



Documentation of Traditional Knowledge and Folk Medicinal Uses of Plants in Eastern Uttar Pradesh: An Ethnobotanical Study

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ABSTRACT

In rural India, traditional knowledge about medicinal plants is a crucial part of primary healthcare. However, this important indigenous information is gradually disappearing due to increased urbanization, environmental degradation, and changing lifestyles. In order to record traditional knowledge and folk medicinal uses of plants used by local communities and traditional healers, the current ethnobotanical study was carried out in Eastern Uttar Pradesh. Semi-structured interviews, questionnaires, and direct observations were used to conduct field surveys in a few chosen communities. Local plant names, plant parts used, preparation techniques, modalities of administration, and illnesses treated were all noted.

90 species of therapeutic plants from 48 families were identified. The most common living form was herbs, which were followed by climbers, trees, and shrubs. The most commonly used plant portion was the leaf, and the most popular preparation methods were pastes and decoctions. The reported species were mostly utilized to treat wounds, musculoskeletal conditions, respiratory infections, fever, skin conditions, diabetes, and gastrointestinal illnesses. The study emphasizes how crucial it is to maintain traditional ethnomedicinal knowledge and the diversity of medicinal plants for both future pharmacological research and sustainable healthcare.

KEYWORDS

Eastern Uttar Pradesh, Indigenous healthcare, medicinal plants, traditional knowledge, ethnobotany, and folk medicine.

ARTICLE HISTORY

Received: 27 April 2026

Accepted: 15 May 2026

Published: 30 June 2026

CITATION

Ghayas, Z., (2026). Documentation of Traditional Knowledge and Folk Medicinal Uses of Plants in Eastern Uttar Pradesh: An Ethnobotanical Study, *Journal of Science and Technology (GJST)*, 2(2), 19-24.
<https://doi.org/10.65523/gjst.2026.v2.i2.04>

1. Introduction

India has a long history of employing medicinal plants in medicine and is regarded as one of the wealthiest nations in the world in terms of biological and cultural diversity. Plant-based medicines have been used for ages to cure a variety of human ailments in traditional systems like Ayurveda, Unani, Siddha, and diverse folk medical practices (Jain, 1991; Fabricant & Farnsworth, 2001). Nearly 80% of people in developing nations rely on traditional medicine for primary healthcare, according to the World Health Organization, underscoring the ongoing significance of medicinal plants in underserved and rural areas (WHO, 2013).

Fertile alluvial plains, a wide variety of vegetation, and culturally vibrant rural populations are the hallmarks of Eastern Uttar Pradesh, where medicinal plants are still essential to medical care. The locals, including the old villages, herbalists, and traditional healers (Vaidyas and Hakims), are well-versed in identifying medicinal plants, their parts, preparation techniques, dosage, and therapeutic uses. Indigenous knowledge has been passed down orally from generation to generation and is a significant part of the biological and cultural legacy of the area (Kala, 2005; Heinrich et al., 2009).

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Due to modernization, urbanization, habitat degradation, overuse of medicinal plant resources, migration of younger generations, and growing reliance on contemporary healthcare systems, traditional ethnomedical knowledge is rapidly disappearing despite its importance (Hamilton, 2004; Kunwar & Bussmann, 2008). As a result, systematic ethnobotanical documentation is now crucial for maintaining this priceless traditional knowledge as well as for promoting biodiversity conservation, the sustainable use of medicinal plant resources, and the identification of new bioactive compounds for upcoming pharmacological studies (Cotton, 1996; Martin, 1995).

Thus, the current study uses ethnobotanical field surveys to record traditional knowledge and folk medical uses of plants in Eastern Uttar Pradesh. The study specifically aims to evaluate the role of medicinal plants in local healthcare systems, document the species of medicinal plants used by local communities, record the plant parts used, prepare them, and use them therapeutically, and contribute to the conservation of both indigenous knowledge and medicinal plant diversity.

