



A Case Study on Traditional Plant Based Remedies of Indigenous People in Jalaun District, Uttar Pradesh: An Ethnobotanical Approach

Jitin Rahul*

Department of Environmental Sciences, Sharda School of Basic Sciences and Research, Sharda University, Greater Noida, Uttar Pradesh, 201310, India.

*Corresponding author's E-mail: jitin.rahul@sharda.ac.in

Received: 11-01-2025; Revised: 27-04-2025; Accepted: 08-05-2025; Published online: 15-05-2025.

ABSTRACT

This investigation study explores the traditional plant-based remedies practiced by indigenous communities in the Jalaun district of Uttar Pradesh, India, through an ethnobotanical lens. The present study documents based on the list of traditional plant knowledge and uses of wild medicinal plants by various age factors of Jalaun indigenous peoples. Traditional ethnomedicinal uses of 28 plant species along with their botanical name, vernacular name, family name and mode of administration are presented. They belong to 26 genera and 22 families. These traditional wild plants used to cure 14 types of ailments. The study highlights the cultural significance, preparation methods, and therapeutic applications of these wild medicinal plants. It also underscores the urgent need for the conservation of both biological resources and traditional knowledge systems that are at risk of erosion due to modernization and lack of documentation. This case study contributes to the broader understanding of ethnomedicine and offers potential insights for future pharmacological research and sustainable healthcare development.

Keywords: Human health, indigenous, jalaun, medicinal plants, Traditional healthcare.

INTRODUCTION

Traditional plant-based medicine has long served as the foundation of healthcare for indigenous and rural communities across the globe. In India, where biodiversity is vast and cultural heritage runs deep, ethnomedicinal practices have been passed down through generations as part of the community's intangible knowledge systems. These practices, often rooted in centuries of empirical use and spiritual belief, continue to play a vital role in treating a wide range of ailments, especially in areas with limited access to modern healthcare facilities.

Biodiversity is the very basis of human survival and economic wellbeing and constitutes the resources upon which families, communities, nations and future generations depend. India is rich in medicinal plant diversity distributed in different geographical and environmental conditions. India's diversity is unmatched due to the presence of 16 different agro-climatic zones, 10 vegetation zones, 25 biotic provinces and 426 biomes of these about 15,000-20,000 plants have outstanding medicinal value. However, only 7,000-7,500 species are used for their medicinal values by traditional communities. In India, drugs of herbal origin have been used in traditional systems of medicines such as Ayurveda and Unani since ancient times¹. The Ayurveda system of medicine uses about 700 species, Unani 700, Sidhha 600 and Amchi around 400 species.² Defined Ethnobotany as "the study of the utilitarian relationship between human beings and vegetation in their environment, including medicinal uses". Though the term "ethnobotany" was not coined until 1895 by the US botanist John William Harshberger, the history of the field begins long before that. In AD 77, the Greek surgeon Dioscorides published "De Materia Medica", a catalog of about 600

plants in the Mediterranean. It also included information on how the Greeks used the plants, especially for medicinal purposes.

Traditional systems of medicine continue to be widely practiced on many accounts. Besides, medicinal plants are easily available natural products, easily formulated and cost-effective with negligible or no side effects. The plant based traditional knowledge has become a recognized tool in search for new sources of drugs and nutraceuticals. Indian subcontinent is being inhabited by over 53.8 million tribal people, representing one of the greatest emporia of ethno botanical wealth³. Up to 70% of the rural population still depends on plant resources in their vicinity for healthcare and other necessities of life. Lack of primary healthcare centers and transportation facilities, prohibitive cost of treatments, side effects of several Allopathic drugs have led to increased emphasis on the use of plant materials as a source of medicines for a wide variety of human ailments⁴. Unfortunately, much of the ancient knowledge and many valuable plants are being lost at an alarming rate. With the rapid depletion of forest area impairing the availability of raw drugs, traditional systems of medicine have reached a very critical phase. Many valuable plants are under the verge of extinction. It is estimated that 10% of all plant species are currently endangered in India⁵. Consequently, there is an urgent need to record and preserve all information on plants used by different ethnic or rural communities for various purposes before this treasure of several millennia is completely lost⁶. The percentage of Tree species in Orchha wildlife Sanctuary was very highest (44%), second highest population of herbs (30%), third highest population of shrubs (12%) and 6% under shrubs, 5% climbers, 3% grasses. according to the investigation of study area⁷.



