



Original Article

Studies on Ethnobotanical Survey of Medicinal Plants in Palaniyappar Hills, Namakkal District Eastern Ghats, Tamilnadu, India

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The present study provides significant ethnopharmacological information on medicinal plants in the Palaniyappar hills, Namakkal district Eastern Ghats, Tamil Nadu, India. This is the first ethnobotanical study which records the traditional important medicinal plants of Palaniyappar hills. This investigation study reports of the ethnopharmacological survey on the uses of medicinal plants by inhabitants of Palaniyappar hills. The field study was carried out in the period of about one year in Palaniyappar hills. The ethnomedicinal information was collected through interviews among the Palaniyappar hills tribes. Totally of 94 medicinal plants belonging to 45 families were identified in the region. Among them, 74 species are wild and 20 species are cultivated plants. The most dominant medicinal plant families are Euphorbiaceae. The major plant parts used for medicinal purposes leaf (65%), whole plant (18%), fruit (15%), root (11%), stem (6%), seed (6%) and flower (3%). The traditional medicinal plants mostly used for cancer (18%), diabetes (9%), heart diseases (13%), kidney diseases (10%), respiratory tract diseases (13%), skin diseases (15%), stomach diseases (ulcer, diarrhoea and dysentery) (15%) and urinary tract diseases (10%). In conclusion the present study deals with the processing and consuming wild edible plants were still practiced in Palaniyappar hills and its surrounding. The obtained data used in the treatment of many different human diseases, are freely harvested in this region at large amounts.

Key words: Palaniyappar hills, Eastern Ghats, Traditional Medicine, Ethnobotany, Medicinal Uses.

1. INTRODUCTION

The World Health Organization (WHO) has reported that about 80% of the world's population mainly depend on traditional medicine and use of plant extracts is mainly involved in the traditional treatment (Naidoo and Cooposamy, 2011) ¹. Ethnobotany tries to study the relationship between human and nature. Ethnic people are highly knowledgeable about the plants and their medicinal

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Int J Pharma Res Health Sci. 2018; 6 (1): 2191-00 values (Balick, 1996) ². In other words, it is the marriage between cultural anthropology and botany (Diksha and Amla 2011) ³. Ethnobotanical studies are very important to reveal the past and present culture about plants in the world. The survey of medicinal plants in a particular area is important to conserve the traditionally important medicinal plants of the particular landscape (Sivasankari et al., 2013) ⁴. India is having a rich vegetation with a wide variety of plants, because of the extreme variations in geographical and climatic conditions prevailing in the country (Handa, 1998) ⁵. The Indian subcontinent is praised with most varied and diverse soils and climate condition suitable for the growth of various plant species (Perumal samy and Ignacimuthu, 1998) ⁶. India figured with two hoteaspoonots the Western Ghats and the Eastern Himalayas, in addition. India has 26 recognized endemic centers that are home to nearly one third of all flowering plants identified and described to date in India (Ramesh, 2003). The use of plants and their products in curing diseases is known as herbal medicine, which is considered as a part of folk or traditional medicine (Gasparetto et al., 2011) ⁷. Medicinal plants continue to be an important therapeutic aid for alleviating ailments of human kind (Calixto, 2005) ⁸. Traditional ethnobotanical knowledge helps ecologists, pharmacognosists, taxonomists, and watershed and wild life managers improve the socioeconomic aspect of an area. (Ibrar et al., 2007) ⁹. Tribal people are the ecosystem people who live in harmony with the nature and maintain a close link between man and environment (Sajem and Gosai, 2006) ¹⁰. The livelihoods of tribal and forest dwellers are mainly dependent on the forests, which have built up their-socio-economic and cultural life (Shroff, 1997) ¹¹. In India, the native people exploit a variety of herbals for effective treatment of various diseases. The plant parts used for preparation and administration of drugs varies from place to place (Verma, et al., 2007) ¹². Indigenous knowledge is old human civilization, but the term ethnobotany was coined by an American botanist, John Harshburger (Harshburger, 1896) ¹³. Who understood the term to mean the study of the plants used by primitive and aboriginal people (Azaizeh, et al., 2003) ¹⁴. This is the first report of ethnobotanical survey of medicinal plants in Palaniyappar hills. The main objective of the present study is to documenting the medicinal plants in Palaniyappar hills, recorded their local names and conserve the traditional knowledge of village peoples on usage of indigenous medicinal plants to treat various health problems.

2 MATERIALS AND METHOD

A survey of ethno medicinal plants in Namakkal District, Tamil Nadu was carried out as proposed by (Jain, 2000). The Eastern Ghats, Namakkal district is bounded on the north by Salem district, on the east by Perambalur district, on the south by Karur district and on the west by Erode district. The administrative headquarters of this district is located at

Namakkal town. This district lies between 11° 09'- 11°65 north latitude and 78°23'-79°45 east longitude. Namakkal district, consist of 4 Taluks, Namakkal, Rasipuram, Paramathivelur and Tiruchengode. The total area of the district in 4, 376,57 sq km 75 species of plants belonging to 36 families used by traditional people. All the species of plants were identified with help of local flora (Kirthikar and Bosu 1999) ¹⁵. The total population of the district is 17, 26, 601 out of which the tribal population is 55,417 (Census of India).

