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RESEARCH ARTICLE

TRADITIONAL USE OF MEDICINAL PLANT BY MALAYALI TRIBE IN YERCAUD HILL, EATERN GHATS, SALEM DISTRICT, TAMIL NADU, INDIA

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ABSTRACT

An ethnobotanical survey was conducted in 10 villages of Yercaud Hills, Salem district, Tamil Nadu among the Malayali tribals by personal interviews and field visits along with the informants during November 2012 – May 2014. Informants were selected based on their experience and knowledge on medicinal plants. From each village one person was selected. Present study focused on local inhabitants who used traditional resources for self-medication. A total number of 30 plant species belongs to 30 genera and 22 families have been reported for their use in treat ailments such as leprosy, snake bite, beetle bite, apoplexy, body pain, stomach, rashes, swelling, cataract, worm infection, trismus, mental disorders,menorrhea, dysentery, tumor and sprain. Botanical name, vernacular name, parts used, name of diseases against which the plants used, mode of preparation and administration for each recipes are discussed. The result of this study showed that local people in this study area still depend on medicinal plants and these plants play decisive role in primary health care system.

Key Words:Eastern Ghats, Yercaud hills, Malayali tribes, Ethnomedicinal plants.

1. INTRODUCTION

Plants are the basis of life on earth, supplying fresh oxygen and play an important role to people's livelihood. Worldwide 2,48,000 seed plants are reported and more than 50,000 of them are used for medicinal purposes.The use of plants from different plant parts performs a great role particularly in the places where they lack modern health facilities/clinics/hospitals. India is the largest country, have the richest arrays of registered and relatively well known medicinal plants(1). Eastern Ghats are discontinuous range of mountain set along Eastern coast, starting at West Bangal, and pass through states like Orissa, Andhra Pradesh and Tamil Nadu. Eastern Ghats holds the rich floral system with more medicinal plants. The land is also inhabited by quite a few tribes which include Savara, Jatapa, Dora, Gadapa, Khond, Manne Dora and Mukha Dora. These indigenous people have their own unique cultural heritage. These people follow the age old customs and traditions. They are still dependent on the forest produce and hunting for their livelihood. These tribes have good knowledge about geography of the region and its produce and thereby make a good use of its medicinal plants.

The study area Yercaud hills is the major point in the Eastern Ghats, located with the forest types range from evergreen to moist deciduous. Malayali tribals are typically hill tribals present in the foot hills of Yercaud hills. Malayali simply means a hill person an appellation distinguishing them from the people of plains. In physical appearance they scarcely differ from the people of plains. They speak Tamil dialect of their own. They are supposed to be descendants of Kanchipuram vellalar. They appear to have migrated from Kanchipuram (a town near Chennai, Tamil Nadu) between seventh and eleventh centuries. The tribals are mostly working as casual laborers in coffee estates. They are also cultivating the food grains, fruits and vegetable (2).

2. MATERIALS AND METHODS

2.1. Study Area

The study was conducted at Yercaud Hills range of the Eastern Ghats situated in Salem district of Tamil Nadu. The Hill range is situated at an altitude of 1515 meters (4970 ft) above. The most popular Servarayan temple is situated at 5,236 feet in Yercaud Hills. The geographical position of the study area is 11^0C 45′ 56" N latitude and 78^0C 17′ 55" E longitude. The temperature ranges from 13^0 C to 29^0 C on the peaks and 25^0 C to 40^0 C at the foot hills. The average annual rainfall is around 1500 mm – 1750 mm.

2.2. Study Pattern and Period

Study was conducted during November 2012 – May 2014 to design the importance of traditional medicine from plants for curing various ailments.

