eISSN 2581-8996
[Date]
THE INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN MULTIDISCIPLINARY SCIENCES (IJARMS)
A BI-ANNUAL, OPEN ACCESS, PEER REVIEWED (REFEREED) JOURNAL
Vol. 3, Issue 02, July 2020

Ethnomedicinal Plants Used in Sores and Dog Bite Treatment in South-Western Uttar Pradesh, Bundelkhand Region, India

Dr. Vinay Kumar Prajapati[1]
[1]Department of Botany, Govt. Degree College, Haripur Nihastha, Raibareli, UP-India

Received: 13 July 2020, Accepted: 27 July 2020, Published on line: 30 Sep 2020

Abstract

Sores and dog bites are common health concerns in rural India, often aggravated by limited access to modern healthcare facilities. In such regions, traditional plant-based remedies play a crucial role in primary healthcare systems. The present study documents ethnomedicinal plants used for the treatment of sores and dog bites in Mahoba district of the Bundelkhand region, Uttar Pradesh, India. Ethnobotanical surveys were conducted during 2018–2019 using semi-structured interviews, personal discussions, and field observations involving local healers and elderly informants. A total of 10 plant species belonging to 9 families were recorded. Leaves were the most frequently used plant part, followed by bark and roots. These plants are traditionally applied to reduce inflammation, prevent infection, and promote wound healing. The study highlights the richness of indigenous knowledge, emphasizes the need for pharmacological validation, and underscores the importance of conservation of medicinal flora. The findings provide a valuable baseline for future research in ethnopharmacology and drug development.

Keywords: Ethnomedicine, Sores, Dog bite, Bundelkhand, Medicinal plants, Traditional knowledge, wound healing

Introduction

Sores and dog bites represent significant public health problems in rural and semi-arid regions of India. Dog bites, in particular, are associated with the risk of rabies, a fatal viral disease if untreated (Warrell, 1999). In many rural areas, access to modern healthcare facilities and post-exposure prophylaxis is limited, compelling communities to depend on traditional plant-based remedies.

India possesses a rich heritage of ethnomedicinal knowledge, where medicinal plants have been used for centuries to treat various ailments (Jain, 1991). These plants contain bioactive compounds such as alkaloids, flavonoids, tannins, and phenolics that contribute to antimicrobial, anti-inflammatory, and wound-healing properties (Fabricant & Farnsworth, 2001). The reliance on such remedies is particularly high in economically constrained and geographically remote regions (Kala et al., 2006).

The Bundelkhand region, including Mahoba district, is characterized by semi-arid climatic conditions, rocky terrain, and dry deciduous vegetation supporting diverse medicinal flora (Singh & Singh, 2005). Indigenous communities such as Saharia, Gond, and Kol possess valuable traditional knowledge regarding the therapeutic use of local plant species.

Despite the widespread use of these remedies, systematic documentation of plants used specifically for sores and dog bite treatment in Mahoba district remains limited. Therefore, the present study aims to document and analyze ethnomedicinal plants used in the region, contributing to the preservation of indigenous knowledge and providing a basis for future pharmacological research.

eISSN 2581-8996
[Date]
THE INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN MULTIDISCIPLINARY SCIENCES (IJARMS)
A BI-ANNUAL, OPEN ACCESS, PEER REVIEWED (REFEREED) JOURNAL
Vol. 3, Issue 02, July 2020

2. Materials and Methods

2.1 Study Area

Mahoba district is located in south-western Uttar Pradesh, India (25°18′ N latitude and 79°53′ E longitude), covering an area of approximately 3,071 km². The district is bounded by Hamirpur to the north, Banda to the east, Madhya Pradesh to the south, and Jhansi to the west. The region is characterized by a semi-arid climate, rocky landscape, and dry deciduous vegetation. Rural communities in this area largely depend on natural plant resources for their healthcare needs (Singh & Singh, 2005).

