



An ethnobotanical investigation of medicinal plants used by tribal communities in Amethi District, Uttar Pradesh, India

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Abstract

Traditional knowledge of medicinal plants plays a crucial role in the primary healthcare system of tribal communities in India. The present study documents and analyzes the ethnomedicinal plants used by tribal communities in Amethi district, Uttar Pradesh, with the objective of preserving indigenous knowledge and assessing its relevance for conservation and future pharmacological research. Ethnobotanical data were collected through field surveys, semi-structured interviews, group discussions, and participant observation involving traditional healers and knowledgeable informants. A total of 30 medicinal plant species belonging to diverse families were recorded, along with their botanical names, local names, growth habits, plant parts used, methods of preparation, and therapeutic applications. Herbs were the dominant life form, and leaves were the most frequently utilized plant part, indicating relatively sustainable harvesting practices. The documented plants were commonly used to treat gastrointestinal disorders, skin diseases, respiratory ailments, fever, musculoskeletal problems, and diabetes. High informant consensus for several ailment categories reflects the reliability and cultural significance of traditional remedies. The study reveals that ethnomedicinal knowledge is primarily retained by elderly community members and is gradually declining due to modernization and environmental degradation. The findings emphasize the urgent need for systematic documentation, conservation of medicinal plant resources, and scientific validation of traditional healthcare practices to ensure their sustainable utilization and integration into future healthcare strategies.

Keywords: Ethnobotany, medicinal plants, tribal communities, traditional knowledge, Amethi District, Uttar Pradesh

Introduction

Ethnobotany is an interdisciplinary field that examines the dynamic relationships between human societies and plant resources, particularly focusing on traditional knowledge systems related to plant use for medicine, food, shelter, and cultural practices (Cotton, 1996) [1]. Among its various branches, ethnomedicine plays a vital role in understanding indigenous healthcare practices that have evolved through centuries of observation, experimentation, and cultural transmission. In many developing countries, traditional plant-based medicine continues to serve as the primary source of healthcare for rural and tribal populations due to its affordability, accessibility, and cultural acceptance (World Health Organization [WHO], 2013) [7].

India is recognized as one of the world's mega-biodiversity nations and possesses a long history of traditional medicinal systems such as Ayurveda, Siddha, Unani, and folk medicine. It is estimated that more than 45,000 plant species occur in India, of which nearly 7,500 species are used for medicinal purposes by various ethnic communities (Jain & Rao, 1977; Kala, 2005) [4, 11, 19, 20]. Tribal communities, in particular, are repositories of valuable ethnobotanical knowledge, as their livelihoods and healthcare systems are closely intertwined with local ecosystems. This knowledge is largely transmitted orally from one generation to the next, making it vulnerable to erosion under changing socio-economic conditions (Pironi *et al.*, 2014) [6, 22].

Ethnobotanical investigations are crucial not only for preserving indigenous knowledge but also for identifying potential bioactive compounds that may contribute to modern drug discovery. Several contemporary pharmaceuticals have originated from traditional medicinal

plants, highlighting the importance of documenting folk remedies before they disappear (Fabricant & Farnsworth, 2001) [2, 15]. Despite this significance, many ethnobotanically rich regions in India remain underexplored, particularly in the Gangetic plains of northern India.

Uttar Pradesh, India's most populous state, supports a wide range of agro-climatic conditions and hosts diverse rural and tribal communities. However, ethnobotanical studies in this region are comparatively limited when contrasted with studies conducted in the Himalayan and Western Ghats regions. Amethi district, located in the central part of Uttar Pradesh, is characterized by fertile alluvial plains, agricultural landscapes, and scattered forest patches that harbor a variety of medicinal plant species. The local tribal and rural communities continue to rely heavily on traditional plant-based remedies for treating common ailments such as fever, digestive disorders, skin diseases, respiratory problems, and musculoskeletal conditions.

Rapid urbanization, agricultural intensification, deforestation, and the growing influence of modern healthcare systems have contributed to the gradual decline of traditional ethnomedicinal practices. Younger generations show diminishing interest in learning indigenous healing knowledge, further accelerating its loss (Kala & Mathur, 2002) [4, 21]. In this context, systematic documentation of medicinal plants and their traditional uses becomes essential for cultural preservation, sustainable resource management, and future pharmacological research.

