

## Study of Medicinal Plants used in the Treatments of Diseases such as – Digestive, Respiratory & Cancer of Guret Village, District Una, Himachal Pradesh

Pushpa Thakur<sup>1\*</sup>, Monika Verma<sup>2</sup> and Ayushi Gupta<sup>2</sup>

<sup>1</sup>Research Officer cum Faculty, Environmental Science,

Department of Interdisciplinary Studies-IIHS, Himachal Pradesh University Shimla (H.P). India.

<sup>2</sup>M.Sc. Environmental Science,

Department of Interdisciplinary Studies-IIHS, Himachal Pradesh University Shimla (H.P). India.

(Corresponding author: Pushpa Thakur\*)

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**ABSTRACT:** State endows with a high diversity of medicinal plants. In many parts of Himachal Pradesh rural people depends upon plants for treating various ailments. Present study focused on the documentation of plant species used against digestive, respiratory, and cancer diseases in district Una, Himachal Pradesh, India. Study documented 14 plant species to treat digestive disorder, 10 species to treat respiratory and 8 plant species were used to cure cancer problem. In this study herbal remedies found to be largely prepared by decoction and were administered mainly orally. Different plant parts i.e. leaves, root, seed, bark, flowers, stem and whole plants were used. Herbal medicines have many useful properties including low side effects, more affordable and alleviate concern about the adverse effects of chemical medicine, satisfy a desire for personalized health care and allow greater public access to health information. Rural and tribal community of Himachal Pradesh largely depends on herbal sources for curing different types of diseases. Due to the absence of scientific monitoring of plants and lack of awareness among these people, the availability of valuable plant resources is decreasing at an alarming rate. Therefore, the present study is a necessary step towards the goal of raising awareness in local communities about the importance of the plant and their further conservation.

**Keywords:** Medicinal plants, traditional healers, diseases, Una, H.P.

### INTRODUCTION

Medicinal plants are the "backbone" of traditional medicine, which means plants are most important source to combat the serious diseases in all over the world. Plants not only used in the treatment of diseases but also as potential material for maintaining good health. 2/3<sup>rd</sup> of the world population depends upon herbal medicine for primary health care. Plants and herbs are going to play an essential role in the field of medicine especially in the treatment of diseases such as cancer. India is one of the most important country in the world in term of floristic diversity. Forest in India is the principle source of large number of aromatic and medicinal plants. Due to side effects of synthetic antibiotics, medicinal plants are gaining popularity over these drugs. Medicinal plants represent a rich source of antimicrobial agents and plants are used medicinally in different countries and are a source of many potent and powerful drugs. A wide range of medicinal plants part is used for extracts as raw drugs and they possess varied medicinal properties. Medicinal plants are considerably useful and economically essential. Traditional and folk medicines have variously been used in treating various ailments since long. Several selected plants are used by the tribal people for curing these ailments. Himachal Pradesh is a store house of medicinal plants which are widely used by the people of rural areas. Most of the

population lives in villages and use medicinal plants and use medicinal plants to treat various diseases. District Una has a rich population of traditional healer who still maintain a traditional knowledge of medicinal plants that are used in the treatment of various illness. Various studies have been carried out on floristic and medicinally important diversity of Himachal Pradesh. Prakash & Aggarwal (2010) highlighted the traditional uses of medicinal plants of lower foot-hills, Himachal Pradesh. Traditional herbal medicines used by the different communities in this region play an important role in elimination of different diseases. They are safe, effective and in expensive. Kaur *et al.* (2011) studied the uses of plants in control of different diseases in Mandi district, Himachal Pradesh. Shikha *et al.* (2021) studied the uses of plants for the treatment of respiratory and digestive diseases in Himachal Pradesh. Many organized studies in the field of traditional uses of ethnomedicinal plants has been executed by various workers in India *viz.*, (Charjan & Dabhadkar 2016; Thakur & Sarika 2016; Sharma 2016; Joshi *et al.*, 2016; Thakur and Waske 2018; Kumar and Duggal 2019; Verma & Kapoor 2019; Singh *et al.*, 2019). Medicinal plants are frequently used by the people of Una district of H.P. to cure various ailments. There is no proper record available regarding the use of plant species for the treatment of cancer, digestive and respiratory diseases except the study carried out by Kumar *et al.*

(2021); Prakash *et al.* (2021) from Himachal Pradesh which is very limited, keeping these factors in mind the present study was carried out.

## MATERIAL AND METHODS

**Study area.** Una lies in the southern-western part of Himachal Pradesh, with the beautiful Shivalik hills of the Himalayas gently rolling on one side. Una has latitude of 31°28'34"N and a longitude of 76°16'13"E. The Satluj River passes alongside Shahtalai hills, known for the shrine of Baba Balak Nath. The altitudes vary from more than 350 meters in city Una to over 1000 meters in Chintpurni. Una district is bounded by the river Beas on the north and the river Satluj in the east. The district has a geographical area of 1540 sq kms out of total area of 55,673sq.kms.of Himachal Pradesh. It covers 2.8% area of the state. Una is full of Flora and Fauna as the area cover mostly forest zone of Pines and Sal trees. Una is home of many species of birds, Neel Gai, Wild Pig, Deer, Porcupine and Leopard also.



