J. Plantarum., 7(2): 45-55

ISSN PRINT 2710-4079
ISSN ONLINE 2710-4087

ETHNOMEDICINAL USES OF PLANTS FOR TREATING VARIOUS AILMENTS AMONG THE LOCAL COMMUNITIES OF TEHSIL YAZMAN, DISTRICT BAHAWALPUR, PUNJAB, PAKISTAN

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Received on: 08-10-24; Reviewed on: 06-05-25; Accepted on: 24-08-2025; Published on: 15-12-2025

Abstract

Plant-based medications have long been utilized to treat a wide range of human ailments. This study aimed to document the traditional knowledge of indigenous communities in Tehsil Mandi Yazman, District Bahawalpur, Pakistan, regarding the use of medicinal plants. From 2022 to 2023, semi-structured questionnaires, face-to-face interviews, and group discussions were used to gather ethnobotanical data. A total of 150 participants (90 men and 60 women) from various villages were interviewed, focusing on 50 plant species belonging to 25 families. The Poaceae family was the most represented, with 6 species. The ethnobotanical data showed that 65% of the plant species were utilized for medicine, 22% as food, 5% for wood, 3% as fodder, 2% for ornamental purposes, 1% for crafting, and 1% as insect repellents. Of 50 species, 21% are trees, 34% shrubs, 44% herbs. The findings indicate that the local community continues to rely heavily on medicinal plants for treating various health conditions. This study underscores the need of safeguarding traditional knowledge and offers essential insights for regional governmental entities to formulate policies for environmental conservation and the sustainable utilization of plant resources.

Key words: Indigenous knowledge, Medicinal plants, Traditional medicines, Punjab, Pakistan, Tehsil Yazman.

INTRODUCTION:

Indigenous knowledge of the plant is as old as human history and has persisted as the most important component and core source of treating illnesses in ethnic communities' primary healthcare systems (Mustafa *et al.,* 2023; Ramzan *et al.,* 2024). It simply depends on the availability of natural resources, which can be done in all parts of the world. The wild plants are very important for rural people. By comparing how knowledge of wild plants and semi-conservative plants connects with personal usage of plants, this research adds to the body of literature (Amjad *et al*., 2020). The relative cultural importance index is a global botanical index that is offered for the purpose of collecting qualitative (as for the type of ailment that is treated) and quantitative (as for determining the medicinal plants) data. To analyze and test the medicinal plant portion using standard advanced methodologies, it is utilized in the field of ethnobotany.

In this context, the term "ethnobotany" alludes to the importance of the field not only in the same location but also in global contexts. According to the reported plant part value (RPPV) is a novel expression that is used to focus on the role and sustainable usage of medicinal plant parts in the conservation of human health. According to (Ullah *et al.,* 2012), there are a total of 422,000 plant species, and out of those, between 52,887 and 52,200 are utilized as medicinal resources in different parts of the world. Because of this, plants that possess medical characteristics account for 17.1% of the total

flora on the planet. Many medical systems across the globe employ these plants to treat many kinds of illnesses. Traditional medicine throughout the globe uses between 35,000 and 70,000 different kinds of plants. According to (Jan *et al.,*2020), they offer a feasible choice for medical treatment in less developed nations where access to traditional medication may be limited. This is because they are both cost-effective and reliable.

When it comes to primary healthcare systems, herbal medicine has traditionally been the most readily available and cost-effective option for populations that do not have access to modern medications. This is especially true in certain regions. Throughout the course of human history, people have relied on plants to serve a wide variety of needs. Plants have been essential to human survival. Not only do ethnobotanists investigate the medicinal properties of plants, but they also seek to understand the utilitarian applications of these plants, such as their roles as food, fodder, clothing, shelter, fuel, and furniture (Jan *et al.,* 2021). The amount of traditional knowledge is constantly decreasing because of the oral transmission of folk and local medical knowledge from one generation to the next, as opposed to the written documentation of this information during succession. This essential conventional information must be preserved for future reference.