2.1 Data collection

The field study was carried during (December 2016-March 2017) in Palaniyappar hills in Namakkal District, Tamilnadu, India (Figure: 1). The ethnomedicinal data were recorded following the standard procedure like participatory field observation and their social life events. For identification and authentication of plants Flora of presidency of madras was used.

2.2 Plant collection

In this survey, the medicinal plants utilized by the people of Palaniyappar hills were collected and preserved by using herbarium techniques. Specimens collected from the field were tagged. Flora of presidency of madras and flora of Tamilnadu (J. S. Gamble) ever used for identification and authentication of collected plants.

2.3. Tribal Interview

The photo of medicinal information was gathered by interacting with the elders of tribal community who had a wide knowledge of local names, parts used, mode of taking medicines, doses and their use in herbal medicines. Further information like, the medicines are taken as single or with the combination of other plant products and with additives etc,.. were obtained. The present study also recorded the family name, common name and their properties were collected carefully for further evolution and taxonomical study

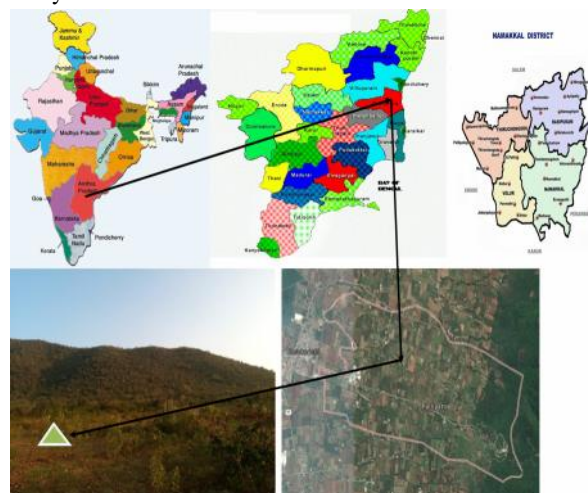


Fig 1: Survey Area Pallaniyappar Hills

Table: 1 Ethnomedicinal perspectives of plants used by tribes in Palaniyappar hill