The plant was used by locals for fish poisoning.⁸ Highlighted the ethnoveterinary uses of plants to treat common diseases in cattle and pet animals in tribal belts of Andhra Pradesh, India. In a study conducted by [9], the indigenous knowledge of local people of Tehsil Shakargarh, District Narowal, and Pakistan about medicinal and conventional uses of plants was reported.

METHODS

The survey was conducted in Jalaun district in the Bundelkhand region of Uttar Pradesh field survey were carried in 2 hamlets of the territory, namely Rahiya and Sarsonkhi.

Traditional medicinal information on medicinal plants were recorded through field observation, interviews and discussion with herbal healers, knowledgeable elder people, housewives and videos of the villages, employing a semi-structured questionnaire which included the village name, name of correspondent, the botanical name of medicinal plant, common name, ailments for which it has been used and plant component used with the modality of government. For authenticity about medicinal properties of plants, the information gathered during field study was cross checked with respondents and also with the former patients residing in the same or neighboring villages of the study region. Each of the plant species collected with the help of informants has been recorded, photographed, identified taxonomically using the standard floras and already existing specimens.

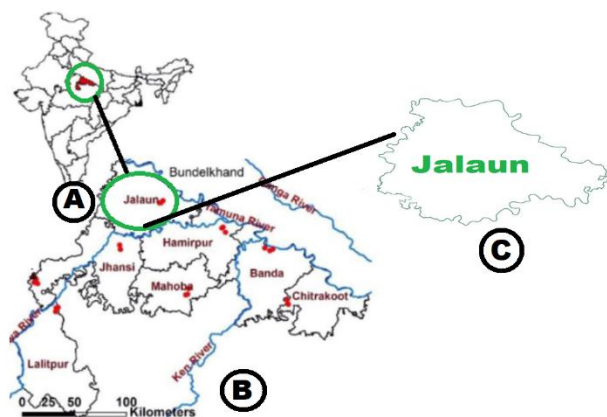


Figure 1: Location map of Investigation area, (A) map of India, (B) map of Bundelkhand zone and (C) map of Jalaun district

Study Area

The study area Jalaun district of Bundelkhand region of Uttar Pradesh India is located between 26° 8' N 79° 23' E. It has an area of 4565 sq. km. with 25,640 ha of forest area. The average rainfall in the study area ranges from 399-862 mm. thus the region falls under low rainfall and semi-arid zone. However, Owing to its undulating topography and severe drought conditions, the land has a number of medicinally important plants with great ethno medicinal properties used for the treatment of various ailments by the local population (Figure 1).

Field Observation

On the basis of field observation. We observed 28 traditional medicinal plant species [11 species of tree, 7 species of shrub, only 1 species of climber and 9 species of herb] (Figure 2).

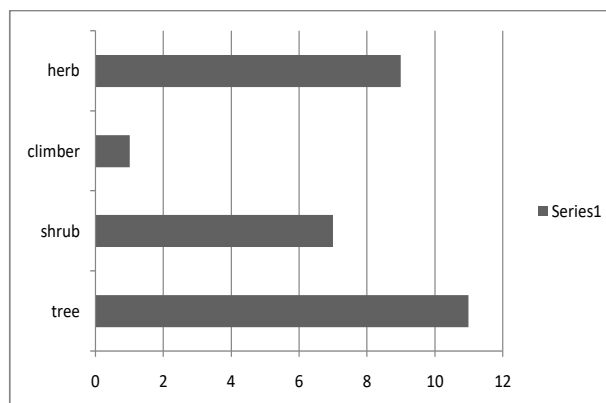


Figure 2: Number of the natural habit (Tree, Shrub, Climber and Herb) of traditional medicinal plants

Many types of wild traditional plant species (tree, shrub, herb, climber and grass) were present in the study area, but I was recorded mostly uses of plants as a medicine and also this was very common and rich in the study area. These plant species were covered because this is very commonly utilized in a Jalaun district as traditional medicine. Basically, these 28 plants were occurring in everywhere in Rahiya and Sarsonkhi my investigation areas. My completely focus on these local wild plants and their uses as a medicine by indigenous peoples. (Table 1).