As Qureshi *et al.,* (2007) point out, the preservation of indigenous Ethnomedical knowledge is of utmost importance and has the potential to contribute to the development of new drugs. Over the course of the past ten years, numerous universities have carried out research to ascertain the antibacterial, anticancer, antioxidant, and anti-inflammatory properties of medicinal plants (Khalid *et al.,* 2013). Even though the area being studied hasn't been fully surveyed yet, there have been many studies on how medicinal plants have been used in Pakistan in the past. Not a single piece of information is available regarding the in Tehsil Yazman, District Bahawalpur, Punjab, Pakistan, the plants were examined for their ethno ecological, ethnobotanical, or ethnopharmacological qualities. There are some regions where herbal therapies are chosen over allopathic treatments because herbal remedies less expensive and with fewer negative effects According to (Mustafa *et al.,* 2023). It is a threat that indigenous knowledge is being lost. challenge to economically disadvantaged rural areas such as those in the research domains that are centered on conventional livestock techniques bringing up.

Therefore, it was thought that it was essential to write an essay. the knowledge of ethnobotany that is held by the Indigenous people of the various regions and to maintain the ancient culture of the district This is wisdom before it is lost for all time. During this research, an Important indigenous information was disseminated via the efforts of the knowledge of natural flora that is valuable to therapeutic purposes, such research conducted by scientists on these plants could potentially be (Wali *et al.,* 2019) conducted in the future occurrence. Because of this, the purpose of the study was to report and investigate the cultural indigenous knowledge and the value of something related with medicinal plants that are found among the people that live in the Tehsil Yazman, District Bahawalpur, Punjab, Pakistan (Ramzan *et al.,* 2024).

MATERIALS AND METHODS

STUDY AREA AND DEMOGRAPHIC DATA OF INFORMANTS

This study was conducted in 2-3 villages located in the Cholistan Desert, within Tehsil Mandi Yazman, District Bahawalpur, Punjab Province, Pakistan (Ramzan *et al.,* 2024). The region is characterized by sand dunes, jungles, and canal areas. The soil is predominantly alkaline, saline, and moderately sandy, formed from the sand dunes of the Cholistan Desert. The area is situated at an elevation of 115 meters (380 feet) above sea level. The climate is marked by extreme temperatures, with summer averages ranging between 40–45°C and winter averages around 20°C. Annual rainfall averages 58.59 mm.

The study area is in the southern part of the district, approximately 152.0 km east of the nearest motorway. The local population in this region holds strong traditional beliefs and relies heavily on herbal shrubs and trees for medicinal purposes to treat various ailments. Knowledge of the cultivation and therapeutic use of these plants is primarily shared by local Hakims (traditional healers) and elders. The area can be categorized into small forest patches, canals, and streams. Wildlife includes species such as foxes, hares, jackals, and wild pigs, while the avian population comprises crows, eagles, fowls, kingfishers, mynas, pigeons, sparrows, nightingales, owls, and parrots. Common reptiles in the region include snakes and lizards. Domesticated animals in the area include camels, buffaloes, cows, goats, dogs, cats, hens, and sheep. Agriculture is a key economic activity, Wheat and gramme are the main crops in this area, making up around 50% of Punjab's total output.

Another important crop is barley. Sugarcane, cotton, moong, and guar are the most important kharif crops (Mustafa *et al.,* 2023). The current study seeks to record and distribute the significant indigenous knowledge about medicinal plants used by local populations, with the objective of promoting more scientific investigation into these plants. Local villagers with expertise in indigenous herbal flora and their practical applications were selected as informants, with a total of 150 respondents (90 males and 60 females) participating in the study (Amjad *et al.,* 2020). This research seeks to preserve and promote traditional medicinal knowledge while encouraging its integration into modern scientific exploration.

INTERVIEWING THE LOCAL INHABITANTS THROUGH QUESTIONNAIRE

A questionnaire was developed and administered through interviews with local residents across various villages within the study area to assess the ethnobotanical profile of the communities residing in Tehsil Yazman (Figure 1). Participants included a diverse range of individuals, such as drug dealers, shopkeepers, hakeems (traditional healers), fuelwood sellers, timber dealers, pansaris (herbal medicine practitioners), and household women. Particular emphasis was placed on interviewing elderly individuals and hakeems, as they possess extensive traditional knowledge regarding the uses of indigenous plants (Mustafa *et al.,* 2023). Approximately 150 individuals, comprising both men and women, were randomly interviewed in their homes and fields. To ensure the collection of accurate and comprehensive data, interviews were conducted in a warm and relaxed environment. A combination

of structured and unstructured interview techniques was employed.