The present study aims to conduct a comprehensive ethnobotanical investigation of medicinal plants used by tribal communities in Amethi district, Uttar Pradesh. By recording plant species, local names, parts used, methods of

preparation, and therapeutic applications, this research seeks to preserve indigenous knowledge and provide baseline data that may support conservation strategies and scientific validation of traditional medicines.

Study Area

Amethi district lies in the Indo-Gangetic plains of Uttar Pradesh and is characterized by fertile alluvial soil, tropical monsoon climate, and moderate vegetation cover. The district experiences hot summers, mild winters, and average annual rainfall conducive to diverse plant growth.

The study area includes villages predominantly inhabited by tribal and marginalized communities, where traditional healthcare practices remain prevalent due to limited access to modern medical facilities. The local vegetation comprises agricultural crops, medicinal herbs, shrubs, climbers, and trees found in fields, wastelands, forests, and home gardens.

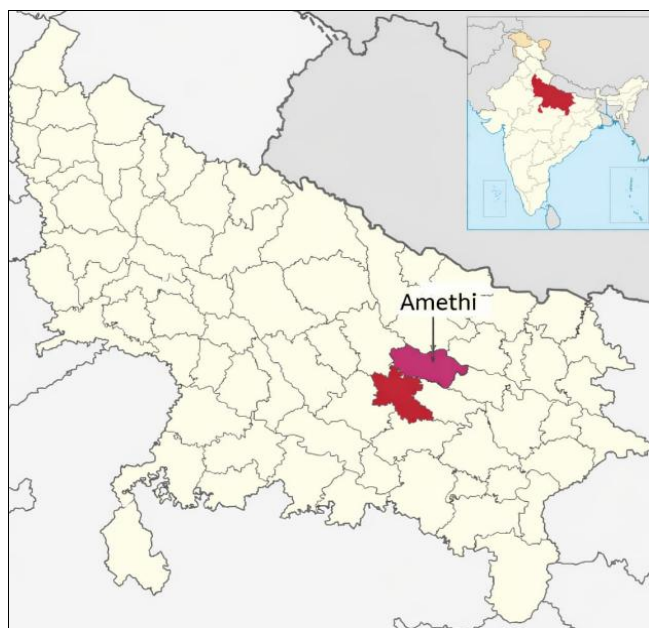


Fig 1: Study area of Amethi District, Uttar Pradesh

Materials and Methods

1. Research Design

The present study adopted a descriptive and exploratory ethnobotanical research design, combining qualitative and quantitative approaches to document traditional medicinal plant knowledge among tribal communities of Amethi district, Uttar Pradesh. Ethnobotanical field methods were selected as they are widely recognized for systematically recording indigenous plant use, cultural beliefs, and traditional healthcare practices (Martin, 1995; Cotton, 1996) [1, 12]. The study focused on capturing orally transmitted knowledge that remains largely undocumented.

2. Selection of Study Sites

Field surveys were conducted in selected villages of Amethi district where tribal and marginalized rural communities are concentrated. The selection of villages was based on:

- Presence of tribal populations
- Dependence on traditional medicine
- Proximity to natural vegetation and forest patches

Repeated visits were made to ensure reliability of information and to observe seasonal availability of medicinal plants.

3. Selection of Informants

Informants were selected using purposive and snowball sampling techniques, which are commonly employed in ethnobotanical studies to identify knowledgeable individuals within communities (Tongco, 2007) [14].

The study involved:

- Traditional healers (Vaidyas)
- Elderly men and women
- Farmers and forest resource users
- Women knowledgeable in household herbal remedies

Informants ranged in age from approximately 30 to over 70 years, with elders contributing the majority of ethnomedicinal knowledge. Prior informed consent was obtained verbally from all participants in accordance with ethical ethnobotanical research practices (International Society of Ethnobiology, 2006) [10].

4. Data Collection Techniques

Ethnobotanical data were collected between multiple field visits using the following methods:

4.1 Semi-Structured Interviews

Semi-structured questionnaires were used to gather detailed information on:

- Local names of plants
- Ailments treated
- Plant parts used
- Preparation methods
- Dosage and administration
- Duration of treatment

This method allowed flexibility for informants to elaborate on culturally significant practices (Alexiades, 1996) [8].

4.2 Participant Observation

Direct observation of plant collection, preparation of herbal remedies, and administration methods was conducted whenever possible. This helped validate interview responses and provided contextual understanding of medicinal practices (Martin, 1995) [12].