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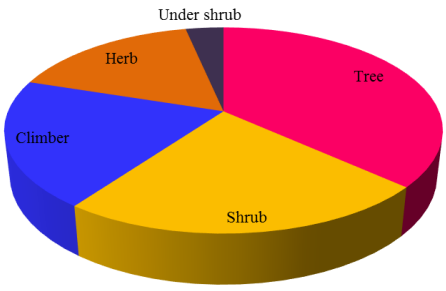
2.3. Method of data collection

Ethnomedicinal data were collected through general conversations with the informants. Personal interviews were used to obtain the information of medicinal plants with their local names, parts used, mode of preparation (i.e., decoction, paste, powder and juice) and form of usage either fresh or dried and mixtures of other plants used as ingredients. The recipes on the mode of preparation of ethno-herbal products along with dosage, application and duration were also gathered. The data gathered were cross verified by repeated queries with different local herbalists in different seasons (3). A totalnumber of 10 traditional healers comprising of 6 males and 4 females were identified between the ages of 35 and 80. They were selected based on their knowledge of medicinal plants. Informants were asked to come to field and show the plants with local names. The species mentioned by the informants were identified taxonomically for which the voucher specimens were referred with standard floras (4,5).

3. RESULTS AND DISCUSSION

During the course of investigation, 10 villages viz., Mundakampadi, Muluvi, Karadiyur, Pattipadi, Velur, Jernakaadu, Taalur, Vellakadai, Puliyur and Periakadu were visited. More reliable informants who had rich experience and practical knowledge of the plants used in the traditional system of medicine were selected. These informants were considered as collaborators in ethnobotanical research thus giving equal participation in collection of information.

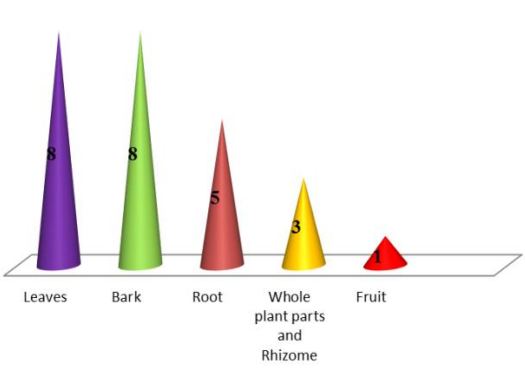
Fig. 1. Calssification of Medicinal Plants based on habit



During the investigation 30 ethnomedicinal plant species distributed in 30genera and 22 families were recorded. These plants were used to cure different ailments such as leprosy, snake bite, beetle bite, apoplexy, body pain, stomach, rashes, swelling, cataract, worm infection, trismus, mental disorders,menorrhea, dysentery, tumor and sprain (Table. 1). Among 30 plant species Tree forms (11 species) were found to be commonly used followed by shrub (7 species), climber (6 species), herb (5 species) and undershrub species (1 species each) (Figure 1). Malayali tribes seldom try to collect parasite from other trees for their medicinal requirement, because they have so many herbal drugs available around their shelters.

The most dominant plant parts used were bark and leave (8 species each), root (5 species), whole plant parts and rhizome (3 species each), seeds (2 species) and fruit (1 species) were documented (Figure 2). Many indigenous communities throughout the world also mostly utilize leaves for the preparation of herbal medicines(5-10). The reason why leaves are used mostly is that they are collected very easily than underground parts, flowers, fruits etc. (11).

Fig. 2. Plant Parts used as herbal medicines



Medicines were prepared in the form of powder, paste and juice. Some plants were used as individuals and also combination with other plants. Internal uses (62.5%) were predomination over external uses (31.25%). Internal consumption was done for body pain, menorrhoea, dysentery, rashes, snake bite, stomach pain, swelling, trismus and worm infection and external applications are done for apoplexy, beetle bite, leprosy, sprain and tumor. For external use, the most important methods used direct application of paste or with oil. Most of the medicines were given orally which were also suggested by some other researchers in the world (12-16).

