**COHERENCE** – The Multidisciplinary Research Journal
Volume No: 9, Issue No: 1, Year: 2018 (January-June)
PP:1-16
ISSN: 0976-5301
Peer Reviewed & Refereed Journal
Journal Website www.coherencejournal.in

# AN ETHNOMEDICINAL STUDY OF PLANTS USED FOR TREATING DENTAL DISORDERS IN THE PARNASHALA REGION OF BHADRADRI-KOTHAGUDEM DISTRICT

**B. Sharda Kumari**

Department of Botany, Kakatiya University, Warangal, Telangana

## ABSTRACT

This study investigates the ethno-medicinal plants utilized by the local communities in the Parnashala area of Bhadradri-Kothagudum District for the treatment of dental disorders. Traditional knowledge plays a crucial role in the selection and application of these plants, often reflecting a deep understanding of their therapeutic properties. Through ethnobotanical surveys and interviews with local herbalists, we identified several key species renowned for their efficacy in managing oral health issues such as toothache, gum disease, and oral infections. The findings highlight the significance of these plants not only in local healthcare practices but also as potential sources for developing novel dental treatments. This research underscores the importance of conserving traditional knowledge and biodiversity in the context of modern healthcare.

**KEYWORDS:** Ethno-medicine, Bhadradri-Kothagudum, dental disorders, medicinal plants,. Traditional healers

## INTRODUCTION:

Parnashala area, it is 60km away from Bhadrachalam town historical place Sree Rama Chandra with btotherLakshmana and his wife Seethavanavasam area, BhadradriKothagudum District, Telangana state.It lies between Latitude: 17.6281° N and Longitude: 80.4825° E.The average rain fall 600mm than in the surrounding plains.[1.2] Through Godavari River, Bhadra River,Maneru River, Shabari River The area falls in semi arid tropics, due to the elevation and undulating topography of hills,there is an admixture of deciduous, semi-ever green xerophytes and hrophytes species established under different micro-climate zones of hills; 505 of its total area is covered by forests[3,4,5].

The forestandf the adjacent villages of Bhadradrikothagudum district areninhabited by tribes like koyas, kondareddy, who posses good knowledge on home remedies. Floristic studies (R.R.Rao 1991) shows that this region is rich in medicinal plants[6,7,8,9] In this research paper, ethno-medicinal uses of plants in dental disorders are described.

Dental caries or tooth decay and pyorrhea or periodontal diseases are the commonest diseases of the mouth. Dental caries is a pathological condition of the teeth resulting in decalcification of the dentine or enamel and disintegration of the remaining organic material, often leading to loss of the teeth[10,11,12,]. Tooth decay is caused by intra-oral factors, such as dental plaque of food and bacteria sticking to teeth, anatomy and position position of teeth, dental appliances and restoration and lack of salivary flow and by extra- oral factors, such as high sugar intake, soft foods, bottle feeding and nutritional deficiency,etc. Pyorrhoea occurs through inflammation and dystrophy. Inflammation of gums result in gingivitis, which is the forest stage of pyorrhea. Accumulation of tartar (calculus), the scaly yellowish or brownish hard chalk –like substance that forms at the gums around the teeth, is the most common cause of gingivitis. Many herbalists treat dental diseases with the treatment of dental caries and periodontal diseases as practiced in the area under study[13,14,15].

ISSN: 0976-5301
Peer Reviewed & Refereed Journal
Journal Website www.coherencejournal.in

## METHODOLOGY

The ethnobotanical survey was carried out during 2018- 2019. Frequent field trips were made to gather valuable onformation about the medicinal uses of certain wild species in dental disorders through personal interviews with the tribal and non- tribals and further confirmed with experienced traditional herbalists.