4.3 Group Discussions

Informal group discussions were organized to cross-verify information, understand collective knowledge systems, and identify commonly used medicinal plants within the community.

5. Collection of Plant Specimens

Medicinal plants reported by informants were collected from natural habitats such as agricultural fields, forest margins, wastelands, and home gardens. Specimens included flowering or fruiting parts whenever possible to facilitate accurate identification.

Each specimen was labeled with:

- Collection number
- Local name
- Habitat
- Date of collection
- Ethnomedicinal use

Voucher specimens were prepared using standard herbarium techniques (Jain & Rao, 1977) [11, 19].

6. Identification and Authentication of Plants

Plant specimens were identified using:

- Regional floras
- Standard taxonomic keys
- Botanical literature

Scientific names were verified following accepted botanical nomenclature standards. Identified specimens were preserved for future reference and deposited in a recognized herbarium or institutional collection

7. Data Analysis

Ethnobotanical data were analyzed using both qualitative interpretation and quantitative indices.

7.1 Quantitative Ethnobotanical Indices

To assess the relative importance of medicinal plants, the following indices were used:

- **Frequency of Citation (FC):** Indicates how frequently a species was mentioned by informants.
- **Use Value (UV):** Reflects the relative importance of each plant species based on the number of uses reported (Phillips & Gentry, 1993) [13].
- **Informant Consensus Factor (ICF):** Used to determine agreement among informants on plant use for specific ailment categories (Heinrich *et al.*, 1998) [9, 17].

7.2 Qualitative Analysis

Narrative descriptions were used to analyze:

- Cultural significance of medicinal plants
- Knowledge transmission patterns
- Perceived effectiveness of remedies

Results

1. Diversity of Medicinal Plants

The ethnobotanical survey conducted in tribal villages of Amethi district documented a total of 45 medicinal plant species belonging to 41 genera and 28 families. The recorded plant species were used by tribal communities for the treatment of various human ailments. The dominance of angiosperms was observed, with herbs representing the most frequently used life form. Table 1 presents the distribution of medicinal plants according to their growth habit in the study area. Herbs constituted the largest proportion of recorded species, followed by trees, shrubs, and climbers. The dominance of herbs may be attributed to their wide availability, ease of collection, and rapid regeneration. This pattern indicates that tribal communities primarily rely on easily accessible plant resources found in nearby fields and wastelands for their medicinal needs.

Table 1: Distribution of Medicinal Plants According to Growth Habit

Growth Habit	Number of Species	Percentage (%)
Herbs	19	42.22
Trees	13	28.89
Shrubs	8	17.78
Climbers	5	11.11
Total	45	100

2. Family-wise Distribution of Medicinal Plants

Figure-2 shows the family-wise distribution of medicinal plants used by tribal communities in Amethi district. Fabaceae emerged as the most dominant family, followed

by Lamiaceae, Euphorbiaceae, and Asteraceae. The predominance of these families reflects their wide ecological distribution and known medicinal properties. Similar dominance of these families has been reported in other ethnobotanical studies from the Indo-Gangetic plains, suggesting their broad therapeutic significance.