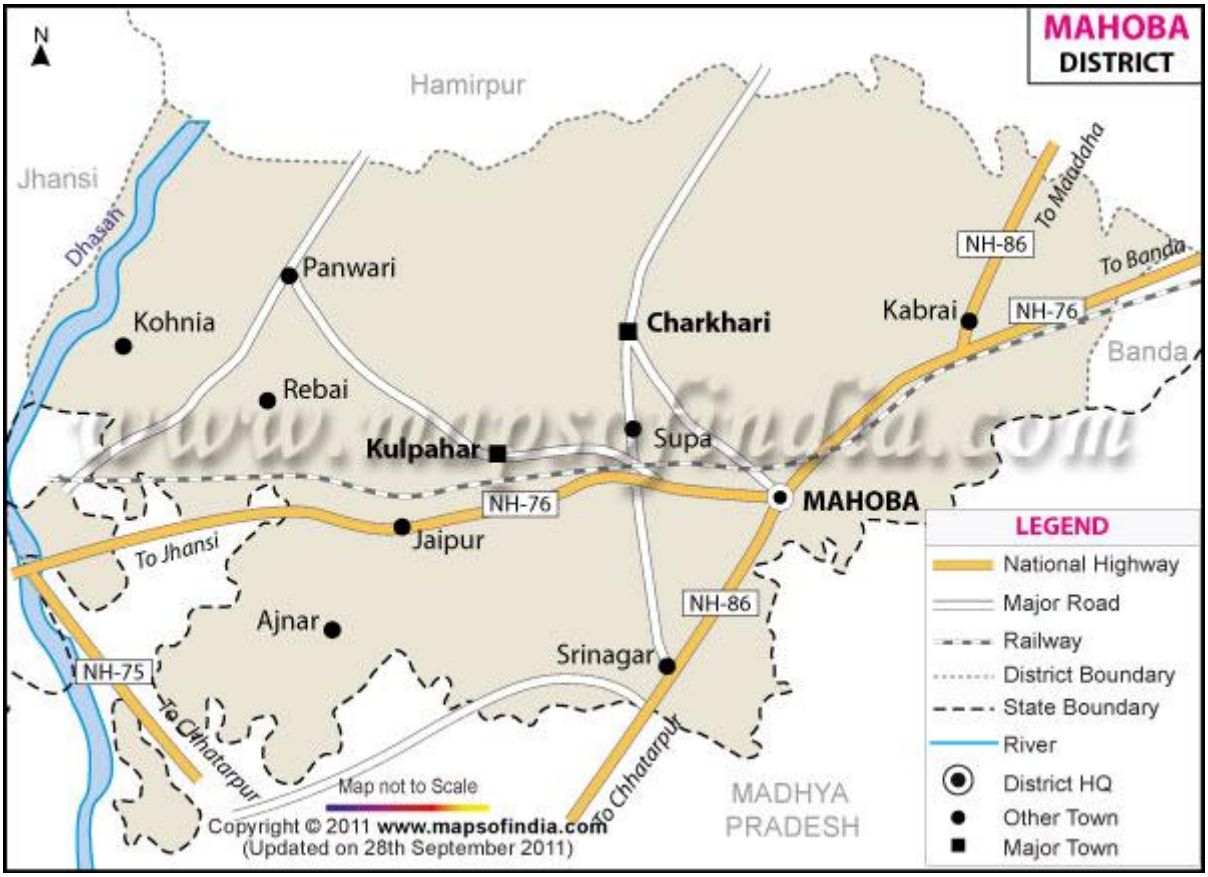

Figure 1. Location map of Mahoba district in Bundelkhand region, Uttar Pradesh, India.

2.2 Data Collection

Ethnobotanical data were collected during field surveys conducted between 2018 and 2019. Information was obtained from traditional healers (Vaidyas), elderly villagers, and knowledgeable informants using semi-structured questionnaires, personal interviews, and participant observation.

Details regarding local names, plant parts used, preparation methods, and therapeutic applications were recorded. Only those remedies reported by at least two independent informants were considered reliable and included in the study (Cotton, 1996; Jain, 1964).

2.3 Plant Identification

Plant specimens were collected, processed, and preserved following standard herbarium techniques (Jain & Rao, 1977). Identification was carried out using regional floras and verified through comparison with

authenticated specimens at the Duthie Herbarium (DUTHIE), Department of Botany, University of Allahabad, Prayagraj. Voucher specimens were deposited for future reference.

