



Traditional Knowledge and Ethnomedicinal Uses of Medicinal Plants among Local Healers of Azamgarh District, Uttar Pradesh

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ABSTRACT

For generations, rural India's healthcare systems have relied heavily on traditional knowledge of medicinal plants. The current study records the ethnomedicinal expertise of indigenous healers in Uttar Pradesh's Azamgarh District, including Vaidyas, Hakims, herbalists, and old villagers. Semi-structured questionnaires, in-person interviews, group discussions, and participant observations were used to perform field surveys in a few chosen communities. Eighty-five species of therapeutic plants from forty-seven families were identified. Fabaceae, Asteraceae, Lamiaceae, Euphorbiaceae, and Apocynaceae were the most prevalent families. The most commonly used plant part was the leaf (42%), which was followed by the roots (18%), bark (13%), fruits (11%), seeds (8%), and flowers (8%). Fever, cough, diabetes, gastrointestinal issues, skin conditions, wounds, liver difficulties, respiratory infections, and gynecological issues were all treated with the documented species. The most popular preparation technique was decoction, which was followed by paste, powder, juice, and infusion. The study emphasizes how crucial it is to protect indigenous knowledge, encourage the sustainable use of medicinal plants, and validate traditional medicines scientifically for use in future medical applications.

KEYWORDS

Azamgarh, Uttar Pradesh; ethnomedicine; traditional knowledge; medicinal plants; local healers.

ARTICLE HISTORY

Received: 27 April 2026

Accepted: 15 May 2026

Published: 30 June 2026

CITATION

Ghayas, Z., (2026). Traditional Knowledge and Ethnomedicinal Uses of Medicinal Plants among Local Healers of Azamgarh District, Uttar Pradesh, *Journal of Science and Technology (GJST)*, 2(2), 25-31. <https://doi.org/10.65523/gjst.2026.v2.i2.05>

1. Introduction

India is considered one of the 17 megadiverse nations in the world and one of the wealthiest nations in terms of biological and cultural diversity. In addition to having a long history of traditional healthcare systems including Ayurveda, Siddha, Unani, and folk medicine, the nation is home to a huge variety of medicinal plant species (Jain, 1991; Kala, 2005; WHO, 2013). Traditional medical knowledge is still a crucial part of primary healthcare, especially in rural and tribal areas. It has developed over thousands of years as a result of ongoing interactions between local communities and their natural resources (WHO, 2013; Fabricant & Farnsworth, 2001). Nearly 80% of people in many poor nations rely on traditional medicine for their basic healthcare requirements, according to the World Health Organization (WHO, 2013).

Harshberger (1896) coined the word "ethnobotany," which refers to the scientific investigation of human-plant interactions. It includes recording indigenous knowledge on identifying, gathering, preparing, using, and conserving plants (Jain, 1991; Cotton, 1996). The focus of ethnomedicinal research is on the medicinal plants that rural and indigenous populations employ to cure a variety of human illnesses. Many indigenous healthcare systems, such as Ayurveda, Siddha, Unani, and many local folk traditions, are

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based on this information, which has historically been passed down orally from generation to generation (Jain, 1991; Heinrich et al., 2004).

Due to their accessibility, affordability, and cultural acceptability, medicinal plants continue to play a crucial role in global healthcare. In addition to their historical significance, medicinal plants have made a substantial contribution to contemporary drug development; several pharmacological molecules are either directly or indirectly derived from plant sources (Fabricant & Farnsworth, 2001; Gurib-Fakim, 2006). The necessity for systematic documentation and scientific validation of traditional medical knowledge has been further highlighted by the growing demand for herbal medicines worldwide (WHO, 2013; Gurib-Fakim, 2006).

Because of its diverse agroclimatic conditions, fertile alluvial plains, and ideal climate that fosters the growth of many medicinal plant species, Uttar Pradesh has a great floral diversity (Singh & Hajra, 1996). The majority of the population in the eastern Uttar Pradesh district of Azamgarh is rural, and traditional medical procedures continue to play a significant role in day-to-day life. Local healers, such as Vaidyas, Hakims, herbalists, and old villagers, have important indigenous information about the identification, harvesting seasons, preparation techniques, dosage, and therapeutic uses of medicinal plants. Generations of observation and hands-on experience have amassed this knowledge (Jain, 1991; Cotton, 1996).

Due to modernization, urbanization, habitat degradation, overuse of medicinal plants, changing lifestyles, and a decline in younger generations' interest in traditional healing methods, traditional medicinal knowledge is rapidly disappearing despite its enormous scientific and cultural value (Hamilton, 2004; Kala, 2005). In addition to endangering cultural legacy, the loss of indigenous knowledge restricts the possibility of finding new bioactive substances that could aid in the creation of pharmaceuticals in the future.

