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Ethno-Medicinal Plants in Five Sacred Groves in Cuddalore District, Tamilnadu, India

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Abstract

An ethno-medicinal plant survey was carried out in five sacred groves in Cuddalore district, Tamilnadu, for the express purpose of discovering the kinds of herbal remedies used by the local populations. It resulted in about 33 medicinal plants for the treatment of several diseases either in single or in combination with some other ingredients. The information on correct botanical identities with family, local name and traditional practice of 33 plant species belonging to 22 families are discussed here for the treatment of various illnesses.

Key words: Ethno-medical plants, Sacred groves, Indigenous knowledge, Cuddalore.

Introduction

The Indian sub-continent has a very rich diversity of plant species in a wide range of ecosystems. There are about 17, 000 species of higher plants, of which approximately 8,000 species are considered medicinal and used by village communities, particularly tribal communities, or in traditional medicinal systems, such as the Ayurveda (Pei, 2001). Many of the wild plants are endemic and are found only in specific ecological niches. Due to the 250 per cent increase in human and livestock populations in the 20th century and the subsequent pressure on available land, which has lead to deforestation and land degradation, many species or populations of species are now threatened with extinction, because their natural habitats are being destroyed. Almost all medicinal plant raw materials in India are collected from wild populations. This has led to the unsustainable exploitation of many of the plants. The growing interest in traditional herbal medicine will lead to a further increase in the demand for medicinal plants.

During the past decade, traditional systems of medicine have become a topic of global importance. Current estimates suggest that, in many developing countries, a large proportion of the population relies heavily on traditional practitioners and medicinal plants to meet primary health care needs (Abu-Rabia., 2005). Although modern medicine may be available in these countries, Drugs obtained from plant are believed to be much safer (Katewa et al., 2004) and exhibit a remarkable efficacy in the treatment of various aliments (Siddique et.al., 1995). The folk medicinal traditions play a reflecting and prominent role in human and environment interaction (Chopra et.al., 1956). Concurrently, many people in developed countries have begun to turn to alternative or complementary therapies, including medicinal herbs. Few plant species that provide medicinal herbs have been scientifically evaluated for their possible medical application. Safety and efficacy data are available for even fewer plants, their extracts and active ingredients, and the preparations containing them, nearly 80% of world's population depends on traditional medicine for their primary health care needs (Azaizeh et al., 2003). Furthermore, in most countries the herbal medicines market is poorly regulated, and herbal products are often neither registered nor controlled.

Assurance of the safety, quality, and efficacy of medicinal plants and herbal products has now become a key issue in industrialized and in developing countries. Both the general consumer and health-care professionals need up-to-date, authoritative information on the safety and efficacy of medicinal plants but today, many indigenous herbal remedies remain largely undocumented or recognized as potential forms of treatment and consequently continue to be used by only small groups of indigenous populations. The present work was carried out to explore the medical remedies of some medicinal plants used by the rural people of Cuddalore district in Tamilnadu for the treatment of human aliments.

Study area and Methods

Cuddalore districts is located (11º43′ N and 79º49′ E) in the East Coast about 23 kms south of Puducherry region. Various types of soil found in the Cuddalore region include red loamy, coastal alluvium, delta alluvium, red laterite, deep black and red sandy. The mean annual rain fall is 1,079mm and the dry season lasts for six monhs (January to June), and receives less than 60mm rainfall on monthly average. The mean annual maximum and minimum temperature is 22.75°C and 33.64°C.

Periodic field surveys were carried out in five sacred groves - Kothattai, Chinna Komati, Chinna thana kuppam, Venagdam pettai and Kuzhaindhi kuppam in Cuddalore district, Tamilnadu.

During June 2009 to January 2010. The local people having the indigenous knowledge of the medicinal plants were contacted through frequent field visits in various villages of Puducherry with the help of village head and local traders. The information was collected by group discussions and interviews with them in their local language (Tamil). Each of the plant material was assigned a field note books and documented as to Binomials with family, local name, part used and therapeutic uses, plant parts that were identified as having use in ethnobotany were collected, compressed, the voucher specimens were collected and identified by referring to standard flora (Hooker, 1884; Gamble 1936; Matthew, 1983). All the voucher specimens were maintained in the herbarium at Pondicherry Uniersity, Puducherry (India).

Results and Discussion

A total of 24 medicinal plant species distributed in 22 families were collected from the study area with the help of traditional healers. Medicinal plants used by them are given below with Latin name, family, local name, parts used, mode of preparation and medicinal uses.

1. *Abrus precatorius* L., Fabaceae, Kundri mani. A paste of the seeds is used to cure eczema.
2. *Abutilon indicum* (L.) Sweet. Malvaceae,Thuthi. Person with mouth full of munched leaf blows air into the ears of a person affected with breathlessness for relief from it.
3. *Acalypha indica* L, Euphorbiacae, Kuppai Meni, A leaf paste, mixed with common salt, is used to cure eczema and chest pain.
4. *Achyranthes aspera* L. Amaranthaceae, Naayuruvi. The boiled leaves are consumed to relieve internal piles and the roots are used as a brush to relieve pain and clean the teeth.
5. *Albizia lebbeck* (L.) Willd., Mimosaceae, Vaagai maram. Dried bark is made into powder and used as tooth powder to get relief from dental problems.
6. *Aloe vera,* (Linn.)Burm., Agavaceae, Sotru Katrazhai. Fresh juice is used as cathartic and for cooling. It is also used in treating fever eye infections and ulcer.
7. *Alternanthera sessilis* L., Amaranthaceae, Ponnagkanni. It is used as a treatment for headaches. It is also used to treat hepatitis and asthma.
8. *Azadirachta indica* (A.Juss)., Meliaceae, Vembu.Seed oil is used in skin diseases and in lice. Bark is useful in malarial fever. Tender twigs are used as tooth brush. Leaf paste applied for mumps.
9. *Catharanthus roseus* G. Don., Apocynaceae, Nithya Kalyani. Whole plant is powdered and mixed with cow's milk and taken orally to treat diabetes.
10. *Cissus quadrangularis* L., Vitaceae, Pirandai. A paste of the whole plant is taken for improving

the digestion and inducing appetite.