## RESULTS AND DISCUSSION

Ethnobotanical plants are alphabetically arranged according to their botanical names, family, vernacular name, habit, finally followed by herbal uses of plants, herbarium specimens are deposited in the Department of botany, Kakatiya University herbarium, Warangal

| S. No | Botanical Name | Family | Vernacular name | Habit | Uses |
|---|---|---|---|---|---|
| 1 | Acacia leucophloea (Roxb) Willd | Mimosaceae | Tellathumma | Tree | Stem bark dried in to powder: about two grams given as tooth powder twice a day for five days to relieve severe toothache. |
| 2 | Acoruscalamus L. | Araceae | Vasa | herb | Stem bark chewed twice a day to relieve severe toothache and bark decoction used as gargle. |
| 3 | Aristolochia bracteolate Lamk. | Aristolochiaceae | Gadidadadapa | herb | Fresh root juice used to rinse oral cavity to cure aphthous ulcers. |
| 4 | Cajanu scajan (L.) | Fabaceae | **Kandulu** | Shrub | Leaves with salt made into paste and applied on gums to cure inflammation. |
| 5 | Carica papaya L. | caricaceae | Boppayee | Small tree | Inner bark of the stem decoction taken orally twice a day in dental caries. |
| 6 | CinnamomumverumPresl | Lauraceae | DalchinaChekka | Small tree | Stem bark juice dipped in cotton and applied on the teeth to cure dental carries and pyorrhea. |
| 7 | Crateva magna (Lour) DC. | Capparaceae | Maralingamu | herb | Leaf and root decoction used in throat infections; leaves chewed in case of spongy gums and toothache |
| 8 | Crossandra infundibuliformis ( L)Nees | Acanthaceae | Kanakambaram | herb | Warmed leaf paste applied to get hard adherent teeth and to cure toothache |
| 9 | Evolvulu salsinoides (L.) | Convolvulaceae | Vishnukrantha | Herb | Whole plant made into paste and applied to the teeth to make them hard |

ISSN: 0976-5301
Peer Reviewed & Refereed Journal
Journal Website www.coherencejournal.in

| | | | | | |
|---|---|---|---|---|---|
| | | | | | and adherent |
| 10 | Ficus microcarpaL.f. | Moraceae | ErraJuvva | Tree | Fruits boiled and pounded with salt and applied to cure toothache and dental caries. Root powder mixed with latex of the plant and salt taken orally for treatment of dental caries and pyrrhoea. |
| 11 | Ficus virensait. | Moraceae | Juvvi | tree | Stembark powder mixed with the latex and given orally for treatment of infected gums. |
| 12 | Gmelina asiatica L. | Verbenaceae | Adavigum madi | Clim ber | Root paste with cloves used twice a day for five days to allay toothache. |
| 13 | Indigofera tinctoria L. | fabaceae | Neeliaku | Herb | Leaf juice squeezed into the teeth to kill worms and relieve severe toothache. |
| 14 | Jatropha curcas L. | Euphorbiace ae | Napalamu | Shrub | Root decoction given to rinse the oral cavity in toothache and to relieve sore throat. |
| 15 | Madhuca longifolia (J.Koenig)Mac br. | sapotaceae | Ippachettu | Tree | Stem bark chewed to cure necrosed teeth and to relieve severe toothache. |
| 16 | Mimuso pselengi L. | Sapotaceae | pogadache ttu | Tree | Stem bark and fruit juice given to dental caries. |
| 17 | Myristica fragransHoutt | Myristicacea e | Jagikaya | Tree | Fruit paste applied on teeth twice a day to cure dental caries and pyrrhoea. |
| 18 | Poilia amentacea Roxb. | Opiliaceae | PachaNec heri | Shrub | Leaf powder and rock salt filled into the cavities of carious teeth on alternate days cure infection and swelling. |
| 19 | Phyla nodiflora (L.)Greene Allium sativum L. | Verbenaceae<br><br>Liliaceae | Bokkenak u<br><br>Vellulli | Herb<br><br>bulb | Leaves ground with garlic and made into pills kept between teeth to check toothache. |
| 20 | Phyllanthus reticulatusPoir . | Euphorbiace ae | Pulicheru | Herb | Stems squeezed on to teeth to cure infected gums and severe tooth pains. |
| 21 | Plumbago auriculata | Plumbaginac eae | Chitrika | Herb | Maceration of root and seed given in pyrrhoea |

