

Ethnomedicinal Observations among Hooralis Tribes in Kadambur Hills, (Kalkadambur) Erode District, Tamil Nadu

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Abstract: An ethnobotanical survey was carried out among the Hooralis tribes in the Kadambur hills of Erode district, Tamil Nadu. A total of 68- plant species belonging to 37- families were identified from the study area to be used to cure skin diseases, poison bites, stomachache, cough, cold and diabetes. The indigenous knowledge of medicinal plants has great potential for research and the discovery of new drugs.

Key words: Hooralis tribes • Kalkadambur • Ethnobotanical data • Sathyamangalam

INTRODUCTION

The use of plants as medicine was practiced by our ancestors, a process which must have started by trial and error. In India, traditional healers are reported to use 2500- species, in which 100- species of plants are found to serve as regular source of medicine [1]. The traditional medicinal knowledge of plants and their use by indigenous culture are not only useful for conservation of cultural traditions, but also for healthcare and drug development in the present and future [2]. Herbal drugs obtained from the plants are believed to be much safer and has been proved in the treatment of various ailments [3]. India is rich in ethnic diversity and indigenous knowledge that has resulted in exhaustive ethnobotanical studies. There are over 537- different aboriginal groups in India with extensive knowledge of plants [4] stated that many rural people throughout the world rely on medicinal plants because of their effectiveness, lack of modern healthcare alternatives and cultural preferences. The phytomedicine is one of the ways which widely practiced among tribal and rural population of India for treating ailments and promoting health.

Traditional ethnomedicinal studies have in recent years received much attention due to their wide local acceptability and clues for new or lesser- known medicinal plants [5]. Recently interest in traditional medicine has continuously been increasing in India and thereby various ethnobotanical studies have been reported to explore the knowledge from the various tribals of Tamil

Nadu [3-6-7-8]. Even today many local and indigenous communities meet their basic needs from the herbal trade based on their traditional knowledge. Documentation of these local knowledge systems concerning medicinal plants may have impacts from a bioeconomic point of view [9]. In the absence of detailed account traditional medicine in Kadambur hills, Erode district, Tamil Nadu. An attempt has been made to study and record the existing practices among the tribes Hooralis. The purpose of this survey was to document useful medicinal plants with a clearly defined therapeutic context of being used to treat infectious diseases.

MATERIALS AND METHODS

The present study was undertaken in the Kadambur hills located in the Erode district of Tamil Nadu. Kadambur hills is situated at 950 meters above the sea level and lies between 77°20'60" E longitudes and 11°37'60" N latitude (Fig 1). It is in the borders of Karnataka and Tamil Nadu regions and the continuation of Sathyamangalam forest, a mixed deciduous vegetation cover of Southern Western Ghats. The ethnobotanical survey was conducted among the Hooralis tribe population residing in this area during 2008 to 2009. Hooralis is a very prominent tribal group of Kadambur village (Erode district) of Tamil Nadu state with unique culture and ethnobotanical practices. Both men and women of age varying between 20- 80 years were interviewed to get details of plants being used by them for medicinal purposes. Ethnobotanical data were collected

according to the methodology suggested by Mitalaya *et al.* [10]. The ethnobotanical data (local name, mode of preparation, medicinal uses) were collected through questionnaire, interviews and discussions among tribal practitioners in their local language. Our questionnaire allowed descriptive response on the plant prescribed, such as part of the plant used, medicinal uses, time of collection, detailed information about mode of preparation (i.e. decoction, paste, powder and juice), form of usage either fresh or dried and mixtures of other plants used as ingredients.

Botanical identities were confirmed by referring authentic specimens in herbarium of Botanical Survey of India, Southern Circle, Coimbatore (MH) and by referring the recent floras and taxonomic revisions. The voucher specimens were deposited in the herbarium at the Department of Botany, Bharathiar University.

