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Ethnomedicine Importance of Fabaceae Family Plants used in Folklore Medicines from Agra Region

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Abstract: ***Ethnomedicine represents the traditional healthcare knowledge developed by indigenous and rural communities through generations. The family Fabaceae (Leguminosae) is one of the largest angiosperm families and possesses immense medicinal value in Indian traditional healthcare systems. The Agra region of Uttar Pradesh, located in the semi-arid Indo-Gangetic plains, harbors diverse Fabaceae species that are extensively used in folklore medicine by rural populations, traditional healers, and local communities. The present research paper explores the ethnomedicinal significance of Fabaceae plants in the Agra region, their therapeutic applications, phytochemical constituents, conservation importance, and socio-cultural relevance. The study compiles secondary data from ethnobotanical literature, regional medicinal surveys, and traditional medicinal practices. Major Fabaceae species identified include Acacia nilotica, Albizia lebbeck, Butea monosperma, Cassia fistula, Clitoria ternatea, Dalbergia sissoo, Mimosa pudica, Pongamia pinnata, and Tamarindus indica. These plants are traditionally used for treating skin diseases, fever, diabetes, digestive disorders, respiratory problems, wounds, and reproductive ailments. The paper highlights the urgent need for conservation and scientific validation of traditional ethnomedicinal knowledge.***

Keywords: ***Ethnomedicine, Fabaceae, Folklore medicine, Agra region, Medicinal plants, Traditional knowledge, Ethnobotany.***

1. Introduction

India possesses one of the richest traditions of herbal medicine systems in the world. Traditional medicinal knowledge has been preserved through Ayurveda, Siddha, Unani, and folklore medicinal practices for centuries. Ethnomedicine refers to indigenous medicinal knowledge developed through interactions between humans and plants in local ecosystems.

The family Fabaceae, commonly known as the legume family, is the third-largest flowering plant family comprising more than 19,000 species globally. In India, Fabaceae plants occupy a prominent place in traditional medicinal systems due to their pharmacological properties and easy availability.

The Agra region of Uttar Pradesh exhibits varied ecological conditions including ravines, agricultural fields, semi-arid lands, riverbanks, and village ecosystems. Rural populations in the region continue to depend on medicinal plants for primary

healthcare. Several studies conducted in Uttar Pradesh and Agra district reveal the extensive use of Fabaceae species in treating common diseases and disorders.

The present paper aims to document and analyze the ethnomedicinal importance of Fabaceae family plants used in folklore medicine in the Agra region.

2. Objectives of the Study

1. To identify ethnomedicinal Fabaceae plants used in the Agra region.
2. To document traditional medicinal uses of these plants.
3. To analyze their pharmacological and therapeutic importance.
4. To study socio-cultural relevance of folklore medicine.
5. To emphasize conservation and sustainable utilization of medicinal flora.

3. Study Area: Agra Region

Agra is situated on the banks of the Yamuna River in western Uttar Pradesh. The region experiences a semi-arid climate characterized by hot summers and moderate rainfall.

Geographical Features

- Latitude: 27.18° N
- Longitude: 78.02° E
- Average rainfall: 650–700 mm annually
- Dominant vegetation: Dry deciduous and scrub vegetation

The ecological diversity of the Agra region supports numerous medicinal plant species. Rural communities, traditional healers (Vaidyas), farmers, and tribal groups preserve traditional plant-based healthcare practices.

4. Methodology

The study is based on:

- Review of ethnobotanical literature
- Published research papers
- Regional medicinal plant surveys
- Traditional folklore medicinal records
- Secondary data from journals and ethnomedicinal databases

Relevant literature related to medicinal plants of Uttar Pradesh and Agra district was critically reviewed.

5. Ethnomedicinal Importance of Fabaceae Family

Fabaceae plants possess:

- Alkaloids
- Flavonoids

- Tannins
- Glycosides
- Saponins
- Phenolic compounds

These bioactive compounds contribute to:

- Antimicrobial activity
- Anti-inflammatory effects
- Antioxidant properties
- Antidiabetic action
- Hepatoprotective activity

Traditional communities utilize different plant parts such as leaves, bark, seeds, flowers, roots, and pods for medicinal purposes.

6. Major Fabaceae Plants Used in Folklore Medicine in Agra Region

6.1 Acacia nilotica

Local Name:

Babul, Kikar

Parts Used:

- Bark
- Gum
- Leaves
- Pods

Traditional Uses:

- Treatment of diarrhea and dysentery
- Toothache and gum diseases
- Wound healing
- Skin infections

Medicinal Importance:

The bark contains tannins with strong antimicrobial properties. The gum is used as a soothing agent.

6.2 Albizia lebbeck

Local Name:

Siris

Parts Used:

- Bark
- Seeds
- Leaves

Folklore Uses:

- Asthma treatment
- Allergic disorders
- Respiratory ailments
- Eye infections

Pharmacological Significance:

Possesses anti-inflammatory and anti-allergic properties.

