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Ethnomedicinal Knowledge and Utilization of Medicinal Plants in Baghpat Uttar Pradesh, India

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Abstract: *The present study was conducted to systematically document ethnomedicinal plant species utilized by local communities in Baghpat district, Uttar Pradesh. Ethnomedicinal information was obtained through field surveys and interviews with traditional healers and other knowledgeable villagers. In total, 23 medicinal plant species were documented as being used in the treatment of a range of ailments, including fever, diabetes, cough, skin diseases, digestive disorders, arthritis, and wounds. Various plant parts—principally leaves, roots, bark, fruits, and rhizomes—were employed in the preparation of remedies administered in different forms such as decoctions, pastes, powders, and fresh juices. The findings underscore the continued relevance of traditional herbal medicine in rural healthcare and highlight the urgent need to conserve both medicinal plant resources and the associated indigenous knowledge base.*

Keywords: Ethnomedicine, Medicinal Plants, Traditional Knowledge, Herbal Medicine, Baghpat.

I. INTRODUCTION

Ethnomedicinal knowledge encompasses the cumulative wisdom, beliefs, and practices of local communities concerning the use of plants for the prevention, management, and treatment of a wide range of diseases. In India, particularly in rural regions, traditional herbal medicine continues to serve as a cornerstone of primary healthcare, owing to the ready availability of medicinal flora, strong cultural acceptance, and relatively low cost. Documenting this knowledge is crucial not only for safeguarding indigenous cultural heritage but also for identifying promising plant species with therapeutic potential that may be subjected to rigorous pharmacological, phytochemical, and clinical investigations (Tomar & Singh, 2005)

Baghpat district, situated in the western part of Uttar Pradesh, is characterized by fertile alluvial plains, intensive agricultural land use, village woodlots, and a mosaic of natural and semi-natural vegetation associated with the Yamuna River basin. These diverse ecological conditions provide favorable habitats for a wide array of medicinal plant species that have long been utilized by local inhabitants in their healthcare practices. The rich floristic diversity of the district thus constitutes an important natural resource base, significantly contributing to the resilience and continuity of traditional healthcare systems in the region (Ahamed et al., 2010).

Rural communities in Baghpat possess extensive and nuanced knowledge regarding the medicinal properties and applications of local plant species. Various plant parts—including leaves, stems, roots, bark, fruits, seeds, and flowers—are employed in different forms such as decoctions, infusions, pastes, powders, and extracts to treat a broad spectrum of ailments, including fever, cough and respiratory complaints, gastrointestinal disorders, dermatological conditions, wounds, and inflammatory diseases. This body of knowledge is predominantly transmitted orally across generations, often through traditional healers and elder family members, and continues to play a vital role in community-based healthcare where access to modern medical facilities may be limited or economically constrained (Tomar & Singh, 2005; Ahamed et al., 2012).

Despite its importance, this traditional knowledge system is increasingly threatened by rapid urbanization, modernization, changing socio-cultural values, and the degradation or loss of natural habitats. Overexploitation of plant

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resources, land-use changes, and declining interest among younger generations are contributing to both the erosion of ethnomedicinal knowledge and the depletion of associated plant diversity. Consequently, systematic documentation and scientific validation of ethnomedicinal plants and their uses are urgently needed. Such efforts are essential for the conservation of biodiversity, the sustainable management and utilization of plant resources, and the development of novel plant-based therapeutics. In this context, the present study aims to comprehensively document the ethnomedicinal plant diversity of Baghpat district and to critically evaluate its role and significance in the traditional healthcare practices of local communities (Tomar & Singh, 2006; Ahamed et al., 2010).

II. AIM

To systematically document and critically evaluate the ethnomedicinal plant diversity and traditional healthcare practices of local communities in Baghpat district, Uttar Pradesh.