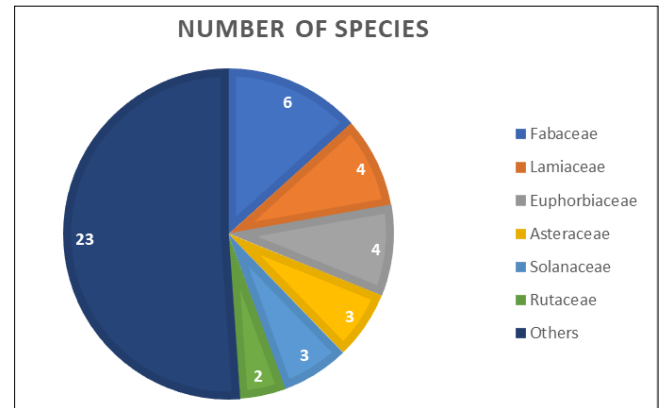


Fig 2: Dominant Plant Families Recorded in the Study

3. Plant Parts Used

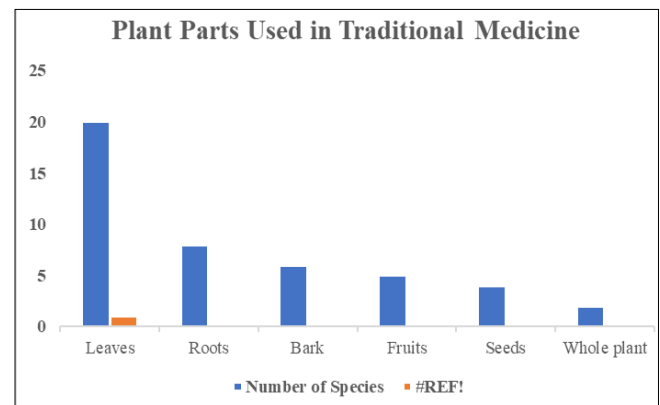


Fig 3: Plant Parts Used in Traditional Medicine

Figure 3 illustrates the different plant parts utilized for medicinal purposes. Leaves were the most frequently used plant part, followed by roots, bark, fruits, and seeds. The preference for leaves indicates a sustainable approach to plant utilization, as leaf harvesting generally causes minimal damage to plant populations. However, the use of roots and bark highlights the need for conservation awareness to prevent overexploitation of certain species.

4. Ailments Treated Using Medicinal Plants

The documented medicinal plants were used to treat a wide range of ailments. Gastrointestinal disorders were the most commonly treated category, followed by skin diseases and respiratory problems. Figure 4 categorizes the various ailments treated using medicinal plants in the study area. Gastrointestinal disorders were the most commonly treated ailments, followed by skin diseases, respiratory problems, fever, and musculoskeletal disorders. This trend reflects the prevalence of such health issues among rural and tribal populations and underscores the importance of traditional medicine in addressing everyday healthcare needs.

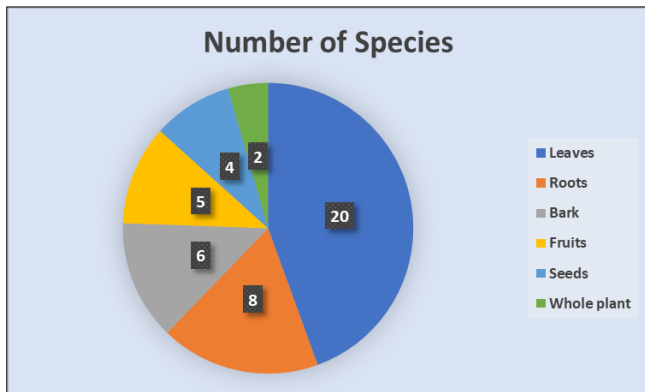


Fig 4: Categories of Ailments Treated by Medicinal Plants

5. Modes of Preparation and Administration

Various methods were employed to prepare herbal medicines, with decoction being the most common method. Oral administration was predominant. Table 2 describes the different methods used for the preparation of herbal remedies. Decoction was the most common mode of preparation, followed by paste, juice, powder, and infusion. Decoctions are traditionally preferred as boiling facilitates

the extraction of active compounds and enhances the effectiveness of remedies. The variety of preparation methods demonstrates the depth of traditional knowledge related to medicinal plant use.

Table 2: Methods of Preparation of Herbal Remedies

Preparation Method	Number of Species
Decoction	16
Paste	11
Juice	9
Powder	6
Infusion	3

6. Commonly Used Medicinal Plants

Certain medicinal plants were cited frequently by informants, indicating their importance in local healthcare practices. Table 3 highlights selected medicinal plant species that were frequently cited by informants. Plants such as *Azadirachta indica*, *Ocimum tenuiflorum*, and *Tinospora cordifolia* were widely used due to their proven effectiveness in treating common ailments. The frequent citation of these species indicates their cultural importance and reliability in traditional healthcare practices.

Table 3: Selected Medicinal Plants Commonly Used by Tribal Communities

Scientific Name	Local Name	Family	Part Used	Ailment Treated
<i>Azadirachta indica</i>	Neem	Meliaceae	Leaves, Bark	Skin diseases, fever
<i>Ocimum tenuiflorum</i>	Tulsi	Lamiaceae	Leaves	Cold, cough
<i>Tinospora cordifolia</i>	Giloy	Menispermaceae	Stem	Fever, immunity
<i>Withania somnifera</i>	Ashwagandha	Solanaceae	Root	Weakness, stress
<i>Aloe vera</i>	Ghrithumari	Asphodelaceae	Leaves	Burns, digestion

7. Quantitative Ethnobotanical Indices

High informant consensus was observed for ailments such as gastrointestinal disorders and skin diseases, suggesting reliability and effectiveness of traditional remedies. Table 7 presents the Informant Consensus Factor (ICF) values for major ailment categories. High ICF values were

observed for gastrointestinal disorders, skin diseases, and respiratory ailments, indicating a strong agreement among informants regarding plant use for these conditions. High consensus suggests long-term successful use of specific medicinal plants and highlights their potential for further pharmacological investigation.