RESULTS AND DISCUSSION

In the study area, 28 plant species in 26 genera *Ficus* and *Acacia* genera are very common and 22 families mostly *Euphorbiaceae*, *Amaranthaceae*, *Moraceae*, *Asteraceae* and *Mimosaceae* are very commonly found in investigated area. The plants were collected which have been employed to treat - human ailments. Among them - herbs, shrubs, trees and climber have been noted. In the following enumeration details of identified herb plants with alphabetical order, followed by family name, local name, parts used diseases and medicinal uses. These plants belong different families viz - *Solanaceae*, *Zingiberaceae*, *Liliaceae* etc. The present medicinal herbs survey has identified 28 plant species belonging to 14 families and 16 genera have been reported to be used by indigenous people of Jalaun District, Uttar Pradesh. The flora from Jalaun District in Bundelkhand Region has immense medicinal, pharmaceutical and commercial potential. India has about more than 45 000 plants species and among them several thousand are claimed to possess medicinal properties¹⁰⁻¹³. According to value of medications impotence and uses some use as a whole plant, some plants use different portions of plants like leaves, bark, stem, flowers, fruits and seeds. Mostly some herbs are used a whole plant, for example *Acyranthes aspera*, *Euphorbia thymifolia*, *Mentha spicata* and *Ocimum sanctum*¹⁴ (Figure 3).

Table 1: Enumeration of traditional medicinal plants species used by the indigenous people of Jalaun district, Uttar Pradesh, India.

| Botanical/ Scientific name | Local/ Common name | Family | Traditional Mediational Use |
|------------------------------------|--------------------|----------------|---|
| <i>Acacia catechu Willd.</i> | Khair | Mimosaceae | In weakness after childbirth, 2-3gm kathha boiled in a cup of water with cardamom added is given as a decoction after 2 days. |
| <i>Acacia nilotica Del.</i> | babul | Mimosaceae | In gum problems, Powdered bark (10-15gm) with a pinch of alum and black pepper (3-5gm) is used as a tooth paste. |
| <i>Acyranthes aspera L.</i> | latjira | Amaranthaceae | 5gm powdered root mixed with equal amount of powdered black pepper is given three times a day for gastric troubles. |
| <i>Amaranthus spinosus Linn.</i> | bhatkattaiya | Amaranthaceae | Fresh crushed leaves with little water prepared in the form of paste and applied thrice daily in case of eczema. |
| <i>Argemone maxicana Linn.</i> | kataili | Papaveraceae | For the removal of dandruff, root juice is applied on hair. |
| <i>Asparagus racemosus Willd.</i> | satavari | Asparagaceae | In dyspepsia, 10gm roots are boiled in a cup of milk and taken in the morning. |
| <i>Calatropis procera Ait.</i> | madar | Asclepiadaceae | In asthma, 6gm crushed flower buds with 7-8 black pepper seeds and 3 gm salt is formed into pills. 2-2 pills are given twice daily. |
| <i>Catharanthus roseus L.</i> | sadabahar | Apocynaceae | In diabetes, decoction (15-20ml) of dried leaves is taken in the morning before breakfast. |
| <i>Datura stramonium L.</i> | dhatura | Solanaceae | In asthma, few dried leaves with fruit (1:1) are grinded and then placed in a clay pot, over hot coals. The powdery ash then (not more than 1/2gm) is given in the morning for a month. |
| <i>Delbergia sisoo Roxb.</i> | shisham | Papilionaceae | To cure leucorrhoea, leaf juice (15-20 ml) is given thrice a day for a month. |
| <i>Emblica officinalis Gaertn.</i> | amla | Euphorbiaceae | In scurvy, powdered dry leaves (20-25 gm) with a spoon of sugar can be taken in doses of 1 tsp., thrice daily with a cup of milk. |
| <i>Euphorbia thymifolia L.</i> | Chhoti dudhi | Euphorbiaceae | To cure asthma, the whole plant is- crushed by adding little water. About 750 gm of this paste is prepared in the form of 16 tablets, given equally in four doses. |
| <i>Ficus carica L.</i> | anjir | Moraceae | In constipation by eating 2 dry fruits at night before sleep gives relief. |
| <i>Ficus racemosa L.</i> | gular | Moraceae | In dysentery, 5-6gm powdered roots with a cup of hot water is given twice daily for a week. |
| <i>Hibiscus rosa sinensis L.</i> | gurhal | Malvaceae | For open sores, decoction of hibiscus is made by pouring a cup of boiling water with 2 tsp. of fresh flowers and then steeped for 10 min. the decoction is used twice daily for a week. |
| <i>Jatropha gossypifolia L.</i> | jatropha | Euphorbiaceae | To cure cough, 10-15 fresh leaves are boiled and the leached is given daily for a week. |
| <i>Lantana camara L.</i> | lakhuri | Verbenaceae | In rheumatism, spread few ml of mustard oil spreader on 2-3 fresh leaves and should be applied on affected part thrice a day |
| <i>Lawsonia inermis L.</i> | mehndi | Lythraceae | In dandruff, 1 tsp. heena flower oil with 1 tsp. carrot seed oil with 2 drops of clove bud oil are mixed and massaged twice a day for a couple of week. |
| <i>Madhuca indica Gmel.</i> | mahua | Sapotaceae | In toothache, 20gm seeds are soaked in water overnight and then grinded into paste. This paste is applied in tooth cavity. |
| <i>Mentha spicata L.</i> | pudina | Lamiaceae | In common cold, 6-8 fresh leaves kept in boiling water for 10 min and filtered. About 8-10 drops of lime juice with a tsp. of honey is mixed and given thrice a day. |
| <i>Moringa oleifera Lamk.</i> | sehjana | Moringaceae | In dysentery, few fresh leaves are washed and cooked well in water. The filtrate is then given as 1-2 cup with plenty of water at supper time. |
| <i>Nyctanthus arbor-tristis L.</i> | harsingaar | Oleaceae | In malaria, few leaves are kept in boiled water for 10 min. 1 tsp. of this filtrate is given with honey thrice a day. |
| <i>Ocimum sanctum L.</i> | tulsi | Lamiaceae | In fever, juice of few leaves is taken every 2-3 hrs. with a cup of fresh water. |



