

Research Article – Ethnobotany

Study on Usage of Medicinal plants for human diseases by the Traditional Healers of Pachamalai Hills, Tamil Nadu, India

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Abstract

The traditional healers of Pachamalai hills were studied for the use of medicinal plants for treating various human diseases. For the present study, the medicinal usage of 40 plants has reported. Migrations of younger generations and not willing to practice have resultant in declining the medical practice by the healers. There is a danger the knowledge of the usage of medicinal plants also die with them. This made us in realising the urgent desire both in documenting the plants and taking efficient steps to conserve them both for present and future generations.

Key words: Medicinal Plants, Ethnomedicine, Human Disease and Pachamalai hills

Introduction

Traditional medicine based on herbal remedies has always played a key role in the health systems of many countries from time immemorial. The World Health Organisation (WHO) also estimated that more than 80% of the people still using various medicinal plants in their day to day life for curing various ailments. In India, the native people are exploiting a variety of herbals for effective curing of various ailments. Practices also prove that the plant parts used preparation and administration varied from one place to other. Reports have also proved that the knowledge of herbal medicines is gradually perishing. Even today, some of the traditional herbal men are still practicing the art of herbal healing effectively. It is also estimated that the frequent usage of various medicinal plants by the traditional healers for treatment of various diseases have offered immense scope and opportunities for the development of new drugs (Vaidyanathan *et al.*, 2014).

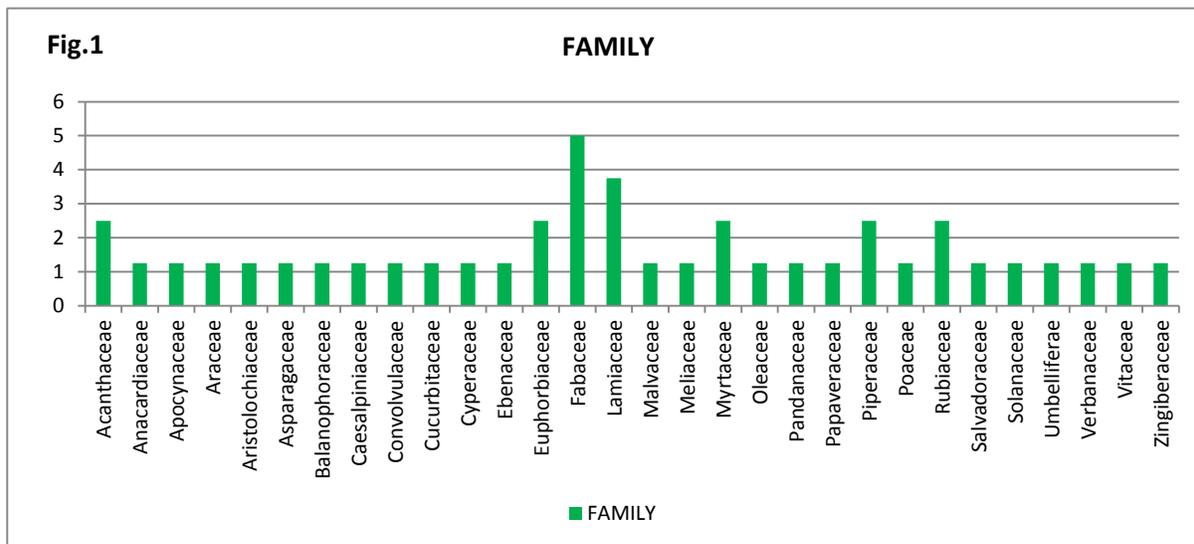
Although, there is a grave danger of traditional knowledge; during the last few decades there has been an immense interest on traditional use of medicinal plants in different parts of the world. Relevance of medicinal plants for treating various human diseases is safe and environment friendly. These traditional medical systems are generally based on the uses of natural and local products which are commonly related to the people's perspective on the world and life (Toledo *et al.*, 2009). The traditional, indigenous, folklore knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems. Ayyanar *et al.*, 2008 conducted a field study and reported that medicinal uses of five commonly used Indian medicinal plants. Arunachalam *et al.*, 2009 have recorded that Ethnomedicinal practices and its significance of medicine in Kolli Hills. It is also recorded that Traditional Medicinal Plant Resources that are used by the local people in a health care system for treating various diseases in Southern Pachamalis, Tiruchirappalli District, Tamil Nadu (Durairaj *et al.*, 2013).

