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## Ethnomedicinal significance of *Tamarindus indica* L. among tribal and rural communities of Bargarh district, Odisha

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### Abstract

*Tamarindus indica* L., a member of the family Fabaceae, is a widely distributed, multipurpose species intricately woven into the traditional healthcare systems of India. In the Bargarh district of Odisha, the tree holds particular ethnomedicinal significance and is utilized by both tribal and rural communities for various therapeutic and cultural purposes. The present study was undertaken to record and analyse the indigenous knowledge associated with *T. indica* among these communities. Fieldwork involved surveys and semi-structured interviews with traditional healers, elderly informants, and household practitioners, complemented by voucher specimen collection and secondary literature review.

**Keywords:** Ethnomedicinal significance, *Tamarindus indica*, tribal and rural communities, Bargarh district

### 1. Introduction

Since ancient times, human civilizations have explored and used various plants and plant products for the prevention and treatment of diseases. The use of plants in ethnomedicine is a common practice among tribal and non-tribal communities worldwide. Plants serve as a rich source of bioactive compounds with both direct and indirect roles in treating human ailments. India is renowned for its vast repository of medicinal plants, particularly found in forest ecosystems, which provide raw materials for drug manufacturing.

*Tamarindus indica* L. is a monospecific genus, previously classified under the Caesalpiniaceae family, now placed under Fabaceae. Commonly known as 'Tamarind' in English, 'Imli' in Hindi, 'Tintrini' in Sanskrit, 'Tentuli' in Odia, and 'Tentel' in the local language, it is a multipurpose tropical fruit tree. Beyond its nutritional and economic value, it holds significant ethnobotanical importance and is traditionally used for diverse medicinal purposes. All parts of the tamarind are utilized for diverse purposes in India; however, the fruit pulp is most extensively used, particularly in South India, where it serves as a common ingredient in a wide range of culinary preparations <sup>[1]</sup>.

This study documents the medicinal uses of *Tamarindus indica* for treating ailments such as gonorrhoea, swellings, pain, dry cough, piles, scorpion stings, fever, sunstroke, premature ejaculation, leucorrhoea, and for its role as an appetite stimulant among the tribal and rural communities of Bargarh district.

Tamarind, often referred to as the "Indian date," is a vital component in the culinary practices of India, South Asia, Africa, the Caribbean, and Latin America, where it is used as a flavoring, souring, and preserving agent <sup>[2]</sup>. Cultivated since ancient times (1200-200 B.C.), it has been mentioned in classical Ayurvedic texts such as *Charak Samhita*, *Sushrut Samhita*, and *Ashtanga Sangraha* under the name 'Amleeka' <sup>[3, 4]</sup>. Native to Africa, it has been naturalized and widely distributed in India, Myanmar, Bangladesh, Malaysia, Sri Lanka, Thailand, and several African, Australian, and American countries <sup>[5, 6]</sup>.

### 1.1 Brief description of the plant species

A large tree, 12 to 20 m in height, with a short, stout trunk and greyish-brown to black bark. Branches are glabrous and drooping. Leaves are alternate, paripinnate, with 8-20 pairs of small, opposite, subsessile, oblong, glabrous leaflets. Flowers are borne in lax racemes, terminal, yellow with red streaks, bracteate and bracteolate.

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The calyx is narrow and turbinate; corolla has 3 lobes. Pods are 7-20 cm long, slightly curved; seeds many, flat, dark brown, shining.

**Flowering and Fruiting:** April to December

## 2. Materials and Methods

### 2.1 Study Area

The study was conducted in Bargarh District, located in western Odisha, between 82°39'-83°58' E longitude and 20°43'-21°41' N latitude, with an average elevation of 180 m above sea level. The district experiences a tropical climate with distinct seasons and vegetation ranging from dry deciduous forests to cultivated landscapes. The population comprises tribal and rural communities, many of whom depend on forest resources for healthcare and livelihood. Compared to other districts in Odisha, Bargarh has a relatively lower tribal population.