| | | | |
|--------------------------------|--------|-----------------|--|
| <i>Saraca asoca</i> Roxb. | ashok | Caesalpiniaceae | In gynaecological problems, 10-15 gm bark is boiled in cow's milk with a tsp. of sugar and is given once a day for 3 days and repeating course after 3 months. |
| <i>Syzygium cumunni</i> L. | jamun | Myrtaceae | For the treatment of diabetes, seed are powdered and with about a quarter tsp. of honey is consumed for 50 days. |
| <i>Tagetes erecta</i> L. | genda | Asteraceae | For piles, 3-5 gm fresh leaves with 3-4 black pepper seeds are grinded and a tsp. of this mixture is given daily in the morning on empty stomach. |
| <i>Terminalia arjuna</i> Roxb. | arjun | Combretaceae | In heart problems, thick portions of the bark is washed and dried .the grinded powder in 2-2gm doses is used with milk every morning on empty stomach. |
| <i>Tridax procumbens</i> L. | gahmra | Asteraceae | In diabetes, dried leaves are crushed and 1tsp. powder prepared is given with a cup of hot water twice daily. |

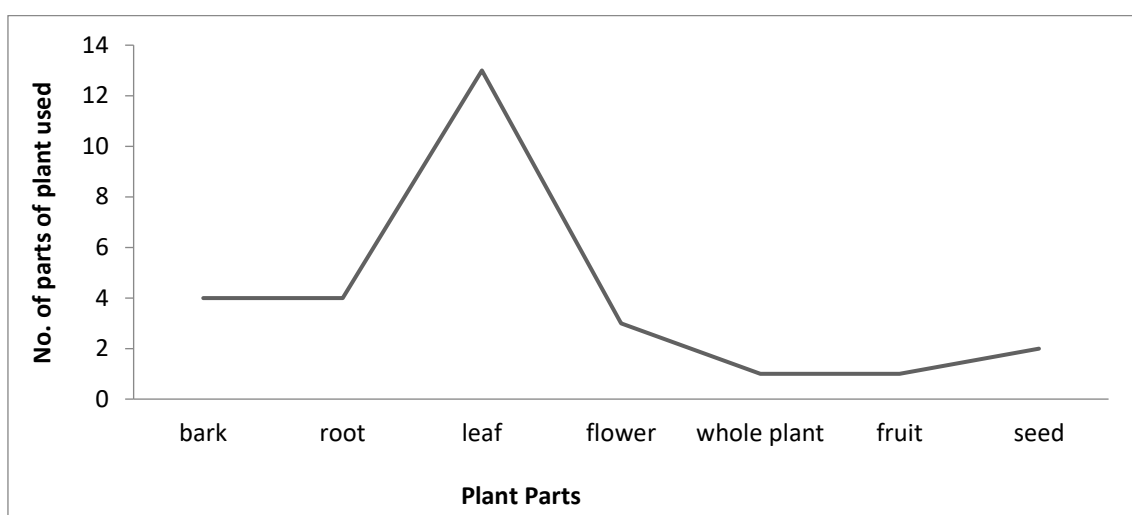


Figure 3: Utilization of plant parts of the indigenous wild medicinal plant in Jalaun district, region of Bundelkhand, Uttar Pradesh, India.