The indigenous traditional knowledge of medicinal plants of various ethnic communities is disappearing vastly from the face of the earth

Received: 13-07-2016; Accepted 06-08-2016; Published Online: 24-08-2016

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(Prasanna *et al.*, 2006). The advent of modern technology and transformation and the usage of various biological composition used in traditional culture leads to disappearance of many medicinal plants (Ganesan *et al.*, 2004). Most of the traditional healers believe that all afflictions relating to usage of medicinal plants for treating various human diseases is because they live in interior areas and lack of the use of modern scientific equipment (Santhya *et al.*, 2006). Therefore, it becomes the responsibility of the scientific community to unravel the information and to document it for availability to the whole world for the benefit of human beings.

Materials and methods

Study area

The present study is carried in Pachamalai hills, located between the districts of Salem and Tiruchirappalli, Tamil Nadu, South India. The hills lie between East 78.31' longitude and 11.28' North latitude at an altitude of 2000 to 3000 feet above mean sea level. The Pachamalai Hills spread over two districts namely, Salem and Tiruchirappalli in Tamil Nadu is about 75 km away from Tiruchirappalli city. Total geographical area of hill Pachamalai is 14,277 ha. This hill is situated in the southern parts of the Eastern Ghats. The forest comprises of tropical thorny, dry deciduous and moist deciduous types of vegetation. The survey covers Kombai (Tiruchirappalli district) and Pachamalai (Salem district). For the purpose of the present study only 10 villages were selected.

Relevant information on ethno-medicine of the area has been collected from the traditional healers in the villages of Pachamalai hills. Selection of informant is dependent upon the distribution of local people having fundamental knowledge about medicinal plants and their usage. The healers were required inform the details about the medicinal plants they know and to show the plant species in that locality. They also believe that dissemination of the knowledge of medicinal property would improve the socioeconomic status of the traditional healers.

Results

The plant selected for the present study also exhibited interesting folk medicinal uses for treating various human diseases by the traditional healers in Pachamalai hills. In the present investigations there are 40 medicinal plants belonging to 30 families are identified as traditional folklore medicinally used species. Fabaceae is found to be dominant family with 4 species. Lamiaceae is found to be next dominant family with 3 species. Followed by Acanthaceae, Euphorbiaceae, Myrtaceae, Piperaceae, Rubiaceae family with 2 species. 23 families represented by single species.

Among habit wise distribution Herbs forms the dominant habit represented by about 37.5% with 40 species. Shrub 27.5% with 11 species. Followed trees 17.5% with 7 species. Climber 12.5% with 5 species. Creeper 2.5% with 1 species. Vine 1 species respectively. (Table 2) and (Fig. 2)

Table 1. The plants used for treating various human diseases in Pachamalai hills.

S. No	Plant Name	Family Name	Habit	Vernacular Name	Parts Used	Disease	Mode of Administration
1	<i>Adhatoda zeylanica Medicus</i>	Acanthaceae	Shrub	Adathodai	Leaf	Asthma	Leaf paste is taken orally
2	<i>Barleria prionitis</i>	Acanthaceae	Shrub	Kattukanahambaram	Leaf	cataract and fever	The juice of the leaf is used to treatment
3	<i>Lannea coromandelica</i> (Houtt.) Merr.	Anacardiaceae	Tree	Udian	Bark	bone fracture	Bark is used as a bandage
4	<i>Catharanthus roseus</i> (L.) Don	Apocynaceae	Herb	Sudukattuarali	Leaf	anti-diabetic	Eating 4 to 6 leaves daily
5	<i>Acorus calamus</i> L.	Araceae	Shrub	Vasambu	Rhysome	Stomachache	Dried rhizome is rubbed on stone with water given orally
6	<i>Aristolochia bracteolata</i> Lam.	Aristolochiaceae	Climber	Aadutheendapalai	Root	syphilis, gonorrhoea, boils	The root powder is given internally given
7	<i>Asparagus racemosus</i> Willd	Asparagaceae	Climber	ThannirvitanKilangu	Whole Plant	Breast ulcer	spoonful of is given for week
8	<i>Balanophora fungosa</i> Fors and Fors.	Balanophoraceae	Herb	Vaerchedi	Whole Plant	Skin diseases	Paste of the whole plant is applied in the skin.
9	<i>Deonixelata</i> (Linn.) Gamble	Caesalpiniaceae	Tree	Vathanarayanan	Leaf	rheumatic	Leaves taken inside
10	<i>Evolvulus isinoides</i> L.	Convolvulaceae	Herb	Visnukiranthi	Whole Plant	Cough, cold	Whole plant decoction to cure cough and cold.
11	<i>Coccinia grandis</i> (Linn.) Voigt	Cucurbitaceae	Climber	Kovaipalam	Root	rheumatic	Root tubers well ground and juice is
12	<i>Cyperus rotundus</i> Linn	Cyperaceae	Herb	Koraipul	Tubers	leucorrhoea.	Dried tubers are made into paste and taken orally
13	<i>Diospyros melanoxylon</i> Roxb.	Ebenaceae	Herb	Peedi Elai	Leaf	bone fractures	Leaf with white layer of egg applied on fracture with cloth
14	<i>Croton bonplandianum</i> Morang.	Euphorbiaceae	Herb	Railpoondu	Latex	Wasp sting	Plant latex is applied externally on the site
15	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Herb	Amman pacharisi	Leaf	wounds and mouth ulcers	Crushed leaf are applied
16	<i>Bute amonosperma</i> (Lamk.)	Fabaceae	Tree	Purasu	Flower	Skin diseases	An extract of the flowers is applied over the infected part of the skin
17	<i>Cassia occidentalis</i> L.	Fabaceae	Shrub	Ponnavarai	Leaf	Bone fracture, nerve dislocation	Fresh leaves are mixed with gingelly oil and applied