RESULTS AND DISCUSSION

The tribe Hooralis preferred to use diversity of native plants with medicinal utility. A total of 68- species distributed among 58- genera belonging to 37- families were identified for medicinal purposes during this study (Table 1). Different parts of plants like leaves, roots, rhizome, inflorescence, fruits, seeds, etc. are being used for different purposes. The most common families in the study were Euphorbiaceae (7 remedies), Acanthaceae (5 remedies), Lamiaceae and Solanaceae (4 remedies each), Rubiaceae and Asclepiadaceae (3 remedies each), Fabaceae, Asteraceae and Rutaceae (2 remedies each) (Fig. 2). The tribal people mostly eat vegetables of leafy varieties, which grow as wild weeds. There are two types of tribal healers found in the study area namely herbalists and ritualists. Herbalists treat patients only by using plant

Table 1: List of medicinally important plants used by the Hooralis tribes in Kadambur hills, Erode District of Tamil Nadu, India.

S. No	Botanical Name	Family	Local Name	Mode of administration and Uses
1.	<i>Abrus precatorius</i> L.	Fabaceae	Vellai kundu mani	Decoction of seed is taken orally to treat stomach pain.
2.	<i>Abutilon indicum</i> G. Don.	Malvaceae	Thuthi	Leaf is cooked with onion and taken orally to treat piles.
3.	<i>Acacia caesia</i> (L.) Willd.	Mimosaceae	Nanjupattai	Bark is ground with water and applied topically to cure wounds.
4.	<i>Acacia torta</i> Craib.	Mimosaceae	Seeva keera	Leaf is cooked with onion and taken as food for stomachache.
5.	<i>Acalypha fruticosa</i> Forsskal.	Euphorbiaceae	Chinni chedi	Decoction of leaves taken orally for dysentery.
6.	<i>Acalypha paniculata</i> Miq.	Euphorbiaceae	Paruva thazhai	Leaf is pasted and applied over pimples regularly once a day until cure.
7.	<i>Achyranthes aspera</i> L.	Amaranthaceae	Nauruvi	Paste of leaf with onion is applied externally on the bitten site of dog and to cure skin diseases.
8.	<i>Acorus calamus</i> L.	Araceae	Vasambu	Extract of dried rhizome is given orally to the children to cure throat infection.
9.	<i>Adhatoda zeylanica</i> Medicus.	Acanthaceae	Adathodai	Paste of leaf is taken orally to cure asthma.
10.	<i>Adina cordifolia</i> Hook. f.	Rubiaceae	Manjal Kadambai	Fresh bark is ground with brown sugar and cumin and taken internally for stomachache.
11.	<i>Alangium salvifolium</i> L.	Alangiaceae	Alinji	One or two drops of fruit juice are poured in the eyes to cure eye infections.
12.	<i>Alpinia calcarata</i> Rosc.	Zingiberaceae	Arathi poo	Dried rhizome is mixed with water and given orally for children's growth.
13.	<i>Alstonia scholaris</i> (L.) R. Br.	Apocynaceae	Paalooram pattai	Powdered stem is mixed with water and given orally to the mother to increase lactation.
14.	<i>Amaranthus spinosus</i> L.	Amaranthaceae	Mullu Keerai	Leaf paste along with lemon juice is taken with food to cure stomach ulcer.
15.	<i>Andrographis lineata</i> Wall. ex Nees.	Acanthaceae	Siriyangai	Powder of leaf is mixed with milk and taken orally to treat diabetes.
16.	<i>Andrographis paniculata</i> (Burm. f.) Wall. ex Nees.	Acanthaceae	Nilavembu	Leaf juice is taken orally during menstruation to prevent excessive bleeding.
17.	<i>Anisomeles malabarica</i> (L.) R.Br. ex Sims.	Lamiaceae	Paei miratti	Paste of stem is mixed with coconut oil and applied to cure wounds.
18.	<i>Asparagus racemosus</i> Willd.	Liliaceae	Thanneer vittan kilangu	Paste of tender and mature leaves is applied topically on the heels to cure cracks.
19.	<i>Azima tetragantha</i> Lam.	Salvadoraceae	Mullu kuthi chedi	Decoction prepared from leaves is taken orally to treat cold.