Methodology

Stud Area

The current ethnobotanical study was carried out in the Indian districts of Azamgarh, Mau, and Jaunpur in Eastern Uttar Pradesh. These districts have a subtropical climate with an average annual rainfall of roughly 900–1100 mm. They are located in the fertile Gangetic plains. The area is primarily agricultural, with agriculture being the main occupation, and it supports a vast floral diversity. According to Singh and Hajra (1996) and Champion and Seth (1968), the study included a selection of villages that represent various ecological, cultural, and socioeconomic situations where local residents continue to actively practice traditional medical knowledge.

Selection of Informants

Purposive and snowball sampling methods were used to choose 120 informants in total. Traditional healers (Vaidyas and Hakims), herbalists, elderly villagers, farmers, and other informed community people with knowledge of the therapeutic applications of plants were among the responses. Standard ethnobotanical survey methods were used for the sample procedures (Martin, 1995; Cotton, 1996).

Data Collection

In 2025, field surveys were conducted from January to December. Semi-structured interviews, structured questionnaires, group discussions, and direct field observations were used to gather ethnobotanical data. Prior to completing the interviews, all participants gave their informed consent in accordance with normal ethical norms for ethnobotanical research (Alexiades, 1996; International Society of Ethnobiology, 2006). For every medicinal plant identified during the survey, details were methodically recorded regarding the local (vernacular) names, botanical names, plant families, habit and habitat, plant parts used, preparation techniques, dosage, administration route, and diseases cured.

Plant Identification

During field visits, examples of the medicinal plants mentioned by the informants were gathered. The specimens were verified by taxonomic experts and identified using conventional regional floras. For future reference, voucher specimens were made using conventional herbarium procedures and placed in the departmental herbarium (Jain & Rao, 1977; Singh & Hajra, 1996).

Data Analysis

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Descriptive statistical techniques were used to compile and analyze the gathered data. Determine the frequency and percentage of plant habits, plant parts used, preparation techniques, and disease categories addressed. To make comprehension easier, the data were displayed as tables, charts, and graphs (Martin, 1995; Cotton, 1996).

Results

The significant medical plant diversity in Eastern Uttar Pradesh is demonstrated by the ethnobotanical survey, which identified 90 species of therapeutic plants from 48 plant groups. Numerous conditions, such as gastrointestinal issues, skin conditions, fever, respiratory infections, diabetes, wounds, and joint pain, have historically been treated using these herbs. The therapeutic plants were categorized based on their growth patterns, plant sections utilized, preparation techniques, and illness categories addressed.

Herbs were the most prevalent and extensively used medicinal plants in the study area, accounting for 40 species (44.4%) of the recorded species, followed by trees (24 species; 26.7%), shrubs (18 species; 20.0%), and climbers (8 species; 8.9%). The most commonly used plant parts were leaves (38%), followed by roots (18%), bark (12%), fruits (10%), seeds (8%), whole plants (5%), and miscellaneous parts (3%). The most popular method for preparing traditional remedies was decoction (35%), followed by paste (26%), powder (16%), juice (14%), and infusion (9%). The majority of the documented medicinal plants were used to treat gastrointestinal disorders (24%), followed by skin conditions (18%), fever (15%), respiratory conditions (13%), diabetes (10%), wounds (9%), joint pain (7%), and other ailments (4%). These findings demonstrate the important role that medicinal plants play in rural communities' primary healthcare. The results show that Eastern Uttar Pradesh's traditional medical practices still heavily rely on medicinal plants, underscoring the importance of protecting this priceless indigenous knowledge (WHO, 2013; Fabricant & Farnsworth, 2001; Heinrich et al., 2009).