Thus, maintaining traditional knowledge, encouraging biodiversity conservation, guaranteeing the sustainable use of medicinal plant resources, and offering a scientific foundation for pharmacological and phytochemical research all depend on the systematic documentation of ethnomedical practices (Cotton, 1996; Heinrich et al., 2004; WHO, 2013). Documenting the Azamgarh district's native healers' knowledge of medicinal plants would help preserve important ethnobotanical data and facilitate future studies that will validate traditional herbal medicines and incorporate them into evidence-based healthcare systems.

The goal of the current study was to record the traditional knowledge and ethnomedical applications of medicinal plants among local healers in Uttar Pradesh's Azamgarh district, identify common medicinal plant species, examine preparation techniques and plant parts used, and emphasize the value of preserving indigenous knowledge for biodiversity conservation and sustainable healthcare.

Methodology

Study Area

The study was carried out in the Azamgarh District of Uttar Pradesh, India, which is situated between latitudes 25°38' and 26°27' N and longitudes 82°40' and 83°52' E. Situated in the eastern region of Uttar Pradesh, the district experiences scorching summers, a monsoon season, and cool winters due to its subtropical climate. Numerous varieties of medicinal plants can flourish in the area due to its rich alluvial soils, sufficient rainfall, and varied vegetation. The majority of people in the area work in agriculture, and rural populations still rely on medicinal plants to treat a variety of illnesses (Singh & Hajra, 1996; Champion & Seth, 1968).

Selection of Informants

Sixty informants, including traditional healers (Vaidyas), Hakims, herbalists, elderly villagers, and other informed locals, provided ethnomedical data. Purposive sampling and the snowball sampling technique, which are frequently used in ethnobotanical research to locate people with rich traditional knowledge, were used to choose informants (Martin, 1995; Cotton, 1996; Bernard, 2017).

Data Collection

Using standard ethnobotanical survey techniques, field surveys were carried out in a few Azamgarh district villages (Jain, 1991; Martin, 1995). Information was gathered using:

- Interviews that are semi-structured
- In-person interviews
- Discussions in groups
- Observations made in the field
- Plant walks with a guide

Local plant names, plant parts used, preparation techniques, dose, mode of administration, diseases treated, habitat, availability, and conservation practices were all noted. Prior to conducting interviews, all participants gave their prior informed consent in accordance with globally recognized ethical standards for ethnobiological research (International Society of Ethnobiology, 2006).

Plant Identification

The informants' cited medicinal plant specimens were gathered during field excursions and identified using botanical literature and conventional regional floras (Jain & Rao, 1977; Singh & Hajra, 1996). Whenever feasible, specimens were compared to authenticated herbarium materials to confirm identification. Standard herbarium procedures were used to prepare, label, and preserve voucher specimens for future reference (Bridson & Forman, 1998).

Data Analysis

Using descriptive statistical techniques, the gathered ethnobotanical data was arranged and examined. Disease, preparation techniques, plant sections used, and the frequency of medicinal plant use. Additionally, the cultural importance and usage patterns of medicinal plants were evaluated using widely used quantitative ethnobotanical indices (Phillips & Gentry, 1993; Tardío & Pardo-de-Santayana, 2008). Among these indicators were:

- Value of Use (UV)
- Relative Citation Frequency (RFC)
- The Informant Consensus Factor (ICF)
- Level of Fidelity (FL)

In addition to facilitating comparisons with ethnobotanical studies carried out in other regions, these quantitative indices offer important information on the significance, popularity, and dependability of medicinal plant species within the local healthcare system (Phillips & Gentry, 1993; Trotter & Logan, 1986; Friedman et al., 1986).

Result

85 species of therapeutic plants from 47 different botanical families were identified during the ethnobotanical study. The most medicinal species were found in the Fabaceae family, followed by the Asteraceae, Euphorbiaceae, Lamiaceae, and Apocynaceae. This trend has also been noted in a number of Indian ethnobotanical investigations (Jain, 1991; Kala, 2005; Heinrich et al., 2004). According to Table 1, the most prevalent growth habit was herbs (43%), followed by trees (28%), shrubs (18%), and climbers (11%). The most commonly used plant portion, according to Table 2, was leaves (42%), followed by roots (18%), bark (13%), fruits (11%), and seeds and flowers (8% each). Table 3 indicates that the most popular preparation method was decoction (36%), followed by paste (24%), juice (16%), powder (14%), and infusion (10%). Table 3 indicates that the most popular preparation method was decoction (36%), followed by paste (24%), juice (16%), powder (14%), and infusion (10%). Fever, cough and cold, diabetes, skin conditions, digestive disorders, liver disorders, wound healing, arthritis, hypertension, and gynecological problems are among the main conditions treated, as shown in Table 4. The most commonly mentioned medicinal plants, such as *Azadirachta indica*, *Ocimum tenuiflorum*, *Tinospora cordifolia*, *Withania somnifera*, *Aloe vera*, *Phyllanthus emblica*, *Terminalia chebula*, *Terminalia bellirica*, *Centella asiatica*, and *Adhatoda vasica*, are listed in Table 5 along with their traditional medical applications. These results demonstrate the wide variety of therapeutic plants and the ongoing significance of conventional medical procedures in the research region.