III. OBJECTIVES

1. To survey, collect, and taxonomically identify ethnomedicinal plant species utilized by the local inhabitants of Baghpat district.
2. To document indigenous knowledge associated with the medicinal uses of these plants, including specific plant parts employed, modes of preparation, dosage forms, and routes of administration.
3. To record the range of ailments and health conditions treated with ethnomedicinal plant species within local healthcare practices.
4. To assess the spatial distribution, abundance, and diversity of ethnomedicinal plants across different habitats and localities of the district.
5. To contribute to the conservation of traditional ethnomedicinal knowledge and associated plant resources by creating a systematic, scientifically curated record.
6. To generate baseline information that can support future phytochemical, pharmacological, and biodiversity conservation studies on the documented plant species.

IV. MATERIALS AND METHODS

Study Area

The present investigation was carried out in Baghpat district, Uttar Pradesh, India. The district is situated in the western part of the state, between the Yamuna and Hindon rivers, and is characterized by fertile alluvial plains, extensive agricultural fields, village groves, roadside vegetation, and semi-natural habitats. The region experiences a subtropical climate with hot summers, a monsoon season with moderate rainfall, and cool winters, conditions that collectively support a rich diversity of medicinal plant species (Ahamed et al., 2010).

Field Survey and Data Collection

Ethnobotanical field surveys were conducted in selected villages and localities of Baghpat district during different seasons to capture temporal variation in plant availability and use. Ethnomedicinal information was gathered through direct field observations, semi-structured interviews, and informal discussions with traditional healers, farmers, elderly villagers, and other knowledgeable community members. During these interactions, data were systematically recorded on local plant names, medicinal uses, plant parts employed, methods of preparation, dosage forms, and modes of administration (Cotton, C.M.1996).

Plant Collection and Identification

Plant specimens cited by informants and observed in the field were collected from various habitats within the study area. Collected material was processed following standard herbarium techniques, and specimens were subsequently identified with the aid of regional floras and standard taxonomic literature. Scientific nomenclature and current

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taxonomic status were verified using authenticated botanical databases and recent floristic references. Voucher specimens were prepared and deposited for future reference whenever feasible (Duthie, 1903–1929; Singh et al., 2015).

Documentation of Ethnomedicinal Uses

Ethnomedicinal information obtained from different informants was cross-validated through repeated interviews and, where possible, field verification of reported uses to enhance data reliability. For each recorded species, the following parameters were documented: botanical name, family, vernacular name, habit, plant parts used, method of remedy preparation, mode of administration, and therapeutic applications. The documentation followed established ethnobotanical guidelines and protocols (Jain & Rao, 1977).

Data Analysis

The compiled ethnomedicinal data were organized into tabular form and subjected to qualitative and quantitative assessment. Species were categorized according to botanical family, growth habit, plant parts utilized, and categories of ailments treated. Descriptive statistics were used to evaluate patterns in plant use, including the relative importance of plant parts and life forms. The overall analysis was aimed at assessing the diversity, utilization patterns, and traditional significance of medicinal plants in the study area (Cotton, 1996).

V. RESULTS AND DISCUSSION

Table: Traditional Uses and Modes of Application of Selected Ethnomedicinal Plants from Baghpat, Uttar Pradesh