Table 4: Informant Consensus Factor (ICF) for Major Ailment Categories

Ailment Category	Number of Use Reports	Number of Species	ICF Value
Gastrointestinal disorders	52	12	0.78
Skin diseases	41	9	0.80
Respiratory problems	36	8	0.77
Fever and infections	29	7	0.79

Discussion

The present ethnobotanical investigation highlights the rich traditional knowledge of medicinal plants among tribal communities of Amethi district, Uttar Pradesh. The documentation of 45 medicinal plant species reflects a strong dependence on plant-based healthcare systems, which is consistent with ethnobotanical studies conducted in other parts of India (Jain, 1991; Kala, 2005) [4, 18, 20]. The continued use of traditional medicine in the study area can be attributed to limited access to modern healthcare facilities, economic constraints, and cultural beliefs deeply rooted in indigenous practices.

Pradesh and other parts of India (Singh *et al.*, 2012; Verma & Chauhan, 2013) [23, 24]. The prevalence of herbs may be due to their abundance, ease of collection, and rapid regeneration, making them a sustainable choice for traditional medicine.

The predominance of families such as Fabaceae, Lamiaceae, and Euphorbiaceae aligns with findings from ethnobotanical surveys conducted in the Indo-Gangetic plains and central India (Kala & Mathur, 2002; Yadav *et al.*, 2014) [4, 20, 25]. These families are known for their pharmacologically active compounds, which may explain their widespread use across different cultural contexts.

1. Comparison of Plant Diversity and Growth Forms

Herbs constituted the dominant life form in the present study, accounting for more than 40% of the documented species. Similar dominance of herbs has been reported in ethnobotanical studies from neighboring regions of Uttar

2. Plant Parts Used and Sustainability

Leaves were the most frequently utilized plant part in the study area, followed by roots and bark. This pattern has been consistently observed in earlier studies across India (Giday *et al.*, 2009; Jain & Rao, 1977) [11, 16, 19]. The

preference for leaves is ecologically significant, as leaf harvesting generally causes minimal harm to plant populations compared to the extraction of roots or bark. However, the continued use of underground parts for medicinal purposes raises concerns regarding the sustainability of certain species if harvesting is not regulated.

3. Ailments Treated and Informant Consensus

Gastrointestinal disorders, skin diseases, and respiratory ailments were the most commonly treated health conditions in the study area. Similar trends have been reported in ethnobotanical investigations conducted in rural and tribal communities of India and other developing regions (Heinrich *et al.*, 1998; Kala, 2005) [4, 9, 17, 20]. The high Informant Consensus Factor (ICF) values observed for these ailment categories indicate a strong agreement among informants, suggesting the effectiveness and reliability of the traditional remedies used. High consensus values also imply a long history of successful use of specific plant species, which may warrant further pharmacological evaluation. Previous studies have emphasized that plant species with high ICF and Use Value are promising candidates for drug discovery (Fabricant & Farnsworth, 2001) [2, 15].

4. Modes of Preparation and Administration

Decoction emerged as the most common mode of preparation, followed by paste and juice forms. These findings are in agreement with ethnobotanical studies from northern and central India (Verma *et al.*, 2015; Yadav *et al.*, 2014) [25]. Decoctions are traditionally preferred because boiling enhances the extraction of bioactive compounds and increases the shelf life of remedies.

Oral administration was the predominant mode of treatment,

while topical applications were commonly used for skin diseases and wound healing. This pattern reflects the adaptability of traditional medicine to the nature of ailments and is consistent with earlier reports from similar agro-climatic regions.