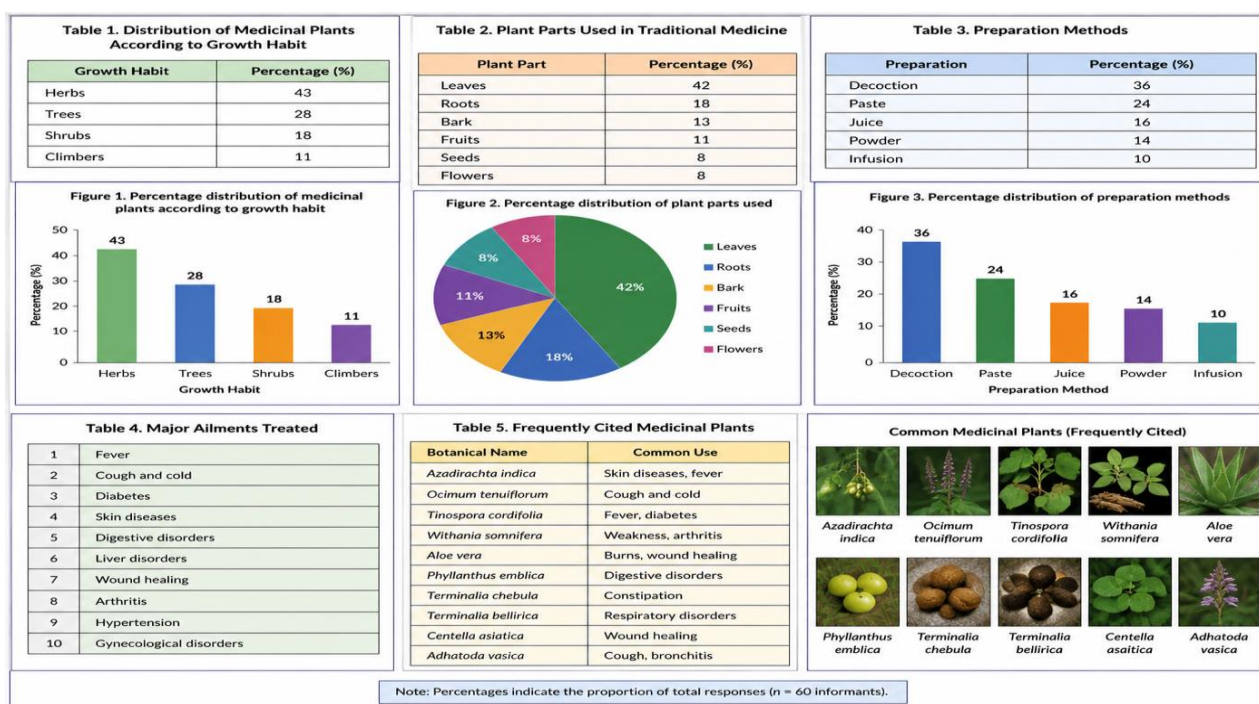


Figure 1 shows the ethnomedical data collected from indigenous healers in Uttar Pradesh's Azamgarh District graphically.

Discussion

The current study shows that rural communities in the Azamgarh district continue to rely heavily on traditional medical knowledge as a source of healthcare. Older healers have a wealth of knowledge about herbal remedies, ailment diagnostics, and therapeutic plants. However, a large portion of this knowledge is passed down orally and is in danger of being lost as a result of industrialization and declining interest among younger generations.

Because they are easily accessible, simple to gather, and inflict little harm to the plant when harvested, leaves were the most often used plant portion. Because decoction effectively removes bioactive chemicals and makes administration simple, it has become the favored technique of preparation.

There is a lot of concordance among traditional healthcare systems, as seen by the numerous documented medicinal plants that have also been reported from other parts of India. Numerous documented species' antibacterial, antioxidant, anti-inflammatory, antidiabetic, hepatoprotective, and wound-healing qualities have been validated by scientific research, bolstering the validity of traditional knowledge.

Due to the affordability, accessibility, and cultural acceptance of herbal remedies, traditional healers continue to play a significant role in rural healthcare despite the growing availability of modern medicine. There is an urgent need to conserve the variety of medicinal plants, record traditional knowledge, cultivate valuable medicinal species, and validate herbal medicines scientifically.

The results of this study offer useful baseline data for pharmacological studies, ethnobotanical research, biodiversity conservation, and the sustainable use of medicinal plant resources in eastern Uttar Pradesh.

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