6.3 Butea monosperma

Local Name:

Palash, Dhak

Parts Used:

- Flowers
- Bark
- Gum
- Seeds

Traditional Applications:

- Treatment of intestinal worms
- Skin diseases
- Menstrual disorders
- Bone fractures

Ethnomedicinal Value:

Flowers are rich in flavonoids and used as natural antiseptics.

6.4 Cassia fistula

Local Name:

Amaltas

Parts Used:

- Fruit pulp
- Leaves

- Bark

Folk Uses:

- Laxative medicine
- Treatment of fever
- Skin disorders
- Liver ailments

Therapeutic Importance:

Fruit pulp acts as a mild purgative and detoxifying agent.

6.5 Clitoria ternatea

Local Name:

Aparajita

Parts Used:

- Roots
- Flowers
- Leaves

Traditional Uses:

- Memory enhancement
- Anxiety reduction
- Snake bite treatment
- Urinary disorders

Pharmacological Properties:

Contains antioxidants and neuroprotective compounds.

6.6 Dalbergia sissoo

Local Name:

Shisham

Parts Used:

- Leaves
- Bark

Ethnomedicinal Uses:

- Skin disease treatment
- Blood purification

- Eye disorders

Medicinal Importance:

Exhibits anti-inflammatory and analgesic activity.

6.7 Mimosa pudica

Local Name:

Lajwanti, Chui-mui

Parts Used:

- Roots
- Leaves

Folklore Uses:

- Piles treatment
- Urinary infections
- Wound healing
- Gynecological disorders

Therapeutic Significance:

Contains alkaloids and mimosine with medicinal properties.

6.8 Pongamia pinnata

Local Name:

Karanj

Parts Used:

- Seeds
- Oil
- Leaves

Traditional Uses:

- Rheumatism
- Skin diseases
- Insect bites
- Ulcers

Medicinal Properties:

Possesses antifungal and antibacterial activity.

6.9 Tamarindus indica

Local Name:

Imli

Parts Used:

- Fruit pulp
- Leaves
- Seeds

Folk Medicinal Uses:

- Digestive disorders
- Fever reduction
- Sore throat
- Constipation

Nutritional Importance:

Rich source of vitamins, tartaric acid, and antioxidants.

7. Table: Ethnomedicinal Fabaceae Plants of Agra Region

Botanical Name	Local Name	Plant Part Used	Folk Medicinal Uses
Acacia nilotica	Babul	Bark, gum	Diarrhea, wounds
Albizia lebbeck	Siris	Bark, seeds	Asthma, allergy
Butea monosperma	Palash	Flowers, seeds	Worm infection
Cassia fistula	Amaltas	Fruit pulp	Constipation, fever
Clitoria ternatea	Aparajita	Roots, flowers	Memory disorders
Dalbergia sissoo	Shisham	Bark, leaves	Skin diseases
Mimosa pudica	Lajwanti	Roots	Piles, wounds
Pongamia pinnata	Karanj	Seed oil	Rheumatism
Tamarindus indica	Imli	Fruit pulp	Digestion problems

8. Role of Folklore Medicine in Rural Healthcare

Folklore medicine remains highly significant in rural Agra because:

- Herbal remedies are affordable.
- Traditional healers are locally accessible.
- Medicinal plants are readily available.
- Cultural faith enhances treatment acceptance.

Traditional medicinal practices also preserve indigenous ecological knowledge.

9. Threats to Ethnomedicinal Plants

Major threats include:

- Urbanization
- Deforestation
- Overexploitation
- Industrialization
- Habitat destruction
- Decline in traditional knowledge

Loss of biodiversity directly threatens ethnomedicinal heritage.

10. Conservation Strategies

In-situ Conservation

- Protection of natural habitats
- Sacred grove conservation

Ex-situ Conservation

- Herbal gardens
- Seed banks
- Botanical gardens

Community Participation

- Awareness programs
- Documentation of indigenous knowledge
- Sustainable harvesting practices

11. Scientific Validation of Ethnomedicine

Modern pharmacological research confirms that many Fabaceae plants possess:

- Antibacterial activity
- Antidiabetic properties
- Antioxidant compounds
- Anti-inflammatory effects

Scientific validation may contribute to:

- Drug discovery
- Herbal pharmaceutical development
- Integrative healthcare systems

12. Conclusion

Fabaceae family plants constitute an important component of ethnomedicinal traditions in the Agra region. Rural communities continue to depend upon these medicinal plants for healthcare management. Species such as *Acacia nilotica*, *Butea monosperma*, *Cassia fistula*, and *Mimosa pudica* possess remarkable therapeutic significance in folklore medicine.

The preservation of traditional medicinal knowledge is essential for biodiversity conservation, sustainable healthcare, and future pharmaceutical research. There is an urgent need for scientific validation, documentation, and conservation of ethnomedicinal plants to protect this valuable cultural and biological heritage.

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