S.No	Botanical Name	Family	Vernacular Name	Habitats	Plant parts	Preparation	Administration dosage during of the treatment	Quantification of plant usage	Medicinal Uses
1.	<i>Abrus precatorius</i> L.	Fabaceae	Kundumani	Tree	Leaves	Paste	Apply in the paste on the whole body	Most frequently used medicinal plants	Cure brain tumor and Epilepsy.
2	<i>Abutilon indicum</i> G.Don.	Malvaceae	Thuthi	Herb	Leaves	Decoction	Drink 20ml of it once a day	Frequently used	Cures long cancer and used as diuretic
3	<i>Acacia concinna</i> willd.	Fabaceae	Aarapu	Shrub	Leaves and Stem	Powder	Do it daily for a week and then twice a day	Selection of the most frequently used	To cure Dandruff, Skin disorder and Jaundice.
4	<i>Acacia nilotica</i> L.	Mimosaceae	Karuvellai	Tree	Leaf	Decoction and Paste	Decoction of bark is as a vaginal shower	Frequently Cited species	Leaves used as gonorrhea leucorrhoea, diarrhoea and dysentery.
5	<i>Acalypha indica</i> L.	Euphobiaceae	Kuppaimeni	Herb	Leaf	Juice and Paste	Apply it over painful joints	Selection of the most frequently used	To cure ringworm, scabies and rheumatoid arthritis
6	<i>Achyranthus aspera</i> L.	Amaranthaceae	Nayuruvii	Herb	Whole part	Powder	Take half teaspoon of it thrice	Most frequently used medicinal plants	Cures pneumonia, asthma, and leukoderma
7	<i>Adhatoda vasica</i> Nees.	Acanthaceae	Adhatoda	Tree	Leaf	Juice	Take 1 teaspoon two times a day	Frequently used	Cold and cough
8	<i>Aerva lanata</i> L. Juss.	Amaranthaceae	polampoo	Herb	Leaf	Juice	Take 2teaspoon leaf juice. Have it twice a day	Frequently Cited species	Leaf sap is used for eye problem
9	<i>Aloe vera barbadensis</i> Burm.f.	Asphodelaceae	Katrallai	Herb	Shrub	Gel	Take once a day	Most frequently used medicinal plants	Fight against breast cancer and heartburn relief
10	<i>Anamirta cocculus</i> (L.) Wight & Arn	Menispermaceae	Kakkamari	Climber	Seed	Raw	Taken as a raw	Frequently Cited species	Epilepsy
11	<i>Andrographis affinis</i> (Nees) Wight.	Acanthaceae	Kodikkurunthu	Shrub	Leaf	Paste	Leaf paste mixed with cow's milk used	Frequently used	Liver ailments
12	<i>Andrographis alata</i> (Vahl.) Nees	Acanthaceae	Periyanangai	Shrub	Leaf	Paste	Apply the paste twice a day	Most frequently used medicinal plants	Jaundice
13	<i>Andrographis lineate</i>	Acanthaceae	Periyanangai	Herb	Leaf	Juice	Leaf juice mixed with cow's milk for 5 days regularly	Frequently used	Liver diseases
14	<i>Andrographis macrobotrys</i> (Nees)	Acanthaceae	Uppali	Shrub	Leaf	Juice	Fresh leaf juice is given orally thrice a day for one week to treat	Frequently used	Liver disorder, anticancer
15	<i>Baliospermum montanum</i> (Wild)	Euphorbiaceae	Red physic nut	Herb	Root	Powder	Powder are mixed with honey and have it	Most frequently used medicinal plants	Abdominal pain
16	<i>Artemisia nilagirica</i> Clarke.	Asteraceae	Makkippu	Shrub	Leaf	Juice	Juice is taken as a twice a day for one week	Frequently Cited species	Malaria
17	<i>Andrographis paniculata</i> Burm.f.	Acanthaceae	Nilavembu	Shrub	Leaf	Paste	Apply this paste twice a day	Frequently used	Skin disorder, snake bite and cures viral fever
18	<i>Asparagus racemosus</i> Wild	Liliaceae	Shatavari	Herb	Root	Paste	Paste are apply	Frequently Cited species	Nervous disorder
19	<i>Andrographis serpyllifolia</i> Vahl.	Acanthaceae	Kaatuppoorankodi	Herb	Leaf	Oil	Apply on pain area	Frequently used	Stomach pain
20	<i>Annona squamosa</i> L.	Annonaceae	Ramansetha	Tree	Root	Paste	Twice a day every 2-3 hours	Most frequently used medicinal plants	Root paste for external application, bark decoction for scorpion bite
21	<i>Argemone mexicana</i> L.	Papaveraceae	Brahmanthandu	Herb	Leaf	Powder	Take 2 teaspoon twice a day	Frequently Cited species	Relieves kidney pain
22	<i>Artocarpus altilis</i> Park.	Moraceae	Karipala(Bread fruit)	Tree	Fruit	Raw	Fruit take it as a raw	Frequently Cited species	Used for teeth ache and ear infection
23	<i>Asparagus africanus</i> Lam.	Asparagaceae	Asparagus	Perennial climber	Leaf	Decoction	2-3 times a day	Frequently used	Treatment against syphilis, gonorrhea and sexually transmitted disease
24	<i>Azadirachta indica</i> A. Juss.	Meliaceae	Vembu	Tree	Whole plant	Oil	Apply twice a day	Frequently used	Bark used to cure jaundice
25	<i>Bambusa vulgaris</i> Schrad.ex J.C.Wendl.	Poaceae	Moonkil	Tree	Leaf	Powder and decoction	Pour it over inflamed joint	Frequently used	Cures measles and sexually transmitted disease
26	<i>Cadaba</i>	Capparidaceae	Viluthi	Tree	Leaves		Apply it on the	Frequently Cited	Leaves used for uterine

