JOURNAL OF BASIC PHARMACOLOGY AND TOXICOLOGY

Original Research Article

Traditional medicinal plants for tooth-related problems used by Badagas of Nilgiri district, Tamilnadu, India

Sathyavathi R*

PG Department of Botany, Adhiyaman Arts and Science College for Women, Uthangarai, Tamil Nadu, India

Abstract

The entire area of the Blue Mountains constitutes the present district of Nilgiri in Tamil Nadu, India. It was originally a tribal land and was occupied by the Todas, Kotas, Kurumbas, Kattunayakkas and Panyas. Among them, the Badagas are one of the major communities in the district who reside in the mountain for long period as other tribal population. This district weather favors the growth of all type of vegetation. There are many medicinal plants that exist naturally in forest as well as in cultivable areas. These plants are playing vital role in providing medicinal and economic values in the rural areas. Nowadays, due to modernization, many folklore remedies are forgotten. The present study aimed to document such knowledge in Badagas community, Nilgris district, Tamil Nadu, India. The present study has identified eight medicinal plants used for tooth-related problems used by the Badagas of Nilgiri District and recommend their conservation and cultivation for local use and further research.

Key words: Badagas, medicinal plants, tooth problem, conservation, Nilgiris

1 Introduction

Plants have been used for healing purpose and in treatment of various diseases from time immemorial. They are the source of some very potential drugs, which play a vital role in human ailments to the extent that survival of human race depends on plants. Even when modes of medicine have changed from time to time, plants continue to be the main stay of medicine. The herbal medicine of ancient times, practiced by the Assyrians (4000 B.C.), and Sumarians (3500 B.C.), Indians (3500 B.C.), Chinese (3000 B.C.) and Egyptians (2500 B.C.), which was temporarily subdued under the impact of modern medicine, has staged a comeback and a "herbal renaissance" is booming across the world. WHO has estimated that 80% of the people in the world rely on traditional medicine for primary health care needs. And of the 119 plant-based drugs used today by modern medicine, about 74% are from plants traditionally used as herbal cures [1].

Plants have been used for healing purpose and in treatment of various diseases from time immemorial. They are the source of some very potential drugs, which play a vital role in human ailments to the extent that survival of human race depends on plants. Even when modes of medicine have changed from time to time, plants continue to be the main stay of medicine [1].

Various ethnobiological and anthropological surveys conducted in India since independence have brought several promising medicinal plants to light, which are being used by these indigenous people and also by the traditional rural people in healthcare for centuries. This has led to the discovery of some unique and indigenous systems of medicine practiced in India since time immemorial. One of the oldest, richest and most diverse cultural traditions called 'folk traditions' associated with the use of medicinal herbs is still a living tradition in India. Traditional folk medicine is the application of indigenous beliefs, knowledge, skills and cultural practices concerned with human health. The traditional medical practitioners are experts in the use of herbs (herbalists) others are proficient in spiritual healing, especially the use of incantations, while still others combine both. There exist today, around a million traditional, village-based practitioners of the herbal medicine, in the form of traditional birth attendants, bone setters, herbal healers, wandering monks and street herbal vendors. Apart from these specialized traditional healers, millions of village elders and women have traditional knowledge of herbal home remedies and of food and nutrition for maintaining disease free good health. Complementing the village – based traditional healers there are over 4,00,000 licensed, registered medical practitioners of the codified systems of Indian medicines like Ayurveda, Siddha, Unani and the Tibetian systems of medicine (GOI, 1987) [2].

It is high time that we bestowed our attention to exploit potential medicinal plants with a view to preserve and document the unwritten folklore or traditional information, because there is a rapid depletion of both bio-resources and

*Corresponding Author: E-mail: dr.r.sathyavathi@gmail.com

indigenous cultures due to modernization and urbanization. In view of the above said background, attention was directed on the Badagas, the original settlers of Nilgiris in Tamil Nadu, India so as to get the first-hand information on the medicinal plants in their immediate vicinity and surrounding vegetation.

2 Methodology

The present work is the outcome of intensive field studies undertaken in hamlet inhabited by Badaga community in Nilgiris in Tamil Nadu, India. Explorative field trips were regularly made once in a month of the year to all habitants to elicit information on medicinal plant used to treat tooth ailments. The plant specimens collected were identified with the help of Flora of Presidency of Madras [3], Flora of Nilgiri and Pulney Hills [4] and Flora of South Indian Hill Station [5] and confirmed with the authentic herbarium of Government of India, Botanical Survey of India, Southern Circle, Coimbatore and Survey of Medicinal Plant Collection Unit, Government Arts College Campus, Ootacamund, Tamil Nadu, India. All the prepared herbarium specimens were deposited in the Dept of Botany, Bharathiar University, Coimbatore, Tamil Nadu, India.