Table 1: Continued

S. No	Botanical Name	Family	Local Name	Mode of administration and Uses
20.	Bauhinia retusa Ham.	Fabaceae	Aathi	Leaves are fumigated and inhaled to get relief from fever.
21.	Blepharis maderaspatensis (L.) Roth.	Acanthaceae	Vettukaaya pachilai	Paste of leaves is mixed with limejuice and applied on cuts.
22.	Cassia hirsuta L.	Caesalpiniaceae	Paaparettai	The root is pasted with cummin and taken internally to treat stomach problems.
23.	Catunaregum spinosa Thun.	Rubiaceae	Karangai maram	Crushed unripe fruits are used to reduce body heat.
24.	Centella asiatica (L.) Urban.	Apiaceae	Vallarai	Juice of leaf is mixed with equal amount of milk and taken orally for seven days to treat jaundice.
25.	Cipadessa baccifera Miq.	Meliaceae	Seeruholi maram	The paste of root, leaf and bark is applied topically to cure psoriasis.
26.	Cocculus hirsutus Diels.	Menispermaceae	Vella katha kodi	Paste is prepared from leaves and administered orally to treat Leucorrhoea.
27.	Costus speciosus (J. Koen.) Smith.	Zingiberaceae	Koshtam	Powdered leaves are taken internally with milk to cure diabetes.
28.	Cryptolepis buchananii Roem & Schul.	Asclepiadaceae	Paalkodi	Stem latex is applied on cuts and wounds.
29.	Dioscorea oppositifolia L.	Dioscoreaceae	Valli kilangu	Paste of rhizome is taken internally for stomachache.
30.	Eclipta prostrata L.	Asteraceae	Manjal karisalangani	The powder of <i>Eclipta prostrata</i> , <i>Leucas aspera</i> and <i>Phyllanthus niruri</i> are mixed with butter milk and taken orally to cure jaundice.
31.	Elettaria cardamomum (L.) Maton.	Zingiberaceae	Yelakka	Dried fruits are taken along with food for stomachache.
32.	Euphorbia antiquorum L.	Euphorbiaceae	Sathura kalli	Stem latex is applied topically on skin to get relief from body pain.
33.	Euphorbia heterophylla L.	Euphorbiaceae	Paal Poodu	Leaf is cooked with coconut oil and taken with food for stomach problems and dysentery.
34.	Euphorbia hirta L.	Euphorbiaceae	Ammaan pachcharsi	Leaf and fruit powder is mixed with milk and taken orally to treat Leucorrhoea and to keep the body cool.
35.	Excoecaria crenulata L.	Euphorbiaceae	Vellai thillai	The extract of bark and root is applied topically to treat skin diseases.
36.	Ficus retusa L.	Moraceae	Athi maram	Paste of leaf along with their fruit ground with cummin is taken orally to cure swellings, bone fractures and also to treat diabetes.
37.	Glycosmis pentaphylla Correa.	Rutaceae	Molehulukki	The root is pasted with cummin and taken internally to treat Asthma.
38.	Hemidesmus indicus Hook. f.	Asclepiadaceae	Nannari	Decoction of whole plant is taken internally to treat fever.
39.	Jasminum angustifolium Vahl.	Oleaceae	Kattu malligai	The leaf is boiled with water and taken as food to cure diarrhea.
40.	Jatropha curcas L.	Euphorbiaceae	Kattu amankku	Decoction from bark is mixed with water and used to treat stomach problems during pregnancy.
41.	Launaea pinnatifida Cass.	Asteraceae	Kaatu thumbi	Decoction of leaf is taken internally to get relief from fever.
42.	Leucas aspera Spreng.	Lamiaceae	Kennathumbai	Paste of leaf or crushed leaf is taken to treat snake bites. It is also applied topically on the forehead to cure migraine.
43.	Mukia maderaspatana	Cucurbitaceae	Musu musukai	Boil the leaf juice with gingelly oil and applied topically on the head before taking bath to cure Asthma.
44.	Ocimum basilicum L.	Lamiaceae	Thiruneetru pachai	Dried leaves are kept in fire and the smoke is inhaled to cure asthma
45.	Oxalis comiculata L.	Oxalidaceae	Puliyarai	Paste of root is taken orally to treat common fever.
46.	<i>Piper nigrum</i> L.	Piperaceae	Milagu	The dried seeds are taken orally to cure throat infection.
47.	Plectranthus coleoides Benth.	Lamiaceae	Omavalli chedi	Juice of leaves is boiled with coconut oil and applied on head to stimulate appetite.
48.	Plumbago zeylanica L.	Plumbaginaceae	Kodiveli	Root is pasted with gingelly oil and applied topically to cure piles.
49.	Rubia cordifolia L.	Rubiaceae	Kalutharupan chedi	Paste of root is applied topically on heel before going to bed to cure cracks.
50.	Rubus ellipticus Sm.	Rosaceae	Vella mulli	The root is pasted and taken internally to treat paralysis.
51.	Ruellia patula Jacq.	Acanthaceae	Puni chedi	Paste of leaf is applied topically all over the body to treat children fever.
52.	Santalum album L.	Santalaceae	Santhana maram	The paste of tender twig mixed with the juice of <i>Phyllanthus emblica</i> are taken orally to treat urinary problems and diabetes.
53.	Sapindus emarginata Vahl.	Sapindaceae	Poondi kottai	Unripe fruits are crushed and given to reduce body heat.
54.	Sida acuta Burm. f.	Malvaceae	Valathi chedi	Paste of leaves is mixed with coconut oil and applied as hair oil.
55.	Solanum erianthum	D. Don	Solanaceae	Malai sundai The ripened or un ripened fruits are boiled with water and the vapour is inhaled through mouth to cure toothache.
56.	Solanum nigrum L.	Solanaceae	Thakkali	Fresh leaf paste is applied externally on cuts.
57.	Solanum surattense Burm. f.	Solanaceae	Kandankathiri	Fresh or dried fruits are kept in fire and the smoke is inhaled through mouth to cure toothache.
58.	Solanum trilobatum L.	Solanaceae	Thoodhuvalai	Juice of leaves is taken orally to treat asthma.