3. Results

3.1 Ethnomedicinal Plants

A total of 10 plant species belonging to 9 families were documented for the treatment of sores and dog bites in Mahoba district. These plants are used in the form of pastes, extracts, or direct applications to the affected area.

Table 1. Ethnomedicinal plants used for sores and dog bite treatment

S. No.	Botanical Name	Family	Local name	Used Part	Uses	Field No.
1.	*Ranunculus sceleratus* L.	Ranunculaceae	Jal dhaniya	leaves	sores	282
2.	*Acacia nilotica* (L.) Del. ex. Willd. ssp. *indica* (Benth.) Brenan	Mimosaceae	Babul	Bark	sores	27
3.	*Pithecellobium dulce* (Roxb.) Benth.	Mimosaceae	Jangal-jaleb	Bark	sores	99
4.	*Solanum surattense* Burmf.	Solanaceae	Bhat Kataya	Fruit	Sores	19
5.	*Chenopodium album* Linn.	Chenopodiaceae	Bathua	Leaves	sores	138
6.	*Phyllanthus fraternus* Webster	Euphorbiaceae	Aonla	Leaves	sores	119
7.	*Ficus religiosa* L.	Moraceae	Peepal	Bark	sores	28
8.	*Indigofera tinctoria* L.	Fabaceae	Nil	Leaves	Dog bite	230
9.	*Blumea lacera* (Burm. f.) DC.	Asteraceae	Kukuraundha	Root	Dog bite	106
10.	*Euphorbia dracunculoides* L.	Euphorbiaceae	Putputti	Leaves	Dog bite	15

eISSN 2581-8996
[Date]
THE INTERNATIONAL JOURNAL OF ADVANCED RESEARCH IN MULTIDISCIPLINARY SCIENCES (IJARMS)
A BI-ANNUAL, OPEN ACCESS, PEER REVIEWED (REFEREED) JOURNAL
Vol. 3, Issue 02, July 2020

3.2 Plant Parts Used

Analysis of plant parts revealed that leaves was the most commonly used (50%), followed by bark (30%), and roots and fruits (10% each). The predominance of leaves may be due to their easy accessibility, regenerative capacity, and higher concentration of active metabolites.