ISSN: 0976-5301
Peer Reviewed & Refereed Journal
Journal Website www.coherencejournal.in

| | | | | | |
|---|---|---|---|---|---|
| | Lamk. | | | | and dental caries. |
| 22 | Salvadora persica L. | Salvadoraceae | varagogu | Herb | Root decoctionusedas gargle. Fresh stems used as tooth brushes to treat severe toothache. |
| 23 | Sesamum indicum L,<br><br>Carica papaya L. | Pedaliaceae<br><br>Caricaceae | Nuvvulu<br><br>Boppayee | Herb<br>Small tree | Seeds used to cure toothache in a special way. Seeds are mixed with butter and burnt and the smoke collected from these seeds is inhaled into the mouth with the help of tubular petiole of Papaya. Repeated inhalation of smoke relieves pain. |
| 24 | Syplocos recemosa Roxb. | symplocaceae | Loddugachekka | Small tree | Stem bark chewed twice a day for seven days leads to hard adherent teeth; decoction used as gargle. |
| 25 | Tabernamontana divaricate (L.) R.Br. ex Roem & Schultes,<br><br>Achiranthus aspera L. | Apocynaceae<br><br>Amaranthaceae | Nandivardanam<br><br>Uttareni | Shrub<br><br>Herb | Root powder mixed with Uttereni root powder and used as tooth powder for the treatment of dental caries and pyrrhoea. |
| 26 | Terminalia catappa L. | Combretaceae | Badamu | Tree | Stony kernel made into ash and uses as a tooth powder leads to hard adherent teeth and elimination of foul smell. |
| 27 | Zaliadecandra (L.) Burm. F, Zingiber officinale, Sesamum indicum, Ferula assafoetida, Myristica fragrans, Piper longum L, | Aizoaceae,<br><br>Zingiberaceae, Pedaliaceae, Apiaceae, Myristicaceae, Piperaceae, | Tellagalijeru, Allam, Nuvvulu, Inguva, Jajikaya, Pippallu, | Prostrate Herb, Rhizome, Herb, Tree, Tree, Herb, | Whole plant powdered and ground with a bit of dried ginger, sesame oil, asafetida, seeds of and seeds of miriyalu used as tooth powder in toothache, infected gums and pyrrhoea. |

During the survey it has been observed that the folk-lore and tribal traditional healers still depend upon wild plants around them for meeting their needs.They possess good knowledge of the medicinal uses of plants. Due to constant association with the forest environment. They have evolved knowledge by trial and error method and have developed their own way of

ISSN: 0976-5301
Peer Reviewed & Refereed Journal
Journal Website www.coherencejournal.in

diagnosis and treatment for different ailments. The data collected on dental protective plants needs systematically screened by phytochemists and pharmacologists for anti-microbial properties and any potent active principle(s). Total plant species Prostrate herbs 1,herbs 14, climbers 1, shrubs 4 small tree 4, trees species 9 are involved. total plant parts roots whole plants 2, root 9,tubor 1,rihizome 2, stem bark 9 , flower 1,fruit 2, Pettiole 1,Kernel 1, latasx1,seed 2, leaf 5,involved , Total plant species 35 of Plant parts root, rhizome, bulb , whole plant, stem bark, leaves fruits ,flowers and seeds etc.

## CONCLUSION

The exploration of ethno-medicinal plants in the Parnashala area of Bhadradri-Kothagudum District has revealed a rich tapestry of traditional knowledge and biodiversity that significantly contributes to the management of dental disorders. Local communities have relied on these plants for generations, demonstrating their efficacy in treating conditions such as toothache, gum disease, and oral infections. The findings highlight the importance of preserving this traditional knowledge, which not only serves the local population but also offers potential insights for modern dentistry and pharmacology. Recognizing the ecological significance of these medicinal plants is crucial for sustainable practices and conservation efforts in the region.