18	<i>Mucuna pruriens</i> L. DC.	Fabaceae	Vine	Poonaicali	Seeds	Male sterility and nervous diseases	The dried seed is boiled with cow milk and powdered and taken internally
19	<i>Pithecolobium dulce</i> Benth.	Fabaceae	Tree	Kodukapuli	Fruits	fever	The edible fruits of this species reduces fever
20	<i>Anisomeles malabarica</i> (L.)	Lamiaceae	Shrub	Paimerati	Stem	Injuries and wounds.	Paste of stem is mixed and applied
21	<i>Ocimum basilicum</i> L.	Lamiaceae	Herb	Thiruneetrapachilai	Leaf	ear ache	3-5 drops of leaf juice is put in ear
22	<i>Plectranthuscoleoides</i> Benth.	Lamiaceae	Herb	Omavalli	Leaf	To reduce delivery time pain	Leaf juice is taken internally by pregnant women.
23	<i>Abutilon indicum</i> (Linn) Sweet	Malvaceae	Herb	Thuthi	Root	Piles	Root Juice is taken orally
24	<i>Cipadessa baccifera</i> (Roth.) Miq.	Meliaceae	Shrub	Pulippanchedi	Leaf	Diarrhoea	Paste of leaves is taken orally
25	<i>Syzygium cumini</i> L.	Myrtaceae	Tree	Naval	Seeds	Diabetes	Juice extract is taken internally
26	<i>Eucalyptus</i> sp	Myrtaceae	Tree	Thailamaram	Leaf	Cough	Decoction, inhalation of vapors
27	<i>Jasminum angustifolium</i> Vahl.	Oleaceae	Shrub	Kattumallige	Leaf	Diahhroea	The leaf is boiled and taken with food
28	<i>Pandanus amaryllifolius</i>	Pandanaceae	Shrub	Thazham poo	Stem	jaundice	Tender shoots are directly eaten
29	<i>Argemone mexicana</i> L.	Papaveraceae	Herb	Bremmathandu	Latex	Boils	Latex of the plant is applied topically
30	<i>Piper betle</i> Linn.	Piperaceae	Climber	Vettilai	Leaf	digestive, and carminative	Betel leaves are used for chewing
31	<i>Piper nigrum</i> L.	Piperaceae	Herb	Milagu	Seeds	Throat infection	The dried seeds are taken orally.
32	<i>Cynodon dactylon</i> Pers.	Poaceae	Herb	Arugampul	Whole plant	kidney stone	Whole plant extract is taken orally
33	<i>Ixora coccinea</i> Linn	Rubiaceae	Shrub	Idlipoo	Flower	dysentery	The decoction from the flowers taken early
34	<i>Rubia cordifolia</i> L.	Rubiaceae	Climber	Kalutharupanchedi	Root	Heel cracks	Root paste is applied topically on heel
35	<i>Azimatetra gantha</i> Lamk	Salvadoraceae	Shrub	Sangilai	Leaf	Cold and cough	Decoction prepared from leaves and is taken orally
36	<i>Solanum trilobatum</i> L.	Solanaceae	Herb	Thoodhuvalai	Leaf	Asthma	Juice of leaves is taken orally