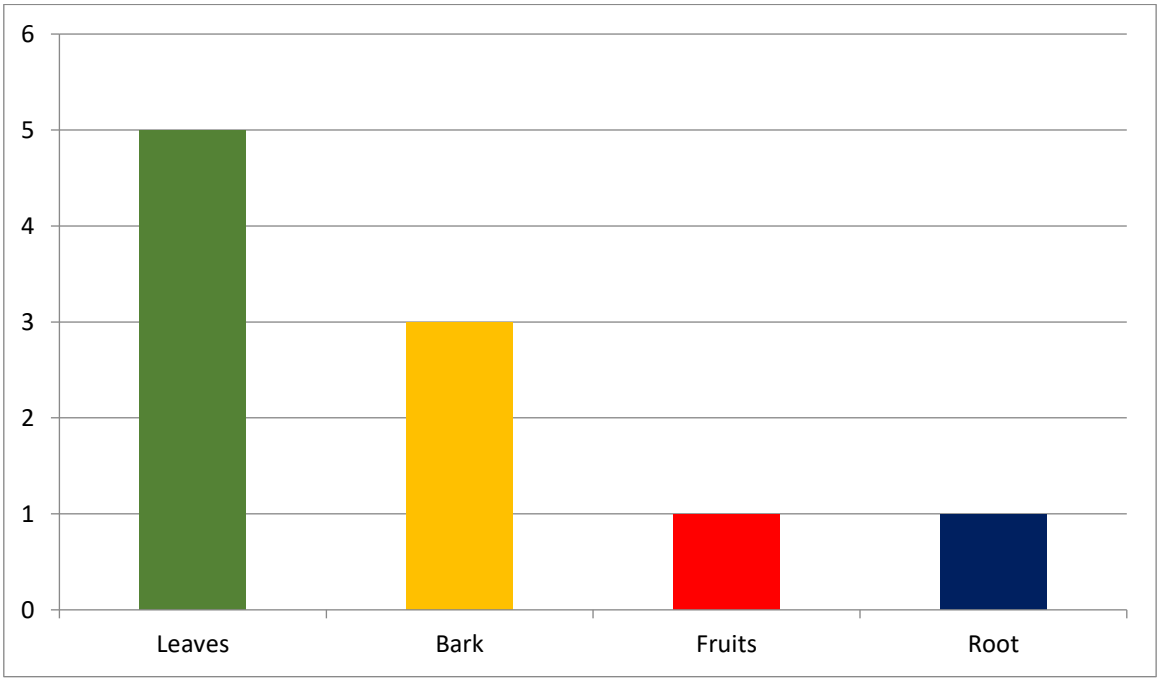

Figure 2. Percentage distribution of plant parts used in traditional remedies.

3.3 Mode of Application

The majority of remedies are prepared as pastes and applied topically to sores and bite wounds. Some preparations involve decoctions used for washing affected areas. These treatments aim to reduce inflammation, prevent infection, and promote faster healing.

3.4 Dominant Families

Mimosaceae and Euphorbiaceae were the most represented families, each contributing two species, while other families were represented by a single species.

4. Discussion

The dominance of leaves and bark in remedy preparation suggests their importance as sources of bioactive compounds such as tannins, flavonoids, and phenolics, which are known for antimicrobial and anti-inflammatory properties (Fabricant & Farnsworth, 2001).

Several documented species possess scientifically reported medicinal properties. *Acacia nilotica* is known for its strong antimicrobial and wound-healing activity, while *Ficus religiosa* exhibits anti-inflammatory and antioxidant effects. *Blumea lacera* and *Indigofera tinctoria* have also been reported to possess antimicrobial and detoxifying properties.

The continued use of these plants reflects the deep-rooted traditional knowledge of local communities. However, scientific validation through phytochemical and pharmacological studies is necessary to confirm their efficacy and safety, thereby facilitating their integration into modern healthcare systems.

5. Conclusion

The present study documents 10 ethnomedicinal plants used for the treatment of sores and dog bites in Mahoba district of Bundelkhand region. Traditional knowledge continues to play a vital role in rural healthcare systems.

There is an urgent need for:

- Conservation of medicinal plant species
- Scientific validation of traditional remedies
- Integration of ethnomedicine into modern healthcare

This study provides a foundation for future research in ethnopharmacology and drug discovery.

6. Acknowledgment

The authors are grateful to the local healers and villagers of Mahoba district for sharing their valuable traditional knowledge. The authors also thank the Department of Botany, University of Allahabad, Prayagraj, and the staff of Duthie Herbarium for their assistance in plant identification and specimen preservation.

7. References

1. Biswas, K., Chattopadhyay, I., Banerjee, R. K., & Bandyopadhyay, U. (2002). Biological activities and medicinal properties of *Gymnema sylvestre*. *Journal of Ethnopharmacology*, 79(1), 25–35.
2. Cotton, C. M. (1996). *Ethnobotany: Principles and Applications*. John Wiley & Sons.
3. Fabricant, D. S., & Farnsworth, N. R. (2001). The value of plants used in traditional medicine for drug discovery. *Environmental Health Perspectives*, 109(Suppl 1), 69–75.
4. Ghorbani, A. (2005). Studies on medicinal plants and their bioactive compounds. *Journal of Medicinal Plants Research*, 4(12), 123–130.
5. Jain, S. K. (1964). The role of botanists in folklore research. *Folk Lore*, 5, 145–150.
6. Jain, S. K. (1991). *Dictionary of Indian folk medicine and ethnobotany*. Deep Publications.
7. Jain, S. K., & Rao, R. R. (1977). *A handbook of field and herbarium methods*. Today & Tomorrow's Printers and Publishers.
8. Kala, C. P., Dhyani, P. P., & Sajwan, B. S. (2006). Developing the medicinal plants sector in northern India. *Current Science*, 91(6), 835–844.
9. Singh, R. K., & Singh, P. K. (2005). Ethnobotany of Bundelkhand region. *Indian Journal of Traditional Knowledge*, 4(3), 232–238.
10. Warrell, D. A. (1999). Snake bite. *The Lancet*, 354(9181), 101–105.