Table 1: Continued

S. No.	Botanical Name	Family	Local Name	Mode of administration and Uses
59.	<i>Spilanthes acmella</i> Murr.	Asteraceae	Manjal Poo chedi	Flowers are crushed and applied to cure toothache.
60.	<i>Streblus asper</i> Lour	Moraceae	Kembara	Paste of leaf is applied topically to treat swellings on the skin.
61.	<i>Syzygium cumini</i> L.	Myrtaceae	Naval palam	Powered seeds mixed with either hot water or milk and taken orally in empty stomach to treat diabetes.
62.	<i>Terminalia bellirica</i> (Gaertner) Roxb.	Combretaceae	Thaanthi maram	Paste of leaves is applied topically on burns.
63.	<i>Terminalia chebula</i> Retz.	Combretaceae	Kadukkai maram	Powdered fruit is mixed with water or milk and taken internally to cure cold.
64.	<i>Toddalia asiatica</i> (L.) Lam.	Rutaceae	Kindu mullu	Decoction of leaves is given to cure stomachache.
65.	<i>Tylophora indica</i> (Burn. f.) Merr.	Asclepiadaceae	Nangilai	Paste of leaf and root is mixed with equal amount of root paste of <i>Rauvolfia serpentina</i> and applied externally on the spot of snakebite.
66.	<i>Vitex negundo</i> L.	Verbenaceae	Nochi	Fresh leaves are boiled with water and the vapour is inhaled twice a day to cure cold.
67.	<i>Ziziphus oenoplia</i> Mill.	Rhamnaceae	Churipala chedi	Paste of bark and fruit along with curmin is taken internally to treat diarrhea.
68.	<i>Zizyphus mauritiana</i> L.	Rhamnaceae	Kodithotti maram	Paste of leaf along with the leaves of <i>Ailanthus excelsa</i> is taken internally to treat paralysis.