11. *Coccinia grandis* (L.) J. Voigt, Cucurbitaceae, Kovai.The leaf extract, mixed with milk, is used in cases of jaundice.
12. *Hemidesmus indicus*, (R. Br)., Asclepiadaceae, Nannari. The leaf, root extract is used for blood purification.
13. *Phyllanthus amarus* Schum. & Thonn., Euphorbiaceae, Keezha nelli. Fresh leaves and dried rhizome of turmeric are mixed and ground into a paste and applied externally on the cracks on the foot until cure.
14. *Tinospora cordifolia* Miers., Menispermaceae, Seenthil kodi. Shade dried leaves are ground into powder and mixed with hot water and the mixture is taken orally in the treatment of diabetes.
15. *Andrographis paniculata* (Burm.f.) Wall. ex Nees., Acanthaceae, Nila vembu. The powder thus obtained from the shade dried leaves is mixed with hot water and taken orally to cure beetle bites.
16. *Ichnocarpus frutescens* (L.) R.Br., Apocynaceae, Udarkodi. Latex of the plant is applied topically on painful tumours to reduce pain and retard growth.
17. *Dioscorea oppostifolia* L., Dioscoreacaea, Valli Kizhangu. Boiled root tubers are taken orally to reduce body heat.
18. *Gymnema sylvestre* (Retz)., Asclepiadaceae, Sarkarai kolli. Leaves dried in shade and powdered is taken for Diabetes to reduces Blood sugar.
19. *Jasminum angustifolium*.(L). Wild, Oleaceae, Kaatu malli. Leaves and flowers made into a paste and applied externally to remove the clot of Breast Milk.
20. *Leucas aspera* (Willd)., Verbenaceae, Thumbai. The vapours from the boiled leaves are inhaled to relieve coughing and colds.
21. *Mukia maderaspatana* (L.) M. Roemer., Cucurbitaceae, Mudakkathan. The leaf extract is taken internally to cure piles; it is applied to the hair of the head to blacken gray hair.
22. *Pongamia pinnata* L ., Fabaceae, Pongam. The seed oil is used to cure rheumatic pains and swellings.
23. *Solanum trilobatum*,L ., Solanaceae, Thoothu Vizhai. The leaf juice is used to treat cough and cold.
24. *Syzygium cumini* L., Myrtaceae, Naval. The dried and powdered seeds, mixed with hot water, are taken for reducing the Blood sugar level.
25. *Solanum nigrum*, L., Solanaceae, Manathakkali.The leaf and fruit extract is used for deworming

and treating fever.

26. *Sida cordata*, (Burmn. f.) Borssum, Malvaceae, Nila thutthi. The leaf juice is effective in treating diarrhoea during pregnancy. The pounded leaves are applied locally to relieve cuts and bruises.
27. *Tamarindus indica* L ., Caesalpiniaceae, Puliyamaram. A paste of the seed coat is applied to a scorpion bite to relieve pain or the scratched seed is placed in a warm condition on the area of a scorpion bite to relieve pain.
28. *Vitex negundo* L., Verbenaceae, Notchi. Inhale boiled leaves vapour to relieve headache.
29. *Cassia fistula* L. Caesalpiniaceae, Sarakkonnai. The decoction of the bark is mixed with garlic and powerded pepper and later on given to cattle as purgative.
30. *Calophyllum inophyllum* L. Clusiacea, Punni, Seed oil applied externally in rheumatism and skin affections. A decoction of it employed for indolent uleers. Bark juice used as a purgative.
31. *Anisomeles malabarica*. R. Br. Lamiacea, Peyamiratti. Leaf of this plant along with the leaf of Alangium salvifollium is made into a paste and applied to cure chronic wounds.
32. *Sansevieria roxburghiana* Schulets & Schulets f., Agavaceae, katrazhai. Tender shoot juice given to children for clearing phlegm from the throat.
33. *Vernonia cinerea* Less., Asteraceae, Sahadevishanglamir. Herbs used against malaria. Roots used as an anthelimintic, their decoction given in diarrhoea and stomachache. Leaf juice is used in fever, cough and rheumatism.

To cure various diseases local traditional healers were using leaves (17) most commonly followed by seed (7), bark (3), root tubers (2) and latex (1). This observation concurs with findings of the earlier investigators (Udayakumar *et al.*, 2009; Pattanaik *et al.*, 2008; Ghorbani, 2005; Katewa *et al*., 2004). The plants were used for eczema, wound healing, throat infection, diarrhea, itches, wounds and skin diseases; one plant each to cure head ache, stomach ulcer, tumor, ear ache, , eye pain, diabetes, cold and cough

These are taken internally with additives such as oil (sesame, castor and coconut), milk and milk products (butter milk and ghee), common salt, jaggery and honey or applied externally in the form of infusion, decoction, paste or powder. Most of the plants used in medicines are either mixed with other ingredients or single.

Conclusion

Important medicinal plants need immediate conservation in order to avoid degradation and the

deforestation of sacred groves. Their cultivation and establishment should be encouraged to prevent the extinction of potentially valuable species. Additionally, local village people may benefit from having easily accessible low-cost herbal species close at hand.

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