Common human health problems of the district are gastrointestinal problems, Skin problems, Respiratory problems, Gum problems and Diabetes etc (Figure 4). The rural communities are very much prone to these ailments because of virtually non-existing health care, inadequate availability of pure drinking water, unhygienic attitude of the population due to illiteracy, proper sanitation etc¹⁵.

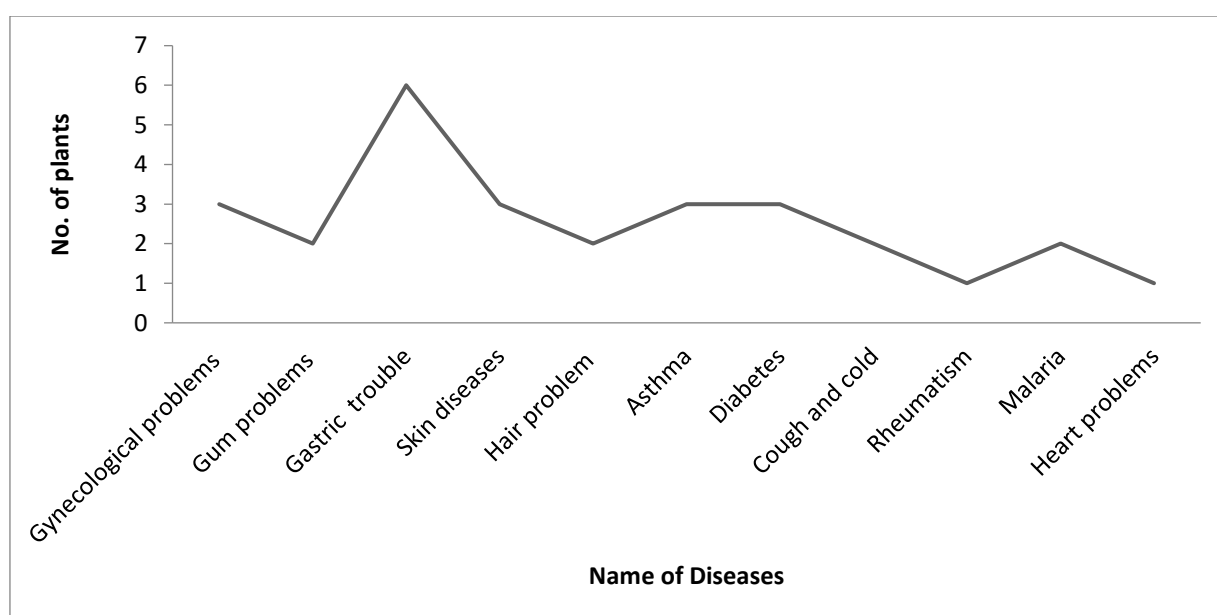


Figure 4: Traditional medicinal wild plant Based Remedies by Indigenous peoples of Jalaun district used in many diseases

CONCLUSION

The indigenous communities are very much prone to these ailments because of one of the prominent reasons as virtually non-existing health care installations. This forced the indigenous people of the study area to adopt their own traditional herbal medicine for their health care. Indigenous community's practitioners and older people of Jalaun district utilize a number of plant species grown around their homes for several traditional medicinal uses. However, the younger indigenous generation by ignoring their ancestral traditional medicine is inclining towards the allopathic medicine. Since, several bioactive compounds are being extracted from traditional medicinal plants; they are in great demand in pharmaceutical industries. The phytochemical analysis and pharmacological investigations of folk medicinally important plants with taking in view their proper conservation too, would help in developing novel drugs to treat chronic ailments.