	<i>fruticosa</i> L.					Paste	infected portion	species	troubles and snake bite
27	<i>Calotropis gigantea</i> R.Br.	Apocynaceae	Vellaierukku	Shrub	Leaves	Juice	Mixed with honey and take twice a day	Most frequently used medicinal plants	Paralysis, arthralgia
28	<i>Caralluma umbellata</i> Roxb.	Apocynaceae	Paraikalli	Herb	Whole plant	Powder	Apply on it pain area	Frequently Cited species	Cures stomach disorder and abdominal pains
29	<i>Cardiospermum helicacabum</i> L.	Sapindaceae	Mudakkathan	Herb	Leaf	Oil	Apply on the affected area	Most frequently used medicinal plants	To treat nervous disorder and snakebite
30	<i>Carica papaya</i> L.	caricaceae	Pappali	Tree	Leaf	Paste	Drink 10ml of it 3 times a day	Frequently used	To treat colon cancer and anti-aging
31	<i>Cassia auriculata</i> L.	Fabaceae	Aavarampoo	Shrub	Flower	Paste	Take one teaspoon daily	Frequently Cited species	Anti-diabetic, anti-fungal, and against mosquito
32	<i>Cassia fistulata</i>	Caesalpinaceae	Sarakondrai	Tree	Root	Powder	Powder mixed with water and take two teaspoon	Frequently used	Liver ailment
33	<i>Cissus quadrangularis</i> L.	Vitaceae	Perandai	Herb	Whole plant	Juice	Apply over fractured area	Frequently used	Bone fracture
34	<i>Ceasalpinia pulchermia</i>	Fabaceae	Mayirkonrar	Shrub	Seeds	Raw	Seeds are rawly taken	Most frequently used medicinal plants	Anticancer , diabetics
35	<i>Citrus aurantifolia</i> Cristm.	Rutaceae	Lemon	Tree	Whole plant	Powder	Apply on the swelling area	Frequently used	Dysentery, swelling of spleen and antidote
36	<i>Citrus limon</i> L.	Rutaceae	Elumichai	Tree	Fruit	Juice	¼ teaspoon two times a day	Most frequently used medicinal plants	Used for stomach ache and reduce body heat
37	<i>Clitoria ternaeta</i> L.	papilionaceae	Sankopoo	Climber	Root	Powder	4g of daily	Frequently used	Roots are bitter, diuretic and anthelmintic.
38	<i>Coccinia grandis</i> L.	Cucurbitaceae	Kovai	Climber	Leaves	Raw	Take raw fruits once a day	Frequently used	To treat diabetes, chest cold and head ache
39	<i>Cymbopogan citrates</i> De.stapf.	Poaceae	Lemon grass	Herb	Leaf	Paste	Apply it on body	Most frequently used medicinal plants	To cure digestive disorder, Menstrual disorder and jaundice
40	<i>Cynodon dactylon</i> L.pers.	Poaceae	Arugampul	Herb	Leaf	Decoction	Have it once a day	Frequently used	Cures urinary disorder
41	<i>Datura inoxia</i> P.Mill.	Solanaceae	Karuumathai	Herb	Leaf	Juice	Juice take it 2teaspoon of twice a day	None	Cures malaria, baldness and eye disease
42	<i>Datura metal</i> L.	Solanaceae	Uumathai	Herb	Leaf	Paste	Apply it on over the pain area	Frequently used	For dilating the pupil of eye, reduce swelling and pain
43	<i>Delonix elata</i> L.Gamble.	Fabaceae	Vathana narayanan	Tree	Stem and bark	Paste	It curing the anti inflammatory	Most frequently used medicinal plants	Leaves chronic diarrhoea, dysentery
44	<i>Desmodium gangeticum</i> L.	Fabaceae	Oorilai	Shrub	Seed	Powder	Take it as twice a day	Frequently Cited species	Diarrhoea
45	<i>Drymaria cordata</i> L.	Caryophyllaceae	Mudavattukal	Herb	Leaf	Gel	Gel are apply on bitted place	Most frequently used medicinal plants	Snake bite
46	<i>Euphorbia antiquorum</i> L.	Euphorbiaceae	Sadurakalli	Tree	Stem, Root and Bark	Paste and Decoction	Apply it over the pain area, latex is mixed with oil and apply.	Frequently Cited species	The poisonous milky latex is used as purgative and vomiting. The latex is applied extremely to swellings and other skin affection.
47	<i>Euphorbia heterophylla</i> L.	Euphorbiaceae	Paalviruthi	Herb	Leaf and Stem	Powder and decoction	Take it 10ml teaspoon	Frequently Cited species	Leaf decoction is used to cure stomach ache and skin problem
48	<i>Euphorbia hirta</i> L.	Euphorbiaceae	Ammanpacharisi	Herb	Leaf	Paste	Apply on over swelling	Frequently used	Heal wounds
49	<i>Euphorbia tirucalli</i> L.	Euphorbiaceae	Tirucalli	Shrub	Leaf	Roasted	Take in a day for a week	Frequently Cited species	Anticancer, asthma, cough and tooth ache
50	<i>Evolvulus alsinoides</i> L.	Convolvulaceae	Vishnakaranthi	Shrub	Root	Paste	Take equal amount of roots and cumin, grind it and drink frequently	Most frequently used medicinal plants	Fever, antifungal and antitumor
51	<i>Ficus benghalensis</i> L.	Moraceae	Aalamaram	Tree	Stem , fruit and bark	Raw	Take fruit in a day	Frequently used	Leaves chronic diarrhoea, dysentery
52	<i>Ficus glomerata</i> L.	Moraceae	Aathi	Tree	Leaves and fruits	Powder	Take it powder and add water then apply it	Frequently used	Cures stomach ache, dysentery and nose bleeding
53	<i>Gloriosa superba</i> L.	Colchinaceae	Senganthal	Shrub	Leaf	Paste and Juice	Apply on the forehead	Frequently Cited species	Cures cancer, leprosy and kidney problem