The questionnaire served as the primary tool for gathering information on the traditional knowledge of the local population. The questions were designed to be clear, specific, and concise. Initial questions focused on the informants' demographic details, including age, occupation, income level, and educational background. Qualitative and participatory methods were utilized to collect data on the utilization of plant resources. The survey methodology was designed during the fieldwork. A semi-structured questionnaire, including both open-ended and closed-ended questions, was used to record traditional plant usage, especially their medical applications, together with their local nomenclature. This approach ensured a systematic yet flexible means of capturing the ethnobotanical knowledge of the community (Ramzan *et al.,* 2024).

PLANT SAMPLE IDENTIFICATION

The process of identifying plant specimens was carried out in accordance with the Flora of Pakistan, which was published in 2001 by (Ali *et al.,* 2018) The information that was entered on the papers provided by the herbarium a plant's botanical name, the name of its family, its location, and its habitat, among other things. Dr. Sultan Ahmad Herbarium at GCU Lahore university received herbarium specimens that had been checked to make sure they were voucher specimens. Interviews were carried out with 170 persons for the purpose of this inquiry, with 90 males and 60 women participating.

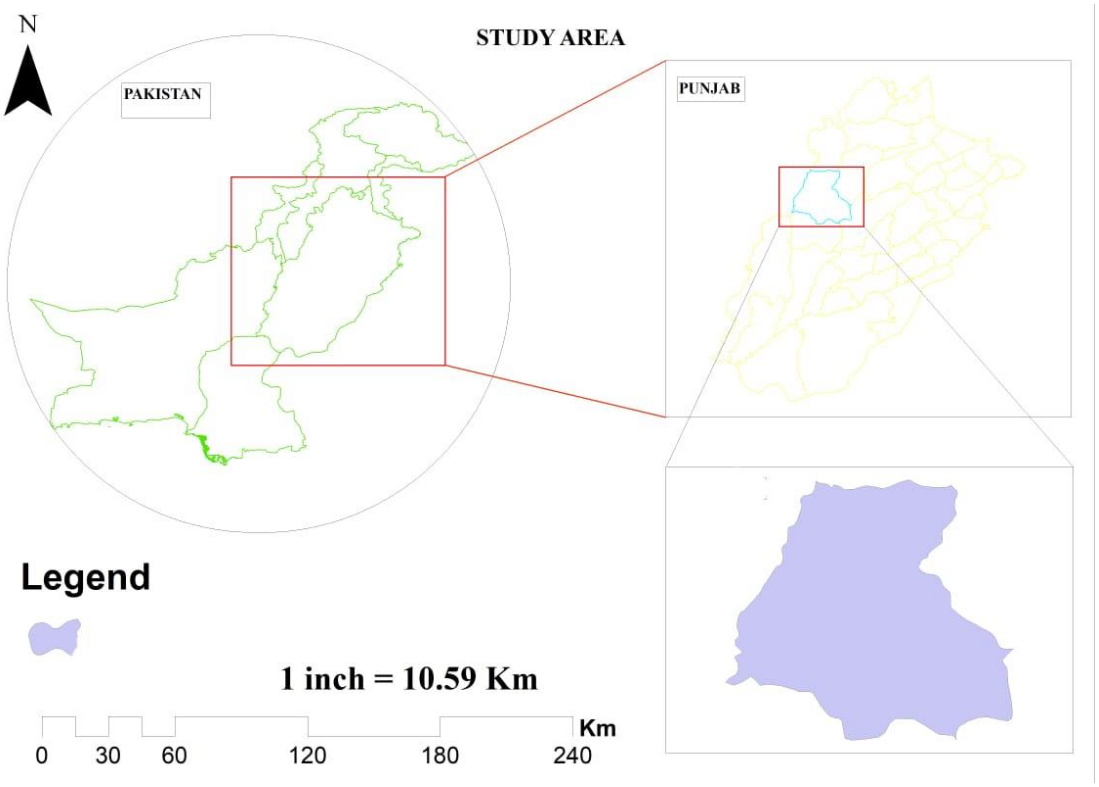

Figure 1: Study area showing the sampling sites.