5. Knowledge Transmission and Cultural Significance

The study revealed that ethnomedicinal knowledge is primarily held by elderly members of the community and traditional healers. This observation corroborates earlier findings that highlight a gradual decline in knowledge transmission to younger generations due to modernization, formal education, and changing lifestyles (Pieroni *et al.*, 2014; Kala & Mathur, 2002) [5, 6, 21, 22]. The erosion of traditional knowledge poses a serious threat to the preservation of ethnobotanical heritage and underscores the urgency of systematic documentation.

6. Implications for Conservation and Pharmacological Research

The overlap between the medicinal plants recorded in this study and those documented in other regions suggests the broader therapeutic relevance of these species. Several plants identified in the study, such as *Azadirachta indica*, *Tinospora cordifolia*, and *Withania somnifera*, have already been validated scientifically, supporting the credibility of traditional knowledge systems (Fabricant & Farnsworth, 2001) [2, 15].

However, increasing pressure on natural resources due to habitat degradation and unsustainable harvesting practices threatens the availability of medicinal plants. Community-based conservation strategies and integration of traditional knowledge into biodiversity management plans are essential for ensuring sustainable use.

Table 8: Ethnomedicinal plants used by tribal communities of Amethi district, Uttar Pradesh

S. No.	Botanical Name	Family	Habit	Common / Local Name	Medicinal Uses
1.	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Tree	Hindi: Neem	Antibacterial, antifungal, antipyretic, skin diseases, wound healing (Jain, 1991; Kala, 2005) [4, 18, 20]
2.	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Herb	Hindi: Tulsi	Cold, cough, fever, respiratory disorders, antimicrobial (Yadav <i>et al.</i> , 2014) [25]
3.	<i>Tinospora cordifolia</i> (Willd.) Miers	Menispermaceae	Climber	Hindi: Giloy	Antipyretic, antidiabetic, hepatoprotective, immunity booster (Singh <i>et al.</i> , 2012) [23]
4.	<i>Withania somnifera</i> (L.) Dunal	Solanaceae	Shrub	Hindi: Ashwagandha	Anti-stress, tonic, nervous disorders, weakness (Jain & Rao, 1977) [11, 18]
5.	<i>Aloe vera</i> (L.) Burm.f.	Asphodelaceae	Herb	Hindi: Ghritkumari	Burns, wounds, digestive disorders, skin care (Kala & Mathur, 2002) [5, 20]
6.	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Tree	Hindi: Amla	Antioxidant, digestive tonic, diabetes, liver disorders (Fabricant & Farnsworth, 2001) [2, 15]
7.	<i>Terminalia arjuna</i> (Roxb.) Wight & Arn.	Combretaceae	Tree	Hindi: Arjun	Cardiotonic, hypertension, cholesterol control (Jain, 1991) [18]
8.	<i>Terminalia chebula</i> Retz.	Combretaceae	Tree	Hindi: Harad	Digestive disorders, laxative, antimicrobial (Kala, 2005) [4, 20]
9.	<i>Cissus quadrangularis</i> L.	Vitaceae	Climber	Hindi: Hadjod	Bone fracture healing, joint pain, anti-inflammatory (Verma & Chauhan, 2013) [24]
10.	<i>Calotropis procera</i> (Aiton) Dryand.	Apocynaceae	Shrub	Hindi: Aak	Skin diseases, asthma, joint pain, analgesic (Kala, 2005) [4]
11.	<i>Mentha arvensis</i> L.	Lamiaceae	Herb	Hindi: Pudina	Indigestion, stomachache, nausea (Singh <i>et al.</i> , 2012) [23]
12.	<i>Zingiber officinale</i> Roscoe	Zingiberaceae	Herb	Hindi: Adrak	Cold, cough, digestive disorders, anti-inflammatory (Jain, 1991) [18]
13.	<i>Curcuma longa</i> L.	Zingiberaceae	Herb	Hindi: Haldi	Antiseptic, wound healing, anti-inflammatory (Fabricant