### 2.2 Plant Identification, Data Collection, and Verification

Field surveys were conducted across different seasons to collect plant specimens and document their medicinal uses. Informants included traditional healers, elderly individuals, herbal practitioners, and knowledgeable community members. Selection followed purposive and snowball sampling methods, focusing on those with practical experience in utilizing herbal medicinal plants. Informants ranged from 30 to 80 years in age, representing both genders. Informed consent was obtained before interviews.

The reported plant specimen was properly identified and authenticated with the aid of standard floras [7,8]. Ethnomedicinal data were verified and cross-checked using published literature [9-16]. Voucher specimens were deposited in the Herbarium of the Department of Botany, Panchayat College, Bargarh.

### 2.3 Ethnobotanical information

*Tamarindus indica* is a widely distributed multipurpose tree, extensively utilized in traditional medicine, culinary applications, and various household practices. Its documented uses include:

1. The tender leaves extract (1 teaspoon) or powder (3-5 g) is taken in a glass of luke warm water once daily to relieve gonorrhoea.
2. The leaf paste applied upon the affected area to get relief from swellings and pain.
3. The leaf decoction (3 teaspoons) with a pinch of rock salt is taken 2 times daily to relieve from dry cough.
4. The tender leaves (50 gm) are boiled in 2 glasses of water until the volume reduced to half. The decoction is filtered and the filtrate (approximately half a cup) is taken twice daily on an empty stomach for the management of piles.
5. The leaf paste is applied on the affected area to get relief from scorpion sting pain.
6. Bark paste or powder (1 teaspoon) is taken with honey (1 teaspoon) once daily on an empty stomach for one month for the treatment of gonorrhoea.
7. The flowers powder (3 g) is taken with honey 1-2 times daily to relieve from piles.
8. The flowers extract (1 teaspoon) and sugar candy (5 g) are taken 2 times daily on an empty stomach to enhance appetite.
9. The fruit pulp (1 teaspoon) is mixed with half cup of luke warm water and is taken twice daily for the treatment of fever.

10. The fruit pulp is diluted and applied over the body to relieve from sunstroke.
11. A preparation of diluted fruit pulp stored in a brass container is topically applied twice daily for the management of urticaria.
12. Roasted seed powder (5 g), molasses (5 g) and cow's milk (one cup) are taken together twice daily to cure premature ejaculation.
13. Roasted seed powder (3 gm) with milk is taken twice daily to cure leucorrhoea.
14. The tender leaves and fruits are edible.
15. Its fruit pulp is testy and used in curries, chutneys, soups and also used as traditional prickles.
16. Its pulp is used in polishing metals especially brass materials.
17. The branches are used for firewood, timber, charcoal, household purposes, agricultural tools, and furniture.

## 3. Results and Discussion

The survey revealed that *Tamarindus indica* is widely recognized by tribal and rural communities in Bargarh district for its therapeutic benefits. The fruit was the most frequently used part, followed by leaves, bark, flowers, and seeds. Fruit pulp was commonly used for gastrointestinal ailments, while leaves were used for fever, cough, and sunstroke. Bark and seeds were used for conditions such as gonorrhoea, swellings, and leucorrhoea.

*Tamarindus indica*, though native to Africa, has been widely naturalized. It is valued for food, medicine, and utility in households and industries. The study underlines the plant's ethnomedicinal importance in Bargarh.

Quantitative analysis showed high informant consensus for ailments like piles and fever, indicating strong cultural and medicinal significance. Similar uses are reported in other parts of Odisha and India. The pharmacological activities (anti-inflammatory, antipyretic, antimicrobial) are supported by compounds like tartaric acid, polyphenols, and flavonoids [17-19].

Some uses, particularly for gonorrhoea and leucorrhoea, are less documented in the literature, suggesting region-specific or novel applications. These findings call for further pharmacological validation. The community's dependence on *T. indica* reflects its dual role as both a food and medicinal resource, shaped by ecological availability and cultural tradition.

## 4. Conclusion

The study reaffirms the significant role of *Tamarindus indica* in traditional healthcare in Bargarh district. Besides its nutritional benefits, the species serves as a culturally embedded remedy, especially vital in areas with limited access to modern healthcare. Its versatile uses—from household remedies to specialized treatments by traditional healers—demonstrate the interdependence of ecological resources and indigenous knowledge.