Table 1. Tooth remedial plants used by Badagas community, Nilgris district, Tamil Nadu, India

Sl.No.	Plant names	Family	Vernacular name	Parts used	Mode of administration
1.	*Acorus calamus*	Araceae	Basambu	Rhizome	Rhizome of the plant along with fruit of *Terminalia chebula* is rubbed in the teeth to cure toothache.
2.	*Baeolepis nervosa*	Periplocaceae	Kabbila kodi	Root, leaves	Root and leaf paste is applied to the gums of teeth for one week to cure gingivitis.
3.	*Berberis tinctoria*	Berberidaceae	Jakkale	Root	Paste of root bark is applied to heal wounds and tooth ache.
4.	*Leucas aspera*	Lamiaceae	Thumbe	Root	Root is rubbed onto the teeth to get relief from pain.
5.	*Rhodomyrtis tomentosa*	Myrtaceae	Thavutte	Stem	Stem is used as chewing stick to clean the gums.
6.	*Syzygium cumini*	Myrtaceae	Nerle	Stem bark	Paste of bark is applied to get relief from tooth ache.
7.	*Solanum xanthocarpum*	Solanaceae	Gullekka	Fruits and seeds	Fruits with seeds are crushed, boiled with water and the affected teeth are exposed to the steam to get relief from pain.
8.	*Stephania japonica*	Menispermaceae	Alukutte	Rhizome	Rhizome extract is used to treat dental disease.

Folklore-medico-botanical investigations were carried out according to the methods adopted by [6-9]. From each village, two or three local herbal healers were interviewed to obtain first-hand information of the plant/plant products used against various diseases. The women medicinal practitioners were given priority because they seemed to have more knowledge about the utility of plants in curing several diseases. The knowledge informants were taken to the field and information on medicinal plants was recorded. The informants were asked to explain therapies of the diseases and to list plants they employ. For each plant species, complete documentation of folklore medicinal information including medicinal property, their vernacular names, other ingredients used in preparation, mode of administration, dosage and duration of treatment was recorded. The collected data were cross-verified to authenticate the medicinal claims on the plants by the informants. Cross verification was done in different villages among the interviewers showing the same plant sample and even narrating the same to the informants on different occasions [7]. The folk medicinal lore was considered valid if at least three informants had expressed similar information about the medicinal properties of plants.

3 Results and Discussion

In this present study, 8 unpublished tooth remedial plants used by Badagas have been recorded and tabulated according to alphabetical order of plant name, family, local name, plant part used and mode of administration (Table 1). Since ancient times, plants have been a veritable source of drugs. Of late, modern medical facilities are now making inroads into these interior forest areas. As a result, the folk wisdom of medicinal herbs is gradually disappearing. It was, therefore, considered important that this valuable knowledge regarding folk medicinal uses of plants has to be recorded before time tested uses of herbal drugs are lost forever among the Badagas community. In view of this, it is suggested that both in situ and ex situ conservation strategies have to be adopted for the conservation of the aforesaid medicinal plant genetic resources.

4 Conclusion

In conclusion, it is said that through investigations many more new plant drugs can be brought to light from the unique folklore hidden among the traditional communities of other ethnopharmacologically unexplored areas of India and elsewhere, which may be utilized to the wellbeing of human health. In such cases, laboratory investigations such as pharmacognosy, pharmacology, pharmaceutical and clinical trials are required to be carried out to validate the therapeutic properties of these herbal preparations for effective and safe use.

Acknowledgement

The authors wish to acknowledge the Badaga herbal practitioners of Nilgiri District for sharing their knowledge about the medicinal plants during the field visits.

References

1. Fransworth, N.1990. The role of Ethnopharmacology in drug development: In: Chadwick D.J. and Marsh, J. (eds) 'Bioactive compounds from plants'; John Wiley and Sons,New York, pp. 2-21.
2. GOI (1994): Ethnobiology in India – A status report, Ministy of Environment and Forests, Govt. of India, New Delhi, India.
3. Fyson, P.F., 1915. The flora of the Nilgiri and Pulney Hill Tops. Vol I to III. M/S Periodical Experts, Delhi, india
4. Fyson, P.F., 1977. The flora of south Indian hill stations. Vol I & II. Today and Tomorrow's Printers and Publishers, New Delhi, India.
5. Gamble, J.S. and Fischer, C.E.C. (1915 – 1936). Flora of the Presidency of Madras. 3 Vols. Botanical Survey of India, Howrah, India.
6. Schultes R. E. Tapering Our Heritage of Ethnobotanical Lore. Econ. Bot. 1960. 14: 157-262.
7. Schultes R. E. The Role of Ethnobotanists in Search for New Medicinal Plants. Llyodia 1962, 25(4): 257-366.
8. Jain S. K. Methods and Approaches in Ethnobotany. Society of Ethnobotany. 1989. CDRI, Lucknow, India.
9. Martin G. J. Ethnobotany: Methods and Manual. 1995. Chapman and Hall, London.