In our present research we mainly want to highlight the newly documented plants species of medicinal uses that were collected from Malayali tribes in Yercaud Hills. The previous researcher who all worked in Yercaud Hills and various part of Tamil Nadu in Eastern Ghats not enumerate the uses of *Dioscorea oppositifolia*, *Mangifera indica*, *Premna tomentosa, Ruta graveolens* and *Terminalia bellerica* for apoplexy, *Premna tomentosa* for mental disorders, *Combretum ovalifolium*, *Plumbago zeylanica*, and *Toddalia asiatica* for

Table 1. List of Ethnomedicinal plants used by Malayali tribals in Yercaud Hills, Salem district, Tamil Nadu, India.

S. No	Ailments	Botanical Name	Vernacular Name	Family	Parts used	Mode of Preparation and administration
1	**Apoplexy**	*Dioscorea oppositifolia*, L.	Malaikilangu	Dioscoreaceae	Rhizome	Mentioned plants parts are made into powder and the powder is added to the neem oil and made into chrism and applied externally to cure apoplexy.
		Mangifera indica, L.	Mamaram	Anacaradiaceae	Fruit	
		Premna tomantosa, Willd.	Pidangunari	Verbenaceae	Bark	
		Ruta graveolens, L.	Agaravagaram	Rutaceae	Leaves	
2	**Beetle bite**	*Carica papaya*, Linn.	Ppali	Caricaceae	Leaves	Leaves paste administration externally to cure beetle bite.
		Stachytarpheta urticaefolia, D & G.	Kurangaivaalchedi	Verbenaceae	Leaves	Crushed leaves are applied externally to cure beetle bite.
		Tephorosia pumila, Baker.	Sirukolingi	Fabaceae	Leaves	Leaves paste applied externally to cure beetle bite.
3	**Body pain**	*Gyrocarpus americanus*, Jacq.	Thanakkumaram	Gyrocarpeaceae	Bark	Bark powder consumption orally for 3 days to relief the body pain.
		Caesalpinia crista, L.	Kalachikaai	Caesalpiniaceae	Seeds	Mentioned plants parts are made into powder and the powder is mixed with hot water administration orally for 3-4 days to relief the body pain.
		Calotropis procera, R.Br.	Vellerukkan	Asclepidaceae	Root	
		Dendrophoe falcate, L.	Maraottu	Loranthaceae	Whole plant parts	
4	**Cataract**	*Ipomoea Pes-caprae*, Sweet.	Adappukodi	Convolvulaceae	Leaves	Leaves juice is poured into eye to cure cataract.
5	**Dysentery**	*Asclepias curassavia*, L.	Mokkuthipoodu/Muthumani	Asclepidaceae	Leaves	Consumption of leaves paste can arrest dysentery.
6	**Leprosy**	*Combretum ovalifolium*, Roxb.	Vennangukodi	Combretaceae	Whole plant parts	Mentioned plants parts are made into powder and the powder is mixed with oil made into chrism and applied externally to cure leprosy.
		Plumbago zeylanica, L.	Chitramullam	Plumbaginaceae	Bark	
		Toddalia asiatica, Lamk.	Mulaikaradan mullu/Milagaranai	Rutaceae	Root	

