tree	Flower	5-10 flower dipped in soil pot in night In ½ litre water next morning filter and drink that water for treatment of kidney stone.
5.	<i>Chenopodium album</i> L.	Bathu	Amaranthaceae	Herb	Leaves	Decoction of leaves for kidney stone.
6.	<i>Chrysopogon zizanioides</i> (L.) Roberty	Khas- khas	Poaceae	Grass	Root	Juice of the root and add juice of giloe for treatment of kidney stone.
7.	<i>Cinnamomum tamala</i> (Bunch.-Ham) T.Nees and C.H. Eberm.	Tez patta	Lauraceae	Tree	Leaves	Decoction of leaves for kidney stone.
8.	<i>Datura metel</i> L.	Datura	Solanaceae	Herb	Seed	Seed mixed with mustard oil to get reliefs from joint pain.
9.	<i>Fumaria parviflora</i> Lam.	Pitpapa	Papaveraceae	Herb	Leaves	Decoction of leaves for kidney stone.
10.	<i>Hordeum vulgare</i> L.	Joei	Poaceae	Grass	Seed	Ash of seed dipped in water and shakes for 15 minutes filter and drinks that water for kidney stone.
11.	<i>Mimosa pudica</i> L.	Chui mui	Fabaceae	Shrub	Whole plant	Decoction of whole plant for kidney stone.
12.	<i>Momordica charantia</i> L.	Karela	Cucurbitaceae	Climber	Fruit	Juice of fruit for kidney stone.
13.	<i>Raphanus sativus</i> (L.) Domin	Muli	Brassicaceae	Herb	Fruit	Cut small pieces of radish and dried in the shade then burn to make ash. Dipped ash in water filter and drink that water for kidney stone.
14.	<i>Sesamum indicum</i> L.	Til	Pedaliaceae	Herb	Leaves	Powder of leaves for kidney stone.
15.	<i>Solanum indicum</i> L.	Jangli bhata	Solanaceae	Shrub	Leaves	Powder of leaves mix with salt to get relief from joint pain.
16.	<i>Spinacia oleracea</i> L.	Palak	Amaranthaceae	Herb	Whole plant	Juice of whole plant for kidney stone.
17.	<i>Syzygium cumini</i> (L.) Skeels	Jamnu	Myrtaceae	Tree	Fruit	Fruit help to cure kidney stone.
18.	<i>Tinospora cordifolia</i> (Thunb.) Miers.	Giloe	Menispermaceae	Climber	Stem	Juice of the stem for kidney stone.
19.	<i>Triticum aestivum</i> L.	Gehun	Poaceae	Grass	Whole plant	Ash of whole plant dipped in water filter that

						water for kidney stone.
20.	<i>Vitex negundo</i> L.	Bana	Lamiaceae	Tree	Leaves	Decoction of leaves for joint pain.
21.	<i>Withania somnifera</i> (L.) Dunal.	Ashwagandha	Solancaea	Herb	Leaves	Paste of leaves for the joint pain.
22.	<i>Xanthium strumarium</i> L.	Chota datura	Asteraceae	herb	Fruit	Powder of fruit used for treatment of joint pain.



Achryanthes aspera



Boerhavia diffusa



Bryophyllum pinnatum



Butanea monosperma



Chenopodium album



Chrysopogon zizanioides



Cinnamomum tamala



Datura metel



Fumraria parviflora



Hordeum vulgare



Mimis pudica



Momordica charantia

*Raphanus sativus**Seasum indicum**Spinacia oleracea**Syzygium cumini**Tinospora cordifolia**Triticum aestivum**Vitex negundo**Xanthium strumarium*

Figure 4. Ethnomedicinal plants used for Arthritis and kidney stone treatment.

Due to modernization the traditional indigenous medicines decreased at very fast rate. The increasing of the demand of the medicinal plants in the pharmaceutical industries leads to their habitat degradation and overexploitation from wild habitat. If the overexploitation of the medicinal plants continues, it will results in the permanently disappearance of the medicinal plants from their natural habitat. The majority of the traditional medicine is prepared by using water. The traditional medicine taken orally for treatment of the kidney stone and in case of Arthritis decoction or paste applied on the region of pain. The information generated through the field surveys and group discussion with local peoples of the villages. The ethnobotanical survey increases the knowledge about the traditional medicine and helps in development of new drug.

V. CONCLUSION AND FUTURE SCOPE

The present study revealed that various plant species play important role in the everyday life of tribal people of Hamirpur. In the modern time tribal peoples of Hamirpur uses the traditional indigenous medicine because it has no side effects. The elder peoples of the villages are much

familiar with the use of the medicinal plants. The study also revealed that medicinal plants species decrease at very fast from the nature due to lack of knowledge, and destruction of their natural habitat, illegally collection and selling of the medicinal plants. So the documentation of medicinal plants is a necessary step for their conservation for the future generation. The important species of the medicinal plants can be conserved by the in-situ and ex-situ strategies. So the present work carried out for the documentation of the medico-religious belief associated with phytodiversity of the peoples in Hamirpur.

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