54	<i>Hemidesmus indicus</i> R.Br.	Asclepidaceae	Nannari	Herb	Root	Powder	Take dried powder have and gram with milk at night	Most frequently used medicinal plants	Rheumatic complaints
55	<i>Jatropha gossypifolia</i> L.	Euphorbiaceae	Kaattamanakku	Shrub	Leaves and stem	Decoction	Wash you infected skin with it	Frequently Cited species	Antimicrobial, anti diarrhoeal and anticancer
56	<i>Lantana camara</i> L.	Verbenaceae	Unni	Shrub	Leaves	Paste	Apply on infected part	Frequently Cited species	Antimicrobial, antifungal, cures leprosy and chicken pox
57	<i>Lawsonia inermis</i> L.	Lythraceae	Marudhani	Shrub	Leaves, seed, bark	Powder and Paste	Mix powder a paste of henna leaves by adding count oil use it as hair oil	Frequently used	Cures liver disorder, skin disease, sore throat
58	<i>Leucas aspera</i> Willd.	Lamiaceae	Thumbai	Herb	Whole plant	Juice	Take 1 teaspoon juice of either flower or leaves of it twice a day	Frequently used	Cures headache
59	<i>Mangifera indica</i> L.	Anacardiaceae	Maamaram	Tree	Fruit	Raw	Eat the fruit as a raw	Frequently Cited species	Bark boiled in water and vapors are inhaled by mouth to avoid tooth ache
60	<i>Milletia pinnata</i> L.	Fabaceae	Pungai	Tree	Flower	Decoction	Take 5gm of it in a day	Frequently Cited species	Antidiabetics
61	<i>Mimosa pudica</i> L. Laajvanta.	Mimosaceae	Thottalsurungi	Herb	Whole plant	Paste	Apply on the affected part once a day	Frequently Cited species	Antivenom and antidiabetic property
62	<i>Mollugo cerviana</i> L.	Mollugaceae	Mollugo	Herb	Leaf	Paste	Grind the leaf adding milk and apply over the body for body odour	Frequently used	Antifungal and Blood purifier
63	<i>Murraya koenigii</i> L.	Rutaceae	Karevepillai	Tree	Whole plant	Powder and Raw	Powder mixed with water and drink 1teaspoon as once a day or take raw leaves	Frequently used	Antidiabetic, Antioxidant and Hepatoprotective
64	<i>Musa paradisiaca</i> L.	Musaceae	Vaazha	Tree	Stem and Leaf	Juice	Used for cholera	Frequently Cited species	Banana stem for curing kidney stone possess nutrient and medicinal property
65	<i>Nerium indicum</i> Mill.	Apocynaceae	Arali	Tree	Root	Powder	Powder mixed warm water and drink once a day	Most frequently used medicinal plants	Root powder is an hemorrhoids and ulcer around genital
66	<i>Ocimum sanctum</i> Linn.	Lamiaceae	Thulasi	Herb	Leaf	Decoction	Take 10leaves boil in one cup water on low flame. Add one teaspoon honey, have it twice a day	Most frequently used medicinal plants	Dry cough
68	<i>Ocimum tenuiflorum</i> L.	Lamiaceae	Karunthulasi	Herb	Leaves	Decoction	Take 10 leaves add with water and flame it and drink twice a day	Most frequently used medicinal plants	Insect repellent, cures bronchitis asthma Tuberculosis
69	<i>Opuntia dillenii</i> Haw.	Cactaceae	Mullu kalli	Shrub	Fruits	Raw	Fruit baked and eaten	Most frequently used medicinal plants	To treat whooping cough, ophthalmic, spasmodic cough and expectoration.
70	<i>Opuntia ficus-indica</i> (L.)Mill	Cactaceae	Chappathikalli	Shrub	Fruits	Raw	Fruit take it as a Raw	Most frequently used medicinal plants	To cures burns, edema (swelling of limbs) Dyspepsia, indigestion
71	<i>Pergularia daemia</i> Forsskal.	Asclepidiaceae	Velliparuthi	Climber	Leaf	Juice	Juice of extract of leaves have 2 times a day	Most frequently used medicinal plants	Cures skin disease, respiratory ailments and cough
72	<i>Phoenix pusilla</i> Roxb.	Arecaceae	Eechamaram	Tree	Whole plant	Powder and Juice	Take a 2 teaspoon of juice twice a day	Most frequently used medicinal plants	Cures bladder stone and debility
73	<i>Phyllanthus acidus</i> L.	Phyllanthaceae	Aranelli	Tree	Fruit	Raw	Food taken as a raw	Most frequently used medicinal plants	Used as food, purify blood and for ulcer.