7	**Menorrhoea**	*Polyathia cerasoides* (Roxb) Bedd.	Senthalamaram	Annonaceae	Bark	Oral administration of bark powder is good for menorrhoea.
8	**Mental disorders**	*Premna tomantosa*, Willd.	Pidangunari	Verbenaceae	Bark	Oral administration of bark paste along with milk is good for mental disorders.
9	**Rashes**	*Abrus pulchellus,* Wall.	Vellaikuntumani	Fabaceae	Seeds and Leaves	Both Seeds and leaves paste along withhot water to administration orally for 3 days to cure rashes.
10	**Snake bite**	*Rhinacanthus nasuta*, Nees.	Nagamalle	Acanthaceae	Leaves and Root	Both leaves and roots pills administration orally. It used to get rid from snake poisonous.
		Alangium salvifolium, Linn.	Alangal	Alangiaceae	Bark	Mentioned plants parts are made into powder and the powder is mixed with hot water and given orally to cure snake bite.
		Azadirachta indica, A.Juss.	Vembu	Meliaceae	Bark	
		Corallocarpus epigaeus, Hook.f.	Keradankilangu	Cucurbitaceae	Rhizome	
11	**Sprain**	*Capparis rotundifolius*, Rottl.	Naakkulinjan	Capparidaceae	Root	Roots are crushed and applied externally for sprin.
12	**Stomach pain**	*Coccinia indica*, W & A.	Kovay	Cucurbitaceae	Rhizome	Rhizome is made into powder along with the seeds of Pepper and bulb of garlic and the powder is mixed with hot water to give orally for 7 days for stomach pain.
13	**Swelling**	*Euphorbia antiquorum*, L.	Sadhurakalli	Euphorbiaceae	Leaves	Oral administration of leaves paste is used to cure swelling.
14	**Trismus**	*Chloroxylon swietenia*, DC.	Purusa maram	Rutaceae	Bark	Bark is made into paste along with the seeds of Pepper and bulb of garlic; this preparation is mixed with mother milk and given orally for trismus.
15	**Tumor**	*Artocarpus hirsutus*, Lam.	Kattuppala	Moraceae	Bark	Mentioned plant parts are made into paste along with the turmeric and apply externally for tumor.
		Evolvulus alsinoides, Linn.	Vishnukirandhi	Convolvulaceae	Whole plant parts	
16	**Worm infection**	*Amaranthus spinosus*, Linn.	Mullukeerai	Amaranthaceae	Root	Root is given as such for worm infection.

leprosy, *Alangium salvifolium* for snake bite, *Asclepias curassavia* for dysentery, *Coccina indica* for stomach pain, *Artocarpus hirsutus* and *Evolvulas alsinoids* for tumor, *Carica papaya* for beetle bite and *Abrus pulchellus* for rases. Local tribal people of kerala (17) used *Dendrophoe falcate* for treating rheumatic complaints. In our findings whole plant part of *Dendrophoe falcate* is used to cure body pain. Therefore, new medicinal uses of encountered species are suggested to be evaluated for in depth screening of bioactive compounds and related pharmacological activities.

According to some studies, we found similarity with many species of plants which cure various types of ailments that were recognized by some other tribal community and Malayali tribes in Tamil Nadu. *Rhinacanthus nasuta*(7),*Azadirachta indica*(18, 19),*Alangium salvifolium*(20) and *Corallocarpus epigaeus* [21, 22] were repute as a remedy for snakebite and we also get the similar result in our data collection. Plants which are used in repetitive manner in any ailment could be more likely to have biologically active compound (13). Few of the plants reported in this study are good evidence of effectiveness and were scientifically validated as significant pharmacological agent. For example, the phytochemical analysis of leaves extract of *Rhinacanthus nasuta* revealed the presence of various components such as alkaloids, anthraquinones, Triterpenoids, carbohydrates, flavonoids, saponins, phytosterols and Poly-phenols. The GCMS analysis also showed the presence of two major components such as alkaloid and poly-phenolic compound (23) isolated from *Rhinacanthus nasuta* may responsible for its pharmacological activities, *Corallocarpus epigaeus* plant extract is capable of inhibiting the elevation of blood glucose level (24) and Ethanol Extract of *Alangium salviflouim* exhibited significant antidiabetic, anti-inflammatory, anticonvulsant and analgesic activities which might be due to the bioactive compounds (25).

4. CONCLUSION

The present investigation revealed that medicinal plants till play a vital role in the primary health care of the people. Many people in the studied part of Yercaud hills is till continue to depend on medicinal plants, at least for the treatment of apoplexy, beetle bite, body pain, cataract, dysentery, leprosy, menorrhea, mental disorders, rashes, snake bite, sprain, stomach pain, swelling, trismus, tumor and worm infection.The information gathered from tribals is useful for the further research in the field of ethnobotany, taxonomy. This study offers a model for studying the relationship between plants and people and traditional remedies of great therapeutic importance. The value of using ethnobotanical information is to initiate drug discovery efforts. This study also gathered a broad spectrum of information concerning medicinal plants used by tribals.

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