37	<i>Centella asiatica</i> (L.) Urban.	Umbelliferae	Creeper	Vallarai	Leaf	Jaundice	Juice of leaf is mixed with goat's milk and taken orally
38	<i>Lantana camera</i> Linn	Verbanaceae	Tree	Unichedi	Leaf	Wound healing	Leaf paste is applied topically
39	<i>Cissusqua drangularis</i> L.	Vitaceae	Shrub	Pirandai	Stem	piles	stem mixed with sugar or ghee taken internally
40	<i>Curcuma domestica</i>	Zingiberaceae	Herb	Manjal	Rhizome	Breast ulcer	Rhizome were crushed and applied

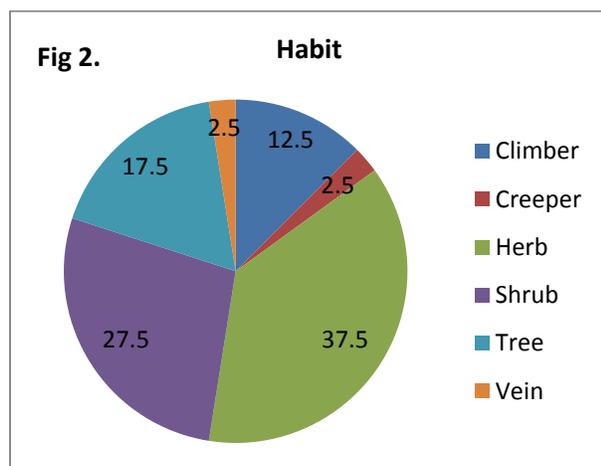


Table 2. Used parts and number of species

S. No	Parts Used	Number of Species	%
1	Climber	5	12.5
2	Creeper	1	2.5
3	Herb	15	37.5
4	Shrub	11	27.5
5	Tree	7	17.5
6	Vein	1	2.5

Plants parts used by the ethnic people of Pachamalai hills to treat various ailments were mainly leaves, fruits and roots. Predominantly leaves are used 42.5% with 17 plants consists of 15 families. It was followed by root 10% with 4 plants 1 family each. Seed and stem each 7.5% with 3 plants. Followed by Flower, Latex and Rhizome each 5% consists of 2 plants. Bark, Fruit and Tuber single plant. (Table 3) and (Fig. 3).

However, in most cases some parts of the plants are not used solely. Depends upon the phytochemical and metabolic components some

parts of the medicinal plants are mixed with various other components. Most of these species used in the preparation of herbal medicine are collected fresh very rarely dried and stored materials are used (Ahmed John 2015).

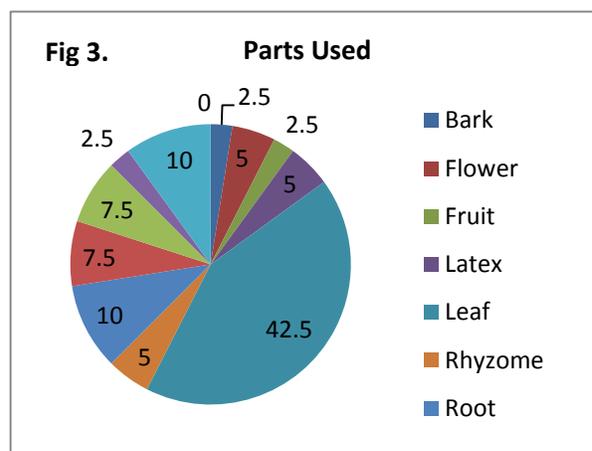


Table 3. Used parts and number of species

S. No	Parts Used	Number of Plants	%
1	Bark	1	2.5
2	Flower	2	5
3	Fruit	1	2.5
4	Latex	2	5
5	Leaf	17	42.5
6	Rhizome	2	5
7	Root	4	10
8	Seeds	3	7.5
9	Stem	3	7.5
10	Tuber	1	2.5
11	Whole plant	4	10

Conclusion

The observation made in the present study showed that traditional medicine plays a significant role among the traditional healers in

Pachamalai hills, Tamil Nadu. These medicinal plant parts are significantly used to treat the largest number of the human diseases. The usage of medicinal plants by the traditional healers also necessitated that documentation of the traditional knowledge. The process of documentation has greatly contributed for the further research and development in the field of discovery of new drugs for the lifesaving medicines. The research work also indicates that clinical study in the field of medicinal usage of various plants in Pachamalai hills is need of the hour. However, during the exploitation of the botanical medicinal plants, the present generation has a primary duty to protect and conserve in proper way. This may help not only conserve the medicinal plants but also save present and future generations from various ailments.

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