74	<i>Phyllanthus emblica</i> L.	Phyllanthaceae	Malanelli	Tree	Whole plant	Paste	Mix Indian gooseberry paste with honey. Take 1 teaspoon of it on an empty stomach in morning	Frequently Cited species	Promote longevity and strengthen heart
75	<i>Phyllanthus niruri</i> Linn.	Phyllanthaceae	Keelanelli	Herb	Leaf	Juice	Extract juice of the leaves crushing it and drink 20ml of it thrice ea day	Frequently Cited species	Restricting the growth of hepatitis B virus and treat jaundice
76	<i>Psidium guajava</i> L.	Myrtaceae	Koyya	Shrub	Fruit	Raw	Fruits are taken as raw	Frequently used	Used to treat diarrhoea, sore throat and vomiting
77	<i>Punica granatum</i> L.	Punicaceae	Maadhullai	Tree	Leaves, Fruits	Paste, Decoction and Raw	Warm the leaves with castor oil. Bandage it on the affected area	Frequently used	Cures anemia, intestinal disorder and hypertension
78	<i>Ricinus communis</i> L.	Euphorbiaceae	Aamanakku	Herb	Leaf and seeds	Paste	Apply on the affected area	Frequently Cited species	Leaves resolves swelling and allay pain kernel of the castor seed is a purgative much more efficacious than castor oil
79	<i>Sansevirria trifasciata</i> Prain.	Asparagaceae	Snake plant	Herb	Leaves	Decoction	Take 2ml of leaves decoction twice a day	Frequently Cited species Frequently Cited species	Treat ringworm and fungal disease
80	<i>Santalum album</i> L.	Santalaceae	Santhanam	Tree	Bark	Powder and Paste	The powder mixed with water and apply it on your face	Frequently Cited species	Different parts of plant is given orally in tablet form
81	<i>Solanum anguvii</i> L.	Solanaceae	Paalsundai	Herb	Leaves	Juice	Take once a day	Frequently Cited species	Tooth ache, Menses scanty and vomiting
82	<i>Solanum indicum</i> L.	Solanaceae	Aanaichundai	Herb	Whole plant	Decoction	Take 10ml of leaves decoction once a day	Most frequently used medicinal plants	Cures urinary disease and asthma
83	<i>Solanum nigrum</i> L.	Solanaceae	Milaguthakkali	Herb	Whole plant	Decoction	Clean bark of it soak in a jug of water and drink in after every 2hours	Frequently Cited species	Cures ulcer, ear pain and testicular swelling
84	<i>Solanum torvum</i> L.	Solanaceae	Sundaikai	Shrub	Leaves, Flowers	Paste	Prepare a paste of fresh of berry mix half teaspoon in a glass of milk drink once a day	Most frequently used medicinal plants	Cure paralysis and control diabetes
85	<i>Solanum trilobatum</i> L.	Solanaceae	Thoothuvalai	Hreb	Leaf	Juice	Take one teaspoon leaves juice after every meal with lukewarm water	Frequently used	To treat cold and cough
86	<i>Syzygium cumini</i> L.	Myrtaceae	Naval	Tree	Leaves, Fruits, seed	Fresh juice	Take 10 – 20ml once a day	None	Cures malaria, anemia and hyperglycemia
87	<i>Tamarindus indica</i> L.	Leguminaceae	Puliyamaram	Tree	Seed	Powder	Take powder of seed with sugar and have it	Most frequently used medicinal plants	Seed paste with pepper powder is applied on bitten part to reduce snake poison
88	<i>Tecto grandis</i> L.F.	Lamiaceae	Tekku	Tree	Whole plant	Root	It cure the urinary problems	Frequently used	Gonorrhea, dysentery, diarrhoea, sores ulcer and skin disease
89	<i>Tephrosia purpurea</i> Pers.	Fabaceae	Kollukai velai	Tree	Leaves and Fruits	Paste and Juice	Dosage 14-28ml twice a day	Frequently Cited species	Cures anthelmintic, antipyretic and dyspepsia
90	<i>Tridax procumbans</i> C.	Asteraceae	Vettukayam	Herb	Whole plant	Paste	Leaves paste directly apply on wound	Frequently Cited species	Anticancer, cuts and liver disease
91	<i>Vitex negundo</i> L.	Verbenaceae	Notchi	Tree	Leaves	Decoction and Paste	Apply the paste on infected area	Frequently used	Leaves boiled in water taken as inhalation and cures asthmatic complaints
92	<i>Wedelia chinensis</i> Merrill.	Asteraceae	Manjal karisalankanni	Herb	Leaves	Decoction	Apply on hair	Frequently Cited species	For hair growth and hair tonic
93	<i>Wrightia tinctoria</i> R.Br.	Apocynaceae	Veppalai	Tree	Leaf	Paste	Apply on infected	Most frequently used medicinal	The leaf paste is applied externally for skin disease.

94	<i>Ziziphus jujiba</i> L.	Rhamnaceae	Elanthai	Tree	Fruits	Raw	area Fruit take it as a raw	plants Frequently Cited species	Acts as anti-aging, anti-tumor and anticancer.
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The present study investigation revealed that the Palaniyappar hills were using 94 species of plants belonging to 45 families. Among them 45% of herb, 25% of shrub, 41% of tree, and 6% of climbers Figure: 2.

The most commonly obtained Different family used for the various ailments families were Euphorbiaceae (8), Fabaceae (8) and Acanthaceae (7) Figure: 5. Among different plants parts were used by tribes in Palaniyappar hills the whole plant parts (49%) is represented in Figure: 3. These are various methods of preparation and application for different types of diseases and they have many preparation forms like decoction, gel, juice, oil, paste, powder and raw. Paste (39%) and Powder (26%) are the mostly used for the preparations of remedies of human diseases Figure: 4.