RESULTS AND DISCUSSION

DEMOGRAPHIC CHARACTERISTICS OF THE STUDY AREA

Among the 150 informants interviewed for this study, 90 were male and 60 were female (Figure 2). The participants came from many different jobs, such as dayiahs (traditional midwives), shepherds, drivers, farmers, housewives, labourers, teachers, students (from elementary school to college), merchants, pansaries (herbal medicine sellers), herbalists, and hakeems (traditional healers). The informants were of different ages, as seen below: Eight people were between the ages of 20 and 30, twelve were between the ages of 30 and 35, twenty were between the ages of 35 and 40, twenty-two were between the ages of 40 and 45, twenty-eight were between the ages of 45 and 50, thirty-five were between the ages of 50 and 55, and forty were between the ages of 55 and 60. The study revealed that ethnomedicinal knowledge was least prevalent among informants aged 20–30 years (Table 1). This decline in traditional knowledge among younger generations may be attributed to the influence of modern lifestyles, which encourages a preference for allopathic medicine over traditional remedies (Sargin, 2015). Furthermore, a correlation was observed between decreasing ethnomedicinal knowledge and increasing literacy rates. This trend may be linked to the tendency of educated individuals to favor modern healthcare systems (Jan *et al.,* 2022; Heeran *et al.,* 2023) Table. No.1

ETHNOMEDICINAL FLORAL DIVERSITY

The current investigation discovered 50 medicinal plants from 25 distinct families. Table 2 includes a list of each medicinal plant's scientific name, family name, local name, ingredient, and usage. In our study, the Poaceae family has the greatest number of therapeutic plant species. The three most common life forms in this investigation were trees (11Sp.), shrubs (17 Sp.), and herbs (22 Sp.). Members of these families are commonly used in medicine because they are easy to gather and have an abundance of bioactive compounds and related pharmacological characteristics (Jan *et al*., 2021). Herbs might be more suited to the topography and climate of the research area, which would account for their dominance.

Herbs are also stronger and heal quicker than trees and bushes (Shah and Afzal, 2013). The availability of herbs is also widespread. Since they include a variety of bioactive compounds, herbs may easily adapt to any environmental circumstance. Herbs are also more potent as medications than shrubs and trees because they often have more bioactive chemicals than other living things. High-altitude areas often feature a lot of herbaceous plants, unlike shrubs and trees (Ali *et al.,* 2018).

Table 2: Demographic characteristics of the informants

Category	Total
Gender	
Male	90
Female	60
Age group	
20-30	8
30-35	12
35-40	20
40-45	22
45-50	28
50-55	35
55-60	40

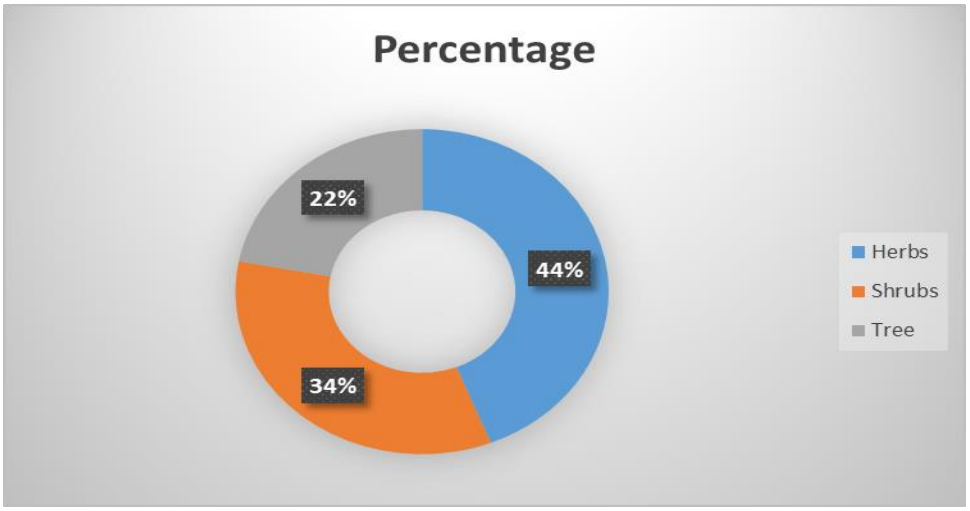

Figure 2: Percentage of life-form of the collected medicinal plants

Table 2: The ethnobotanical important flora of Tehsil Yazman, District Bahawalpur, Punjab, Pakistan.