The continued intergenerational transmission of such knowledge underscores the resilience of traditional medicine systems. At the same time, the growing dependency on natural resources calls for efforts to conserve both the plant species and the associated ethnomedicinal wisdom. This documentation contributes to preserving intangible cultural heritage and lays the groundwork for future interdisciplinary research in pharmacology, ethnobotany, and sustainable resource management.

Preserving traditional knowledge on *Tamarindus indica* is essential not only for cultural continuity but also for its potential contributions to future healthcare innovations.

## 5. Acknowledgement

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## 6. References

- Shah NC. *Tamarindus indica* L.—Introduction in India and culinary, medicinal, and industrial uses. *Asian Agri-History*. 2014;18(4):343-355.
- Rao YS, Mathew KM. Tamarind. In: Peter KV, editor. *Handbook of Herbs and Spices*. England: Woodhead Publishing Limited; 2012. p. 287-296.
- Resny AR, Indulekha VC, Raj RVB. A critical Ayurvedic literary review of the plant *Amleeka* (*Tamarindus indica* L.). *International Ayurvedic Medical Journal*. 2018;2(3):1060-1067.
- Singh R, Singh K. Traditional, pharmacological, and therapeutic properties of *Tamarindus indica*. *Journal of Plant Science & Research*. 2024;11(1):257-267.
- Kuru P. *Tamarindus indica* and its health-related effects. *Asian Pacific Journal of Tropical Biomedicine*. 2014;4(9):676-681.
- Richard K, Kim Y, Matsabisa GM, Kang Y. Anti-inflammatory and analgesic potential of *Tamarindus indica* Linn. (Fabaceae): a narrative review. *Integrative Medicine Research*. 2019;8(3):181-186.
- Haines HH. *The Botany of Bihar and Orissa*. Reprint edn. Vol. II. London: Arnold & Son & West Nirman Ltd.; 1921-1925. p. 311.
- Saxena HO, Brahmam M. *The Flora of Orissa*. Vol. II. Odisha: Regional Research Laboratory and Orissa Forest Development Corporation Ltd.; 1994. p. 402.
- Jain SK. *Medicinal Plants of India*. New Delhi: National Book Trust of India; 1975. p. 143-145.
- Jain SK. *Dictionary of Indian Folk Medicine and Ethnobotany*. New Delhi: Deep Publications; 1991. p. 210-212.
- Kirtikar KR, Basu BD. *Indian Medicinal Plants*. Reprint edn. Vol. II. Delhi: Jayyed Press; 1991. p. 887-890.
- Pal DC, Jain SK. *Tribal Medicine*. Calcutta: Naya Prokash; 1998. p. 252-255.
- Chopra RN, Nayar SL, Chopra IC. *Glossary of Indian Medicinal Plants*. Reprint edn. New Delhi: Council of Scientific and Industrial Research; 1986. p. 314-317.
- Khare CP. *Medicinal Plants: An Illustrated Dictionary*. New York: Springer; 2007. p. 643-647.
- Ambasta SP, Ram Chandran K, Kashyappa K, Chand R. *The Useful Plants of India*. New Delhi: Publication and Information Directorate, CSIR; 1992. p. 451-453.
- Rao NR, Henry AN. *The Ethnobotany of Eastern Ghats in Andhra Pradesh*. Calcutta: Botanical Survey of India; 1995. p. 139-142.
- Menezes APP, Trevisan SCC, Barbalho SM, Guiguer EL. *Tamarindus indica* L.—A plant with multiple medicinal purposes. *Journal of Pharmacognosy and Phytochemistry*. 2016;5(3):50-54.
- Ghumare P, Jirekar D. *Tamarindus indica* L.: an important medicinal plant. *International Journal of Innovative Research in Technology*. 2021;8(4):321-325.
- Raja MM, Pooguzhali S, Rao BV, Srinivasan S, Choudhury A, Devrajan A. A scientific evidence-based review of tamarind usage in Indian folklore medicine. *Journal of Natural Remedies*. 2022;22(3):348-355.