Table 2: Plants used to treat several common diseases by the Hooralis tribes in Kadambur hills of Erode district, Tamil Nadu

S. No	Common diseases	Plants used to treat
1.	Cuts and Wounds	<i>Acacia caesia</i> , <i>Anisomeles malabarica</i> , <i>Blepharis maderaspatensis</i> , <i>Cryptolepis buchananii</i> and <i>Solanum nigrum</i> .
2.	Asthma	<i>Solanum trilobatum</i> , <i>Ocimum basilicum</i> , <i>Adhatoda zeylanica</i> and <i>Mukia maderaspatana</i> .
3.	Cough and Cold	<i>Adhatoda zeylanica</i> , <i>Solanum trilobatum</i> , <i>Azima tetragantha</i> , <i>Terminalia chebula</i> , <i>Vitex negundo</i> and <i>Ficus retusa</i> .
4.	Diabetes	<i>Santalum album</i> <i>andrographis lineata</i> , <i>Costus speciosus</i> , <i>Ficus retusa</i> and <i>Syzygium cumini</i> .
5.	Dysentery	<i>Acalypha fruticosa</i> and <i>Euphorbia heterophylla</i> .
6.	Fever	<i>Launaea pinnatifida</i> , <i>Adhatoda zeylanica</i> , <i>Oxalis corniculata</i> , <i>Hemidesmus indicus</i> , <i>Terminalia chebula</i> , <i>Vitex negundo</i> , <i>Bauhinia retusa</i> and <i>Ruellia patula</i> .
7.	Headache	<i>Leucas aspera</i> and <i>Vitex negundo</i> .
8.	Jaundice	<i>Centella asiatica</i> and <i>Eclipta prostrata</i> .
9.	Poison bites	<i>Rubia cordifolia</i> <i>andrographis lineata</i> <i>andrographis paniculata</i> , <i>Tylophora indica</i> and <i>Leucas aspera</i> .
10.	Skin diseases	<i>Streblus asper</i> , <i>Acalypha fruticosa</i> , <i>Achyranthes aspera</i> , <i>Cipadessa baccifera</i> , <i>Terminalia bellirica</i> and <i>Excoecaria cremulata</i> .
11.	Stomachache	<i>Acacia torta</i> , <i>Acalypha paniculata</i> , <i>Dioscorea oppositifolia</i> , <i>Elettaria cardamomum</i> , <i>Euphorbia heterophylla</i> , <i>Hemidesmus indicus</i> , <i>Jatropha curcas</i> , <i>Plumbago zeylanica</i> , <i>Solanum nigrum</i> , <i>Amaranthus spinosus</i> , <i>Terminalia chebula</i> and <i>Toddalia asiatica</i> .
12.	Toothache	<i>Solanum erianthum</i> , <i>Solanum surattense</i> , <i>Spilanthes acmella</i> and <i>Toddalia asiatica</i> .

resources. They diagnose diseases based on the symptoms told by the patients as well as based on their personal experience in treating human ailments. Ritualists believe that specific spirit causes ailments. The whole healing ceremony takes about a day. The preparation of medicines and treatment of diseases connected with the tribal healthcare are accompanied by elaborate rituals and music as previously observed in the case of *Mikirs* of India [11].

It is evident from the present study that the collected plants were very commonly used for the treatment of various diseases by the Hooralis tribes in this region (Table 2). Analysis of the data indicated that, about 10-plants for cold and cough, 5- plants for wounds, 5- plants for diabetes, 8- plants for fever, 5- plants for poison bites, 6- plants for skin diseases, 12- plants for stomachache and 4- plants for tooth ache are used by Hooralis tribes. Kani tribals in Tirunelveli hills of Tamil Nadu were using 14

plants for the treatment of skin problems [12] 52 herbal preparations from 31 plants were used for skin diseases by tribals of Uttar Karnataka district, a nearest state of Tamil Nadu [13] and people of Eastern Cape Province, South Africa used 38 plant species for the treatment of wounds [14].

CONCLUSION

Ethnobotanical investigations in the tribal communities of Tamil Nadu have been made by earlier workers with different perspectives. The present study has revealed the utilization of 68- species of plants in ethnomedicine by the *Hooralis* tribes of Kadambur hills (Erode district) of Tamil Nadu. Further investigations in to the pharmacological importance of such plants and their diversity and phytochemistry may add new knowledge to the information in the traditional medicinal and cultural

systems. Although traditional medication is still practiced in the area, proper scientific validation and preservation of traditional skills and technology of medicinal plants is a vital necessity.

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