were documented as follow

Family	Botanical name	Vernacular name	Plant part used	Ethnobotanical Uses
1) Aizoaceae	*Trianthema portulacastrum*L.	It-sit	Whole plant	It is used as food for cattle. Local people used its leaves as a vegetable. Any injury could be healed with the past of its leaves. Plant juice used to treat the fever, jaundice, dropsy and liver illness. The powder of the plant leaves and roots used to treat of joint pain.
2) Amaranthaceae	*Achyranthus aspera*L.	Puth-kanda	Whole plant	It was traditionally used to treat the disease like piles and dropsy. This is very helpful in healing of wounds. Its flowering spikes are directly used to treat the scorpion bites. This plant is very beneficial for the snake reptiles' bites, the seeds are used for prepare the remedy which is used for treatment the infection.
	*Chenopodium alba*L.	Batho	Shoots and leaves	This plant traditionally used to treat the patients who infected by the bugs, sun stroke, rheumatism, and skin problems. The leaves are used to soothe the burns. It is also use for abdominal and eye pain. These seeds are used to kill the intestinal parasites and fungal agents.
	*Aerva javanica*schult.	Bui	Leaves	The ethnobotanical value of Aerva javanica, often called Kapok Bush or Snake Flower, cannot be overstated. Traditional medicine has been used its leaves to treat urinary problems and kidney stones. The plant's extract was utilized to reduce joint discomfort since they have anti-inflammatory qualities. It is well known for its diuretic properties, which support cleansing and urinary health. The herb is used in ceremonies and offerings and has cultural value as well.
	Digera arvensis L.	Lolro	Whole plant	It is also referred as broomweed or false amaranth, is significant from the perspective of ethnobotany. Traditional medicine uses this plant's leaves and roots to cure a variety of diseases, including skin ailments and inflammatory qualities that help with pain management. Due to the seeds' nutritious worth, they have been used in regional cuisine.
5) Asclepiadaceae	*Calotropis procera* (Willd.) R.Br.	Ak	Latex, roots, leaves, and flowers.	You may use its latex and flowers to treat coughs, asthma, and chest disorders. People in the area also used it to heal their animals.
6) Asphodelaceae	*Asphodelus tennuifolius*	Cavan Piazzi	Whole plant	Used as condiment. Can also be cooked with maize. An ornamental plant. It acts as diuretic agent and used for wound healing.
7) Asteraceae / Compositae	*Carthamusoxycantha*Linn.	Tukham, Poli.	Roots, flowers, leaves.	Used for wound healing as it is anti-inflammatory and anti-microbial.
	Helianthus annuus Linn.	Suraj mukhi	Roots, flowers, seed.	Sunflower oil is a major source of edible oil and is beneficial for your health. Also used in lubrication, laminating, and soaps. People utilise its blooms to cure malaria. It also makes the area seem nice for the individuals that live there.
	Sonchus oleraceus Linn.	Doda	Leaves and stem	Used to cure common illnesses including headaches, discomfort, diarrhoea, and fever. It's a refreshing tonic that you can eat.
	*Silybummarianum*Linn.	Kandyari	Roots, leaves and seeds	Hepatitis and liver problems can be treated by using its leaves and seeds.
8)Brassicaceae/cruciferae	*Coronopus didymus*Linn.	Water-crush	Whole plant	In powdered form, it acts as insect repellent. It is also used for treatment of respiratory problems like asthma, bronchitis, and emphysema.
	Brassica napus/rapa Linn.	Ghangloo	Fruit and leaves	People consume it as raw fruit. People also utilise it as a vegetable. Animals eat its leaves.
	Raphanus sativus Linn.	Mooli	Root and leaves	You may put it in salad. People also consume it as raw fruit. It may help with a number of illnesses, including acid management, indigestion, and bloating in the stomach.
	*Brassica compestris*Linn.	Sarsoo	Leaves, flowers and seeds.	Its seeds contain oil which is brain tonic. Local people also used it as vegetable. It is a favorite fodder of animals. This herb has therapeutic action and it is used for joint related issues.
9) Cucurbitaceae	*Citrullus colocynthis* (Linn.). Schrad.	Kurtuma.	Leaves, fruit, and roots.	It is used to cure many diseases like diabetes, leprosy, jaundice, joint pain and cancer. It is also used for curing cholesterol diseases and blood fats problem. It is also good for preventing the diseases of liver and gallbladder.
	Momordica charantia Linn.	Karela	Fruit, fruit juice	It was eaten as a vegetable. People with diabetes could find its juice helpful.
10) Lamiaceae / Labiatae	*Ocimum basilicum* Linn.	Niazbo	Leaves	It is a traditional treatment for common illnesses including headaches, coughs, diarrhea, constipation, and problems with the kidneys. It is also used to add taste to meals and cooking.
	Ocimum sanctum Linn.	Tulsi	Leaves, roots and leaves.	The leaves, roots, stem, and flowers of this plant may all be used to treat skin ailments, bronchitis, bronchial asthma, diarrhoea, and dysentery. It slows down the ageing process. It helps with acne and keeps your mouth and eyes healthy.
	*Mentha piperata*Linn.	Podina	leaves	It contains the calming effects. It is a traditional remedy for the treatment of muscle and nerve pain, nausea, diarrhea and common cold. It primarily treats the disease of nausea. It is rich in nutrient and can be easily added in a diet. It is a good flavoring agent.
11) Malvaceae	*Gossypium hirsutum* (Linn.) Smith	Kapas	Whole plant.	Its fibers help fill pillows and mattresses. You may make paint from its seeds. In Pakistan, its fiber is used to make quite distinctive garments. It is also used for a cough that comes with a fever.
	*Abelmoschusesculentus*Linn.	Bhindi.	Whole plant	Lady finger is the favorite vegetable of local inhabitant of this region. Gonorrhoea and dysuria can be treated by using it. Its seeds have property of anti-spasmodic and stimulant. The stem