S. No.	Botanical Name	Local Name	Medicinal Uses	Mode of Application
1	Achyranthes aspera L.	Chirchita	Abscess, wounds, digestive disorders	Fresh leaf paste applied externally on affected area.
2	Andrographis paniculata (Burm.f.) Wall. ex Nees	Kalmegh	Diarrhoea, dysentery, diabetes, fever	Whole plant decoction or powder taken orally.
3	Azadirachta indica A. Juss.	Neem	Skin diseases, eczema, fever	Leaf paste applied externally; leaf decoction taken orally.
4	Boerhavia diffusa L.	Punarnava	Liver disorders, anaemia, arthritis	Root decoction or powder taken orally.
5	Cassia fistula L.	Amaltas	Constipation, diabetes, piles	Bark or fruit pulp decoction taken orally.
6	Citrus medica L.	Chota Nimbu	Bruises, kidney stones	Fruit juice taken orally; fruit rubbed on affected area.
7	Cuscuta reflexa Roxb.	Amar Bel	Skin diseases, liver disorders	Plant paste applied externally; decoction taken orally.
8	Curcuma longa L.	Haldi	Wounds, inflammation, joint pain	Rhizome paste applied externally; powder taken with milk.
9	Dalbergia sissoo DC.	Sheesham	Dysentery, diabetes, blood disorders	Bark decoction taken orally.
10	Ficus religiosa L.	Peepal	Abscess, wounds, skin disorders	Root or leaf paste applied externally; decoction taken orally.
11	Mangifera indica L.	Aam	Diarrhoea, jaundice, wound healing	Bark decoction and fruit preparations taken orally.
12	Melia azedarach L.	Bakain	Rheumatism, piles, skin disorders	Leaf paste applied externally; bark decoction taken orally.

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13	Mentha arvensis L.	Pudina	Indigestion, stomach disorders, cold	Fresh leaf infusion or juice taken orally.
14	Morus alba L.	Shehtut	Sore throat, cough, anaemia	Fruit consumed fresh; leaf decoction taken orally.
15	Nerium indicum Mill.	Kaner	Bronchitis, cough, arthritis	Root bark paste applied externally (used cautiously).
16	Ocimum tenuiflorum L.	Tulsi	Cough, cold, fever, diabetes	Leaf infusion, decoction or juice taken orally.
17	Phyllanthus emblica L.	Amla	Anaemia, jaundice, indigestion	Fruit consumed fresh, dried or as juice.
18	Ricinus communis L.	Arandi	Abscess, inflammation	Seed or leaf paste applied externally.
19	Syzygium cumini (L.) Skeels	Jamun	Diabetes, digestive disorders	Seed powder and fruit consumed orally.
20	Tamarindus indica L.	Imli	Diarrhoea, anorexia, diabetes	Fruit pulp and leaf decoction taken orally.
21	Vitex negundo L.	Nirgundi	Joint pain, inflammation, asthma	Warm leaf paste applied externally; decoction taken orally.
22	Withania somnifera (L.) Dunal	Ashwagandha	Arthritis, weakness, rheumatism	Root powder taken orally with milk.
23	Zingiber officinale Roscoe	Adrak	Cough, bronchitis, fever	Rhizome juice, decoction or tea taken orally.

REFERENCES

1. Tomar, A. & Singh, H. (2005). Folk medicinal uses of some indigenous plants of Baghpat district, Uttar Pradesh, India
2. Nafeesh Ahamed, N. A., Gupta, A. K., & Neetu, N. (2010). Ethnomedicinal plants of Deoband tehsil of Saharanpur District, Uttar Pradesh, India.
3. Tomar, A., & Singh, H. (2006). Exotic medicinal plants from Baghpat district, Uttar Pradesh, India. *Journal of Non-Timber Forest Products*, *13*(4), 273-280.
4. Nafeesh Ahamed, N. A., Neetu, N., & Gupta, A. K. (2012). Medicinally important weeds of district of Baghpat Uttar Pradesh, India.
5. Duthie, J. F. (1903). *Flora of the upper Gangetic plain, and of the adjacent Siwalik and sub-Himalayan tracts* (Vol. 1). Superintendent of Government Printing.
6. Singh, P., Karthigeyan, K., Lakshminarasimhan, P., & Dash, S. S. (2015). Endemic Vascular Plants of India, Botanical Survey of India, Kolkata. *Government of India Date of Publication: March*, *7*.
7. Jain, S. K., & Rao, R. R. (1977). A handbook of field and herbarium methods.
8. Cotton, C. M. (1996). *Ethnobotany: principles and applications* (pp. ix+-424).