Source of Support: The author(s) received no financial support for the research, authorship, and/or publication of this article

Conflict of Interest: The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

REFERENCES

1. G. Pushpagandan, "Ethnomedicinal practices of rural & tribal population of India with special reference to the mother & childcare," *International Journal of traditional Knowledge*, 2010; 9(1): 9-17.
2. J. W. Harshberger, "The purpose of ethnobotany," *Botanical Gazette*, 1896; 21: 146-158.
3. A. L. Sajem, and K. Gosai, "Traditional use of medicinal plants by the Jaintia tribes in North Cachar Hills district of Assam, northeast India," *Journal of Ethnomedicinal*, 2006; 2: 33.
4. V. P. Kamboj, "Herbal Medicine," *Current Science*, 2000; 78: 35-39.
5. S. Ignacimuthu, M. Ayyanar, and K. Sankarasivaraman, "Ethnobotanical study of medicinal plants used by Paliyar tribals in Theni district of Tamil Nadu, India," *Fitotera*, 2008; 79: 562-568.
6. N. Rajakumar, and M.B. Shivanna, "Traditional herbal medicinal knowledge in Sagara Taluk of Shimoga District, Karnataka, India," *International Journal of Natural Product and Resource*, 2010; 1(1): 102-108.
7. J. Rahul, S. P. Singh, and A. Naz, "An Ethnomedicinal Survey of Orchha Wildlife Sanctuary Region of Tikamgarh District, Madhya Pradesh, India," *Journal of Botanical Research*, 2013; 4(1): 31-34.
8. P. M. Pragada, and G. M. N. Rao, "Ethnoveterinary medicinal practices in tribal regions of Andhra Pradesh, India," *Brazilian Journal of Plant Taxonomy*, 2012; 19(1): 7-16.
9. A. A. Sardar, and Z. U. Khan, "Ethnomedicinal studies on Plant Resources of Tehsil Shakargrah, District Narowal, Pakistan" *Pakistan Journal of Botany*, 2009; 41(1): 11-18.
10. J. Rahul, J. K. Jain, S. P. Singh, R. K. Kamal, Anuradha, A. Naz, A. K. Gupta, and S. K. Mrityunjay, "Adansonia digitata L. (baobab): a review of traditional information and taxonomic description," *Asian Pacific Journal of traditional biomedicine*, 2015; 5(1): 79-84.
11. J. Rahul, "Ethnobotanical Study of Medicinal Shrubs Used by People in Lakhmanpura Region of Bundelkhand, Uttar Pradesh, India," *International Journal of Science and Nature*, 2013; 4(2):1-3.
12. J. Rahul, "An Ethnobotanical Study of Medicinal Plants in Taindol Village, District Jhansi, Region of Bundelkhand, Uttar Pradesh, India. *Journal of Medicinal Plants Studies*," 2013; 1(5):59-71.
13. J. Rahul, S. P. Singh, and A. Naz, "An Ethnomedicinal Survey of Orchha Wildlife Sanctuary Region of Tikamgarh District, Madhya Pradesh, India," *Journal of Botanical Research*, 2013; 4(1): 31-34.
14. R. K. Kamal, N. Sahu, J. Rahul, and S. P. Singh, "Snake Bite, Venom, Anti-Venom Production and Anti-Venom Activity of Medicinal Plants: A Review," *International Journal of Pharmaceutical Sciences Review and Research*, 2015;30(1): 227-234.
15. Y. A. Ahirrao, and D. A. Patil, "Indigenous Healthcare Practices in Buldhana District Maharashtra," *International Journal of Traditional Knowledge*, 2010; 1(1): 85-88.

For any questions related to this article, please reach us at: globalresearchonline@rediffmail.com

New manuscripts for publication can be submitted at: submit@globalresearchonline.net and submit_ijpsrr@rediffmail.com