				fiber of ladyfinger can be a substitute for jute. It is a source of good fiber.
12) Meliaceae	*Melia azedarch*(Linn.) Pers	Dhareek	Wood and leaves	It repels the insects. It has anti-malarial properties. The extract of media tree contains anti-aging properties. The extract of its seeds also smoothens the skin.
	Azadirachta indica A.Juss	Neem	Leaves	The leaves of neem are used to cure many common diseases like eye disorder, skin ulcers, diseases of heart and blood vessels, fever, stomach upset and loss of appetite. Leaves of this plant are also useful for diabetes
13) Palmae	*Phoenix dactylifera* Linn.	Pind	Fruit, leaves	You can eat fruit. People utilize the leaves to construct things like hand fans, Jae Namaz, mats, baskets, and other things.
	*Phoenix sylvestris*Roxb.	Dhakki	Fruit and leaves.	Its dates are very delicious. Leaves are utilized to make different local products like hand fans and bread containers and baskets.
14) Papiloinaceae	*Alhagi maurorum*	Medic ont-katra	Whole plant	People use its leaves to feed animals and its stem to make firewood. People in the area use it to get rid of warts and piles. This plant is good for a lot of things.
	Cicer arietinum Linn.	Chana/ Choley	Whole plant	More than 50% grams of country are produced in Bhakkar. Its dried and crushed leaves are used as fodder of domestic animals. It is also used as food and it acts anti-microbial agent and anti-oxidant agent.
15) Piperaceae	*Piper nigrum*Linn.	Kali March	Fruit	Black pepper is prepared by crushing its fruits. It is a very tasty spice and make food more delicious. It has much medicinal importance as it is an anti-oxidant and anti-thyroids.
16) Poaceae / Graminae	*Avena sativa* Linn.	Javi	Whole plant	It is a good tonic agent. It decreases the cholesterol level and reduces the heart diseases. It is also a source of fodder.
	*Hordeum vulgare*Linn.	Jau	Straw and grain	The seeds of barley help in digestion and very nutritive and febrifuge. It helps in healing of wounds and burns. It also decreases the cholesterol level and help in reducing bowel cancer.
	Oryza sativa Linn.	Chawal	Fruit and leaves.	It is also cooked as favorite food of local inhabitants. It is a diuretic agent and used to cure urinary tract problems. Its seeds are used to treat the problems like poor appetite.
	*Sorghum vulgare*Linn.	Jowar	Grain and stem	It reduces inflammation. It also act as anticancer. It is good for kidney, weight loss and blood pressure. Good source of nutrition. It also act as antioxidant and source of phenolic compounds.
	Triticum aestivum Linn.	Kanak	Whole plant	It is a very useful medicinal plant and local people used it as staple food. It has pharmacological properties like laxative, diuretic, anti-microbial and anti-oxidant. Sex hormones are present in the seeds of wheat. It is complete nutritive food.
	Pennisetumgluacum(Linn.) R.Br.	Bajra	Whole plant	It is a good food for diet conscious people as it is non glutinous. It is also easily digestible. It is a rich source of both soluble and insoluble dietary fiber.