## FURTHER STUDY

Future research should focus on the following areas:

1. **Phytochemical Analysis:** Conduct comprehensive studies on the bioactive compounds present in the identified medicinal plants to understand their mechanisms of action in treating dental disorders.
2. **Clinical Trials:** Initiate clinical trials to validate the efficacy and safety of these traditional remedies, potentially leading to the development of new dental products.
3. **Conservation Strategies:** Develop strategies for the conservation of these plants, considering their ecological roles and the pressures of habitat loss and climate change.
4. **Cultural Documentation:** Document the traditional knowledge associated with these plants through interviews and participatory research, ensuring the preservation of local wisdom for future generations.
5. **Broader Ethnobotanical Surveys:** Expand research to include other regions and communities to compare traditional practices and identify additional medicinal plants with potential applications in dentistry.

By pursuing these avenues, we can enhance our understanding of the relationship between local flora and dental health, ultimately contributing to both traditional and modern medical practices.

## REFERENCE

1. Kumar, S., & Kumar, A. (2015). Ethnomedicinal plants used in dental care in India: A review. *Journal of Ethnopharmacology*, 164, 116-123.
2. Singh, P., & Singh, R. (2016). Traditional knowledge of medicinal plants for dental disorders in Uttarakhand, India. *International Journal of Herbal Medicine*, 4(4), 01-06.
3. Chopra, R. N., Nayar, S. L., & Chopra, I. C. (1986). *Glossary of Indian Medicinal Plants*. CSIR, New Delhi.

ISSN: 0976-5301
Peer Reviewed & Refereed Journal
Journal Website www.coherencejournal.in

4. Bhaduri, A. K., & Ghosh, D. (2017). Ethno-botanical survey of medicinal plants used for dental issues in eastern India. *Journal of Medicinal Plants Studies*, 5(3), 138-142.
5. Nayak, S. B., & Satyanarayana, K. (2015). Ethnomedicine of Andhra Pradesh: Medicinal plants and their uses in dental health. *Asian Journal of Pharmaceutical and Clinical Research*, 8(1), 153-157.
6. Kumar, P., & Gupta, S. (2014). Herbal medicines in dentistry: A review. *International Journal of Pharmacy and Pharmaceutical Sciences*, 6(2), 19-22.
7. Prajapati, N. D., Purohit, S. S., & Sharma, A. K. (2003). *A Handbook of Medicinal Plants: A Complete Source Book*. Agrobios, Jodhpur.
8. Bharati, K., & Chatterjee, S. (2018). Ethnobotanical study of medicinal plants used for dental health in rural communities of West Bengal. *Journal of Ethnobiology and Ethnomedicine*, 14(1), 20.
9. Srinivas, K., & Reddy, P. V. (2016). Indigenous knowledge of medicinal plants for oral health in Telangana, India. *International Journal of Innovative Research in Science, Engineering and Technology*, 5(3), 4356-4361.
10. Ramachandran, P., & Mohan, V. (2019). Ethnomedicinal uses of plants in the treatment of oral diseases in Southern India. *Pharmacognosy Reviews*, 13(25), 99-106.
11. Prasad, S. K., & Srivastava, S. (2013). Ethnomedicinal plants in India: An overview of their role in oral healthcare. *Journal of Natural Remedies*, 13(1), 1-10.
12. Reddy, R. K., & Ramakrishna, Y. (2017). Medicinal plants of Telangana state and their traditional uses in dental ailments. *World Journal of Pharmaceutical Research*, 6(3), 589-601.
13. Kumari, S., & Kaur, J. (2016). Traditional medicinal plants for oral health care: A review. *Journal of Herbal Medicine and Toxicology*, 10(1), 51-57.
14. Babu, R. J., & Anil Kumar, S. (2015). Review on ethnomedicinal plants of India for dental disorders. *International Journal of Research in Ayurveda and Pharmacy*, 6(4), 482-485.
15. Chowdappa, K., & Chandrashekar, K. B. (2014). Ethnobotanical observations of dental medicinal plants in Karnataka, India. *Journal of Ethnopharmacology*, 151(2), 128-137.