Local people are choosing to use herbal remedies mainly various treatment such as cancer (breast, colon) (18%), diabetes (9%), heart diseases (13%), kidney diseases (nephritis, nephrolith) (10%), respiratory tract diseases (cold, cough, asthma) (13%), skin diseases (15%), stomach diseases (ulcer, diarrhoea, dysentery) (15%) and urinary tract diseases (10%) Figure: 6. This is consistent with observations made earlier in relations to the ethnobotanical studies on some of the other tribal communities of Tamil Nadu (Karthikeyani., 2003., Bhuvanewari *et al.*, 2015, Balayogan Sivasankari *et al.*, 2014; Ayyanar and Ignacimuthu., 2005) ¹⁶⁻¹⁹.

List of anticancer curing medicinal plants

Euphorbia tirucalli L., *Evolvulus alsinoides* L., *Gloriosa superba* L., *Jatropha gossypifolia* L., *Tridax procumbans* C., *Ziziphus jujiba.*, *Abrus precatorius* L. (Brain Tumor), *Aloe vera barbadensis* Burm.f. (Breast cancer), Marize C. *et al.*, 2006, Lilly Ganju *et al.*, 2003, El-Shemy *et al.*, 2010, Pierluigi Plastina *et al.*, 2012 ²⁰⁻²².

List of lung and Liver cancer curing medicinal plants

Abutilon indicum G.Don., *Argemone mexicana* L., *Gloriosa superba* L., *Lawsonia inermis* L., *Musa paradisiaca* L., *Tridax procumbans* C., *Andrographis affinis* Ness (Wight)., *Andrographis lineate.*, *Andrographis macrobotrys* Nees., *Cassia fistulata* L., Kaladhar SVGK Dowluru *et al.*, 2014, Verma *et al.*, 2010, Abhishek Budhiraja *et al.*, 2013, Manjamalai *et al.*, 2012 ²³⁻²⁶.

List of antidiabetic curing medicinal plants

Cassia auriculata L., *Coccinia grandis* L., *Milletia pinnata* L., *Mimosa pudica* L. Laajvanta, *Solanum torvum* L. Pari and Latha, 2008, Umbreen Farrukh *et al.*, 2008, Sutar *et al.*, 2009, Gopalsamy Rajiv Gandhi, *et al.*, 2011 ²⁷⁻²⁸.

List of antimicrobial curing medicinal plants

Cassia auriculata L., *Evolvulus alsinoides* L., *Jatropha gossypifolia* L., *Lantana camara* L., *Mollugo cerviana* L., *Sansevieria trifasciata* Prain. Nayan *et al.*, 2017, Dash *et al.*, 2002, Prashanth Kumar *et al.*, 2006, Smita Sharma and Sharma, 2010 ²⁹⁻³².

List of diuretic, diarrhoea and dysentery curing medicinal plants

Abutilon indicum G.Don., *Acacia nilotica* L., *Citrus aurantifolia* Cristm, *Clitoria ternata* L., *Delonix elata* L.Gamble., *Ficus benghalensis* L., *Desmodium gangeticum* (L.) Dc, Chandrashekhar *et al.*, 2004, Efraim Lev and Zohar Amar, 2000, Jamia Azdina Jamal *et al.*, 2011, baby joseph and justin raj, 2010 ³³⁻³⁶.

List of fever, cold, cough and head ache curing medicinal plants

Adhatoda vasica Nees., *Coccinia grandis* L., *Euphorbia tirucalli* L., *Evolvulus alsinoides* L., *Leucas aspera* Willd., *Ocimum sanctum* Linn., *Solanum trilobatum* L. Ubonwan Pongprayoon Claeson *et al.*, 2000, Govind Pandey and Madhuri, 2010 ^{37, 38}.

List of asthma curing medicinal plants

Achyranthus aspera L., *Euphorbia tirucalli* L., *Ocimum tenuiflorum* L., *Solanum indicum* L., *Vitex negundo* L. Vasudeva Rao *et al.*, 2006, Sarang Bani *et al.*, 2007, Prakash and Neelu gupta, 2005, Raghavendra *et al.*, 2010 ³⁹⁻⁴¹.

List of jaundice curing medicinal plants

Acacia concinna willd., *Azadirachta indica* A. Juss., *Cymbopogon citrates* Dc.stapf., *Phyllanthus niruri* Linn., *Andrographis alata* (Vahl) Nees, Chinnaperumal Kamaraj *et al.*, 2012, Govindarajan *et al.*, 2008,

List of Skin disease and dandruff curing medicinal plants

Pergularia daemia Forsskal., *Lawsonia inermis* L., *Acacia concinna* willd.

List of eye problem curing medicinal plants

Aerva lanata L. Juss., *Datura inoxia* P.Mill., *Datura metal* L.

List of gonorrhoea curing medicinal plants

Acacia nilotica L., *Asparagus africanus* Lam., *Tecto grandis* L.F.

List of epilepsy, paralysis and arthralgia curing medicinal plants

Calotropis gigantean R.Br., *Abrus precatorius* L., *Lantana camara* L., *Anamirta cocculus* (L). Wight & Arn.