17) Polygonaceae	*Rumex dentatus*Linn.	Jangli palak	Roots	It is diuretic and laxative agent. Its roots can be used for the treatment of skin diseases.
18) Rhamnaceae	*Ziziphus jujuba*Lamk.	Sew beer	Leaves, fruit and bark	Fruits are edible. Its leaves are source of fodder. Its medicinal values are very high. The fruit is helpful in digestion. To cure dysentery, its boil bark is used. The seeds are sedative and helpful for insomnia.
	Ziziphus mauritiana Linn.	Beeri	Fruits, leaves and bark	You can eat fruits. People also utilize leaves as food for animals. It is used to treat high blood pressure and constipation.
19) Rosaceae	*Rosa indica* Linn.	Gulab	Flowers	It is an ornamental plant. Gulkand is produced by keeping petals of rose and sugar in pot for 3 to 4 days which is used to cure constipation and abdominal pain.
20) Rubiaceae	*Gallium aparine*Linn.	Chitta gha	Whole plant	Different skin diseases are treated by using the extract of this plant. It is a diuretic agent.
21) Salvadoraceae	*Salvadora oleoides* Dence	peelo/Jaal	leaves, bark, fruit, and wood	It is the key plant of the region. A 50, 60 years ago, whole community were dependent on this plant for food and shade for themselves and for their animals as well. Local people used its bark to clean their teeth. It also contains good quality wood.
22) Solanaceae	*Daturainnoxia*Mill.	Datura	Whole plant	It is used for criminal purposes as it is a poisonous plant. It also repels the insects.
	*Solanum nigrum*Linn.	Makko	Leaves, fruit and shoots	It contains fruit that you can eat. It is used to treat common illnesses including the flu, a cough, and a fever. It helps wounds heal. People use its cooked leaves to get rid of gas.
	*Solanum surratense*Burm.	Kandyari	Fruit and roots	To treat the abdominal pain and gas troubles, its fruit in powdered form is given to the patient. It is also good for cough and asthma.
	Withania somnifera Dunal.	Asgund	Leaves and fruit	It is used to treat insomnia, reproductive health, fatigue, anxiety and asthma. It is also insulin resistant.
23) Tamaricaceae	*Tamarix aphylla* Willd	Khagal	Wood and leaves.	It has good quality wood. Its needle shape leaves are a favorite food for camels. Small pox and chicken pox are treated by exposing the patient to the smoke of its scale leaves.
24) Typhaceae	*Typha angustata*Pers.	kundr	Leaves	Dried leaves are a source of food. It is used to address difficulties with bleeding and passing pee.
25) Zygophyllaceae	*Fagonia indica* Burm.F.	Dhamsa	Whole plant	It is a famous medicinal herb which is used to cure diabetes problems. It is also a good source of fodder for domestic animals like goat and camel.
	Fagonia graveolens Linn.	Jawablae	Whole plant	This herb has potential to act as anti-cancer agent. It is also a favorite food for camels, goats, and sheep.
	*Tribulus terristris*Linn.	Bakhra	Seeds, leaves and fruit.	The extract from its seeds is highly helpful for getting rid of kidney stones. To cure the patient's urinary condition, the fruit powder is blended with sugar and given to them. Its leaves are good food for farm animals.