**Fig. 1.** Map showing location of Himachal Pradesh in India.



**Fig. 2.** Location of Una district in Himachal Pradesh.

## METHODOLOGY

To collect the plants and associated ethno-botanical information relating to digestive, respiratory and cancer disorder from Guret village of Una district, field survey

was conducted information on medicinal plants was gathered through personal interviews with traditional healers and local people of the village. Then the plant specimens were collected by their local names. Plants were identified and photographed. Identification was based on taxonomic literature, such as through the use of herbaria, floras and manuals on Himalayas and Himachal Pradesh. The medicinal and other uses, what plant part was used, the mode of preparation and route of administration were recorded from the available literature in books and journals.

## RESULT AND DISCUSSIONS

The study presents a brief account of uses of various medicinal plants against digestive, respiratory and cancer disorder by the people of Guret village of Una district, H.P, India. In the study we recorded 14 plant species belonging to 12 floral families for the treatment of digestive disorder. Moraceae and euphorbiaceae represents 2 species each and rest of the families are represented by 1 species each (Table 1), 10 plant species belonging to 9 families were used for the treatment of respiratory diseases. Combretaceae was the dominant family with 2 species and rest of the families revealed by 1 species each (Table 2). Similarly a total of 8 medicinal plant species belonging to 7 families with the potential to treat cancer was recorded. Euphorbiaceae was the largest family with 2 species to treat cancer in the study area and rest of the families represented by 1 species each (Table 3).

Plants used for the treatment of these diseases were tabulated in alphabetical order of botanical names, local names, family, part used and mode of administration shown in the (Table 1-3). Eight different plant parts i.e. fruit, leaves, bark, whole plant, flowers, seeds, stem and root were used. Most frequently used plant parts were leaves and fruit followed by root, bark, stem, seed, flower and whole plant. Oral administration of the herbals was most common route of administration which were in agreement with the results of other studies (Tangjitman *et al.*, 2015). Bhardwaj & Thakur (2022) also recorded *Tinospora cordifolia* and *Syzygium cumini* in treatment of cancer in Himalayan region. The findings of the present study are in harmony with the Kumar *et al.* (2021) whose study shows that *Cissampelos pareira* and *Cynodon dactylon* were also used for the treatment of digestive disorders.

The present study also revealed that *Aloe barbadensis* (aloe vera) and *Terminalia bellirica* (behra) were used against digestive as well as respiratory ailments. Similarly, the plant species *Tinospora cardifolia* (gloe) was described treat both cancer and digestive problems. Respiratory and digestive ailments are common in Una district of Himachal Pradesh due to its remoteness and harsh climatic conditions. Disorders related to digestive system are one of the most common type of ailments are affecting human in villages due to inadequate access to hygienic levels. Our study indicates that people in villages of Una district rely on plants on various diseases.

**Table 1: Plants used in Digestive disorder.**

Sr No.	Botanical Name	Local Name	Family	Ailment	Part used	Mode of Administration
1.	<i>Aegle armelos</i>	BEL	Rutaceae	Diarrhoea	Fruit	Orally taken
2.	<i>Aloe barbadensis</i>	ALOEVERA	Asphodelaceae	Constipation	Leaves	Orally taken
3.	<i>Cassia fistula</i>	HALINDI	Fabaceae	Diarrhoea & Dysentery	Root & bark	Fruits eaten orally
4.	<i>Cissampelos pareira</i>	BATINDU	Menispermaceae	Diarrhoea	Leaves	Decoction taken orally
5.	<i>Cynodon dactylon</i>	DHOOB	Poaceae	Blood mixed diarrhoea	Whole plant	Decoction taken orally
6.	<i>Emblica officinalis</i>	AMLA	Phyllanthaceae	Acidity, Gastric trouble, Constipation	Fruit	Decoction taken orally
7.	<i>Ficus benghalensis</i>	BAD	Moraceae	Diarrhoea	Flowers & leaves	Decoction taken orally
8.	<i>Ficus reliogiosa</i>	PEEPAL	Moraceae	Diarrhoea	Stem and bark	Sap from the leaves taken orally
9.	<i>Jatropha curcus</i>	JABLOTA	Euphorbiaceae	Dysentery	Seeds	Root bark taken orally
10.	<i>Mentha longifolia</i>	PUDINA	Lamiaceae	Dyspepsia	Leaves	Paste taken orally
11.	<i>Ricinus communis</i>	ERAND	Euphorbiaceae	Dyspepsia	Seeds	Pulp taken orally with milk
12.	<i>Terminalia bellirica</i>	BEHRA	Combretaceae	Diarrhoea	Fruit	Ripen fruit taken orally
13.	<i>Tinospora cordifolia</i>	GLOE	Menispermaceae	Hyper acidity, Worm infestation	Stem	Decoction taken orally
14.	<i>Vitex negundo</i>	BANA	Verbenaceae	Dyspepsia	Stem	Orally taken