List of snake bite curing medicinal plants

Andrographis paniculata Burm.f., *Cadaba fruticosa* L., *Cardiospermum helicacabum* L., *Tamarindus indica* L., *Drymaria cordata* (L.) Wild.,

List of teeth and ear infection curing medicinal plants

Bambusa vulgaris Schrad.ex J.C.Wendl *Artocarpus altilis* Park., *Euphorbia tirucalli* L., *Mangifera indica* L., *Solanum nigrum* L.

List of sexually transmitted disease curing medicinal plants

Asparagus africanus Lam., *Bambusa vulgaris* Schrad.ex J.C.Wendl, *Cymbopogon citrates* Dc.stapf

List of stomach disorder and abdominal pains curing medicinal plants

List of swelling curing medicinal plants

Euphorbia antiquorum L., *Datura metal* L., *Opuntia ficus-indica* (L.)Mill, *Ricinus communis* L.

List of malaria curing medicinal plants

Syzygium cumini L, *Datura inoxia* P.Mill., *Artemisia nilagirica* Clarke.,

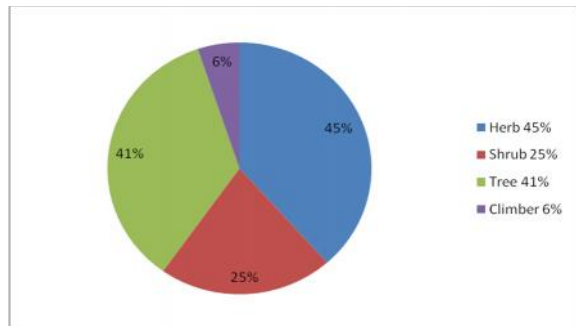


Fig 2: Life Form of Species

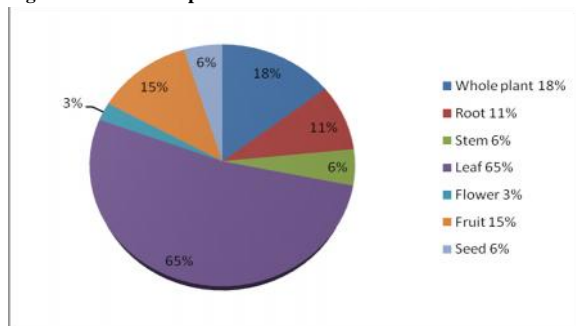


Fig 3: Various plant parts used for the preparation of medicine

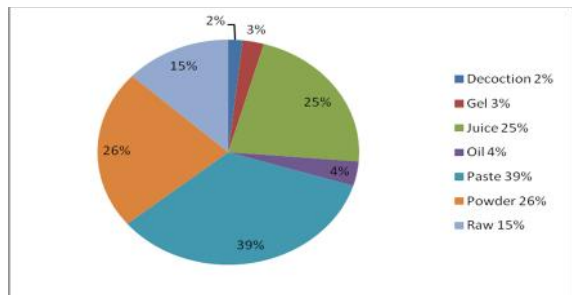


Fig 4: Percentage form of herbal preparations

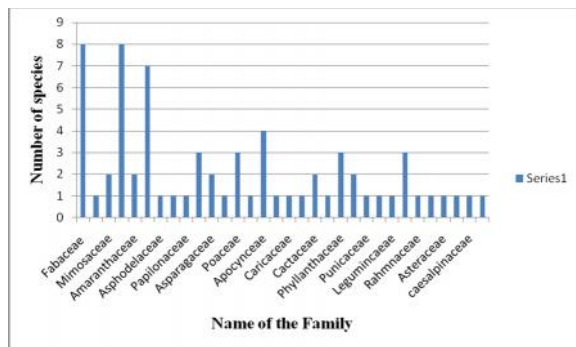


Fig 5: Different family used for the various ailments

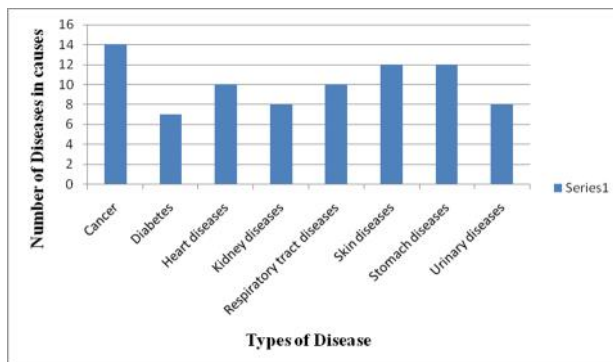


Fig 6: Number of plant species used to treat the human diseases

4. CONCLUSION

94 medicinal plants species belonging to 45 families were found in the selected research region. These plants were used in treatment of many diseases by pasting and decoction these plants local people are used in throughout year. The most frequently used plants were tree (41%), herb (45%), shrub (25%) and climbers (6%). Many plants are used for the treatment of wound healing, cold, cough, diabetes, cancer, skin diseases etc.

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