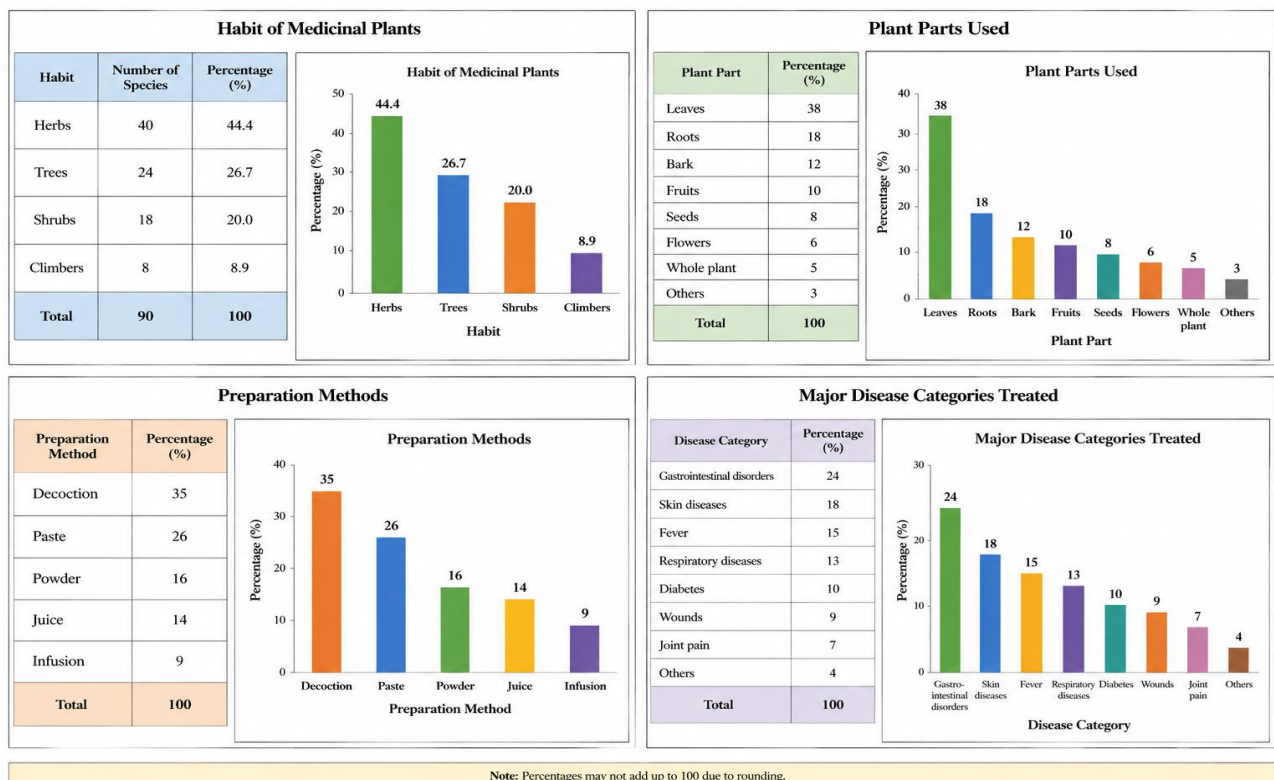


Figure 1 shows the distribution of Eastern Uttar Pradesh's medicinal plant habits, plant parts used, preparation techniques, and primary disease categories treated.

Discussion

The current study shows that Eastern Uttar Pradesh's rural inhabitants still rely heavily on medicinal plants for primary healthcare. According to earlier ethnobotanical research, the preponderance of herbs and the regular usage of leaves demonstrate their accessibility, sustainable gathering, and therapeutic potential (Jain, 1991; Kala, 2005; Heinrich et al., 2009).

The most popular preparation techniques were decoction and paste, and the majority of treatments were used to treat respiratory infections, fever, skin conditions, and gastrointestinal issues. These results demonstrate the local people's ongoing reliance on conventional plant-based healthcare systems (Fabricant & Farnsworth, 2001; WHO, 2013).

However, because of technology, urbanization, and shifting lifestyles, traditional ethnomedical knowledge is progressively disappearing. In order to preserve this priceless indigenous knowledge for future generations, appropriate recording, medicinal plant conservation, and scientific validation of traditional medicines are crucial (Hamilton, 2004; Cotton, 1996; WHO, 2013).

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