Discussions

People have a relationship with plants for their survival and other needs, such as food, medicine, shelter, and many others, since the beginning of time. Indigenous knowledge and the materials that support it are currently under danger of extinction due to many factors (Aziz *et al.,* 2023). As evidence of cultural use emerged, ethnobotanical studies focused on the relationship between human and plant populations. The effects of human daily activities are felt by the plants. These intricate connections are investigated by ethnobotany (Rehman *et al.,* 2025).

Being cognizant of ethnobotany encourages people to pass down knowledge from one generation to the next. Indigenous knowledge and traditional uses of traditionally important plant species were reported from various villages in Tehsil Mandi Yazman in a recent study. Different species from various families were recorded in Tehsil Mandi Yazman during ethnobotanical research. The information was compiled and arranged by family, alphabetically.

All the names botanical, common, useful plant components, and ethnobotanical were mentioned. Tehsil Mandi Yazman contains a wide variety of native plants, including a variety of species. The terrain is heavily irrigated by the Abasia canal. The temperature and amount of precipitation vary greatly throughout the year. The family Asteraceae exhibits the greatest abundance in the current research of the flora of Tehsil Mandi Yazman, with 50 species.

Aizoacea only have one species, Amarthanceae have 4 species, Apocynaceae, Asteraceae and Arecaceae each have 2 species while Cucurbitaceae have 3 species, Euphorbiaceae have 2, Fabaceae have 5 species, legumaceae have 2 species, Lythraceae have 1 species, Meliaceae, Myrtaceae and Moraceae each have 3 species, Moringaceae, polygonaceae have 2 species, Poaceae and Puniaceae each have 1 species, Rhamnaceae have 3 species, Rutaceae have 2 species, salvodoraceae have 1 species, Solanaceae have 2 species, Tiliaceae have 1 while Zygophyllaceae have 2 species. It was noted what was known about a species' native area and natural habitat.

Additionally, the topic of species distribution is covered. To get a sense of a specific species' occurrence in the area, the percentage cover of each species is recorded. For any age or period, the relevance of plants in ethnobotany cannot be discounted. According to the results of the current study, out of 15 species of herbs, 20 species are used medicinally, 25 species are used as animal feed including herbs and shrubs, 10 species are used as human food, 5 species are used as fuel, and 2 species are used to chill other species. It has been noted that the hakims and elders typically provide the wisdom held by the locals. As people get older, their knowledge also declines. People today rely on allopathic medicines that are made from plant-based ingredients. As is common knowledge, plant-based medicines have significantly fewer negative effects than allopathic ones.

The significance of this area for expanding agriculture, business, and building. A substantial section is being urbanized, which includes building infrastructure like buildings, residential settlements, and national projects. Growing population and demand for land for development have caused existing vegetation to deteriorate and made new

plantation sites scarce. It is very effective for the ecological environment and human health (Aziz *et al.,* 2023).

Conclusion

The current research findings indicated that 50 plant species from 25 families are used by the residents of the study region for various reasons. There were a lot of Poaceae, of six different kinds. it seems that the current state will be maintained so long as no outside disruptions result in changes in the vegetation. Future research in Pakistan on the vegetation dynamics of ecological corridors such roadsides, agricultural fields, forests, canal banks, and waste sites will have a foundation laid by this study. The study also revealed that the local population should actively participate in maintaining biodiversity since they depend on the local vegetation daily to meet their needs and that there should be increased awareness among them of the need to preserve natural vegetation. The numerous plant groups identified and described in this study must be considered in managing, conserving, and preserving natural flora. The knowledge that local communities have regarding the uses of plants should be passed down to the following generation, as it has been observed that the younger generation lacks knowledge regarding the uses of plants and relies heavily on allopathic medications. Instead, they should place a greater emphasis on plant-based medicine and cultivate helpful plants on their own.

Acknowledgements

I would like to thank my supervisor, Dr. Andleeb Anwar Sardar, from the Department of Botany at GC University Lahore, for all the help, advice, and support they gave me while I was working.

Author Contributions

Andleeb Anwar Sardar and Uzma Hanif conceived and designed the experiment, Sheeva Ram and Adeel Mustafa interpreted the results and wrote the paper, Muhammad fazal Rasool, Aliza Javed and Qasim Mehmood statistically analyzed the data, Muhammad Ishfaq and Sania Fatima made illustrations and wrote the paper.

Conflict of Interest

The authors assert that there are no conflicts of interest pertaining to the publishing of this work.

Data Availability

The datasets produced and examined in the present investigation may be obtained from the corresponding author upon reasonable request.

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