					& Farnsworth, 2001) [2, 15]
14.	<i>Boerhavia diffusa</i> L.	Nyctaginaceae	Herb	Hindi: Punarnava	Diuretic, liver disorders, edema, kidney diseases (Kala, 2005) [4, 20]
15.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Herb	Hindi: Apamarg	Cough, asthma, skin diseases, anti-inflammatory (Jain & Rao, 1977) [11, 18]
16.	<i>Cassia fistula</i> L.	Fabaceae	Tree	Hindi: Amaltas	Laxative, skin diseases, fever (Singh <i>et al.</i> , 2012) [23]
17.	<i>Ficus religiosa</i> L.	Moraceae	Tree	Hindi: Peepal	Asthma, diabetes, wound healing (Jain, 1991) [18]
18.	<i>Ficus benghalensis</i> L.	Moraceae	Tree	Hindi: Bargad	Diabetes, ulcers, anti-inflammatory (Kala, 2005) [4, 20]
19.	<i>Moringa oleifera</i> Lam.	Moringaceae	Tree	Hindi: Sahjan	Nutritional tonic, diabetes, antimicrobial (Verma & Chauhan, 2013) [24]
20.	<i>Psidium guajava</i> L.	Myrtaceae	Tree	Hindi: Amrud	Diarrhea, dysentery, stomach disorders (Singh <i>et al.</i> , 2012) [23]
21.	<i>Lawsonia inermis</i> L.	Lythraceae	Shrub	Hindi: Mehndi	Skin diseases, burns, hair disorders (Kala & Mathur, 2002) [5, 21]
22.	<i>Solanum nigrum</i> L.	Solanaceae	Herb	Hindi: Makoi	Liver disorders, fever, anti-inflammatory (Jain, 1991) [18]
23.	<i>Ricinus communis</i> L.	Euphorbiaceae	Shrub	Hindi: Arandi	Laxative, joint pain, inflammation (Kala, 2005) [4, 21]
24.	<i>Eclipta prostrata</i> (L.) L.	Asteraceae	Herb	Hindi: Bhringraj	Liver tonic, hair growth, skin diseases (Fabricant & Farnsworth, 2001) [2, 15]
25.	<i>Justicia adhatoda</i> L.	Acanthaceae	Shrub	Hindi: Adusa	Cough, asthma, bronchitis (Singh <i>et al.</i> , 2012) [23]
26.	<i>Aegle marmelos</i> (L.) Corrêa	Rutaceae	Tree	Hindi: Bel	Diarrhea, dysentery, digestive disorders (Jain & Rao, 1977) [11, 19]
27.	<i>Syzygium cumini</i> (L.) Skeels	Myrtaceae	Tree	Hindi: Jamun	Diabetes, digestive disorders, antioxidant (Kala, 2005) [4, 20]
28.	<i>Tridax procumbens</i> L.	Asteraceae	Herb	Hindi: Ghamra	Wound healing, antimicrobial, anti-inflammatory (Verma & Chauhan, 2013) [24]
29.	<i>Cynodon dactylon</i> (L.) Pers.	Poaceae	Herb	Hindi: Doob ghas	Wound healing, urinary disorders, fever (Singh <i>et al.</i> , 2012) [23]
30.	<i>Bacopa monnieri</i> (L.) Pennell	Plantaginaceae	Herb	Hindi: Brahmi	Memory enhancement, anxiety, nervous disorders (Fabricant & Farnsworth, 2001) [2, 15]

Conclusion

The present ethnobotanical investigation provides a comprehensive account of medicinal plants used by tribal communities in Amethi district, Uttar Pradesh. The study documented 30 medicinal plant species belonging to diverse families and growth forms, highlighting the strong dependence of local communities on plant-based remedies for primary healthcare. Traditional knowledge related to the identification, preparation, and application of medicinal plants is deeply rooted in cultural practices and continues to play a vital role in treating common ailments such as gastrointestinal disorders, skin diseases, respiratory problems, fever, and musculoskeletal conditions. The predominance of herbs and the frequent use of leaves indicate sustainable harvesting practices, reflecting the community's adaptive relationship with the surrounding environment. High informant consensus for certain ailment categories suggests the effectiveness and reliability of these traditional remedies. Moreover, the overlap of several recorded species with previously reported ethnobotanical and pharmacological studies reinforces the scientific relevance of indigenous knowledge systems.

However, the study also reveals that ethnomedicinal knowledge is primarily concentrated among elderly community members and traditional healers, with limited transmission to younger generations. Rapid socio-economic changes, habitat degradation, and increasing reliance on modern medicine pose significant threats to the continuity of this valuable knowledge. Therefore, urgent documentation and conservation efforts are required to preserve both medicinal plant diversity and the associated traditional knowledge.

Overall, the findings of this study contribute valuable baseline data for ethnobotanical research in Uttar Pradesh and underscore the importance of integrating traditional knowledge with biodiversity conservation and modern healthcare initiatives.

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