**Table 2: Plants used in Respiratory diseases.**

Sr No.	Botanical Names	Local Name	Family	Ailment	Part used	Mode of Administration
1.	<i>Achyranthus aspera</i>	PUTHKANDA	Amaranthaceae	Pneumonia	Whole plant	Decoction taken orally
2.	<i>Adhatoda vasica</i>	BASUTI	Acanthaceae	Asthma	Leaves & roots	Decoction taken orally
3.	<i>Aloe barbadensis</i>	ALOEVERA	Asphodelaceae	Asthma	Leaves	Pulp mixed with ghee taken orally
4.	<i>Anacyclus pyrethrum</i>	KARKRA	Asteraceae	Asthma	Root	Decoction taken orally
5.	<i>Ocimum sanctum</i>	TULSI	Labiataeae	Pneumonia	Whole plant	Powder taken orally
6.	<i>Pinus roxburghii</i>	CHIL	Pinaceae	Influenza, T.B.	Seeds & leaves	Powder of the bark taken orally
7.	<i>Solanum nigrum</i>	MAKO	Solanaceae	Asthma	Leaves	Taken orally
8.	<i>Terminalia bellirica</i>	BEHRA	Combretaceae	Asthma	Fruit	Powder taken orally
9.	<i>Terminalia chebula</i>	HARAD	Combretaceae	Asthma	Fruit	Powder taken orally
10.	<i>Viola odorata</i>	BANAKSHA	Violaceae	Asthma, throat cancer	Lower & root	Powder taken orally

**Table 3: Plants used Anti-cancerous.**

Sr. No.	Botanical Names	Local Name	Family	Part used	Mode of Administration
1.	<i>Abrus precatorius</i>	RAKTA	Fabaceae	ROOT	Powder taken orally
2.	<i>Acacia catechu</i>	KHAIR	Mimosaceae	ROOT	Powder taken orally
3.	<i>Calotropis gigantea</i>	AAK	Apocynaceae	STEM	Orally taken the aqueous solution
4.	<i>Euphorbia helioscopia</i>	DHOODLI	Apocynaceae	STEM	Taken orally
5.	<i>Matteuccia struthioeris</i>	RUNGRU	Aspidaceae	STEM	Eaten orally
6.	<i>Phyllanthus niruri</i>	BHOOMI AMLA	Euphorbiaceae	ROOT	Powder taken orally
7.	<i>Syzygium cumini</i>	JAMUN	Myrtaceae	LEAVES & FRUIT	Powdered seeds taken orally
8.	<i>Tinospora cordifolia</i>	GLOE	Menispermaceae	STEM	Powder taken orally

**Pictures of Medicinal Plant**



*Abrus precatorius*



*Acacia catechu*



*Aegle marmelos*



*Achyranthes aspera*



*Adhatoda vasica*



*Aloe barbadensis*



*Anacyclus pyrethrum*



*Calotropis gigantea*



*Cassia fistula*



*Cissampelos pareira*



*Cynodon dactylon*



*Emblica officinalis*



*Euphorbia helioscopia*



*Ficus benghalensis*



*Ficus religiosa*



*Jatropha curcas*



*Matteuccia struthioeris*



*Mentha longifolia*



*Ocimum sanctum*



*Phyllanthus niruri*



*Pinus roxburghii*



*Ricinus communis*



*Salonum nigrum*



*Syzygium cumini*



*Terminal bellirica*



*Terminal chebula*



*Tinospora cordifolia*



*Viola odorata*



*Vitex negundo*

## CONCLUSIONS

The people of the remote areas in Himachal Pradesh mostly depend on folk knowledge of medicinal plants to cure various ailments. The present study was carried out to document and analyze traditional use regarding the medicinal plants among communities residing in Guret village of Una district, H.P. Medicinal plants used by traditional healers and local people in the village were documented along with their local name, scientific name, family, part used and mode of administration. A total 14 plant species belonging to 12 families were recorded to treat digestive problems, 10 plant species with 9 families have respiratory potential and 8 plant species belonging to 7 families were used to

treat cancer problems. In the present study herbal remedies were found to be largely prepared by decoction and were administered mainly orally. Documentation and identification of local plants of an area is essential as it can provide information about the abundance of plant species of the study region. Documentation will also help in preserving ethnobotanical knowledge and biodiversity of the area.

## FUTURE SCOPE

Traditional herbal medicine plays an important role in elimination of different diseases. The people in remote areas could not reach to health institutions. They utilize plants as medicine for the treatment of common health problems. Plant medicines are safe, effective &

inexpensive. Herbal drugs can help the emergence of a new era of the healthcare system to treat human ailments. In order to use plant resources in favour of human beings it is advisable to conduct studies on medicinal plants. Documentation and identification of medicinal plants will help in preserving and conserving of plant wealth for future.

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