

INDIGENOUS KNOWLEDGE BASED TRADITIONAL MEDICINAL PRACTICES OF NORTHERN KERALA, INDIA

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ABSTRACT

Objective: To explore, collect and identify the traditional medicinal practices of Northern kerala and the medicinal plants used by them

Methods: Field survey was conducted among 22 villages of Payyannur Taluk, Structured and semi structured interviews with 15 traditional healers in the study area. The plant species commonly known in the local name, used to treat various diseases were collected and recorded.

Results: In the present investigation it has been identified that, 96 medicinal plants belonging to 92 genera and 54 families are used for the treatment of snake bite, insect bite, rheumatism, cuts and wounds, skin diseases, cough, digestive problems, fever, diabetes, jaundice, diarrhoea, kidney stone, bone fracture, intestinal gas and menstrual problems. Among the 96 medicinal plants used by the traditional healers 46 were herbs, 14 were shrubs, 20 were trees, 7 were climbers, 8 were creepers and 1 epiphyte. The medicinal plants belonging to 54 families and Acanthaceae, Apocynaceae, Euphorbiaceae, Asteraceae, Lamiaceae and Orchidaceae were the families with more number of medicinal plants.

Conclusion: Majority of people in developing countries rely on these traditional medicines. Many of these practices have not been identified and systematically recorded yet. This study has identified many rare and medicinally important plants and their medicinal values and this will benefit to the society as these medicinal plants are locally available.

Keywords: Traditional medicine, Medicinal plants, Herbs

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INTRODUCTION

Traditional medicine (indigenous medicine) comprises therapeutic aspects of traditional knowledge that created over generations within different societies before the era of present day medicine. Traditional medicine is "the sum total of the knowledge, skills, and practices based on the theories, beliefs, and experiences indigenous to different cultures, whether explicable or not, used in the maintenance of health as well as in the prevention, diagnosis, improvement or treatment of physical and mental illness" [1]. In traditional systems of medicine the practitioners use a set of practices which are unwritten and transmitted orally from generation to generation and not up to scientifically structured. Most of the texts were learnt by heart and kept as secret by many of the traditional healers. Traditional medicinal practices and home remedy are commonly seen and the knowledge exchanged through direct observation to their elders practice in and around the home. Most of them are simple preparations with one or two medicinal plants. Health problems in day to day life such as fever, headache, toothache, cough, eye diseases, and constipation were cured through these medications.

Official records show that about 3,000 plants have been recognized in India for medicinal value. It has also been estimated that over 6,000 plants are in use in traditional folk medicine and herbal medicine representing about 75% of the medicinal needs of the Third world countries. Moreover, there are about 7,000 firms manufacturing traditional medicines with or without standardization [2]. Among ancient civilizations India has been known to be rich repository of medicinal plants. In India herbal remedies are the responsibility of a government department AYUSH, under ministry of health and family welfare. About 8000 herbal remedies have been codified in AYUSH systems. Recently WHO estimated that 80% of people worldwide rely on herbal remedies for some aspects of their primary health care benefits. According to WHO around 21000 plant species have the potential for being used as medicinal plants, more than 30% of the entire plant species at one time or other were used for medicinal purposes [3].

Treatment with medicinal plants is very safe and they may have fewer side effects. These remedies are in synchrony with nature. Medicinal herbs can be utilised in a variety of ways relying up on the kind of herb. So there is a choice of how to use them. The herbal medicine is good for more than one condition [4]. Same herb can be used for many conditions in various preparations. Irrespective of the age and sex, independently the plants can be used as medicine. Medicinal plants are considered as a rich asset of ingredients which can be used in drug making either pharmacopoeial, non pharmacopoeial or synthetic drugs, many plants are also considered as nutritional used to heal wounds, sores and boils, some used for aesthetic purpose. By eliminating metabolic toxins many herbs can be acted as blood purifiers to alter a long standing condition. Certain herbs increase the immunity of the person. Some herbs have antibiotic, antipyretic and antimicrobial properties.

MATERIALS AND METHODS

Study area

Kerala is a state on the South western coast of India. Kerala is the twenty-first largest Indian state by area. Kerala state is divided into 14 districts and Kannur is one among them. This study was carried out in the rural community of 22 villages of Payyanur Taluk under Taliparamba revenue division in Kannur district of Kerala, India. Payyanur is one of the 5 taluks in Kannur district and it comprises 22 villages and lies between 12° 6' 0" North latitude and 75° 12' 0" East longitudes. It borders Kasaragod district in the north, Taliparamba and Kannur taluk in the south and Karnataka state in the east. Payyanur taluk consists of Payyanur municipality and 11 Grama Panchayats.

Data collection

Local traditional healers having practical knowledge of plants in medicine were interviewed in 22 villages of the Payyanur taluk during May 2018–December 2018. During the course of the study, many field trips were carried out in the study area. Methods of selecting informants depended upon the distribution of local people

having traditional knowledge. They were requested to collect specimens of the plants they knew or to show the plant species on site. These informants were traditional healers themselves or had tradition of healing in their families and had knowledge of the medicinal use of the plants. The wealth of medicinal plant knowledge among the people of these villages is based on hundreds of years of beliefs and observations. This knowledge has been transmitted orally from generation to generation however it seems that it is vanishing from the modern society since younger people are not interested to carry on this tradition.

Interview with traditional healers

Ethnomedicinal data were collected through general conversations with the informants based on the methods of Jain (1964) [5]. The questionnaires were used to obtain information on medicinal plants with their local names, parts used, mode of preparation and administration. A total of 15 informants, comprising 13 males and 2 females were identified between the ages of 40 and 71. They were selected based on their knowledge of medicinal plants either for self-medication or for treating others. Informants were asked to come to field and show the plants with local name, the species mentioned by the informants were taxonomically identified. The informants were asked to identify that specimen in the region they lived and the parts of the plant used for the medical preparations. Moreover, the morphological characteristics, habit, habitat, flowering and fruiting period of the plant were observed and recorded in the field note book. Standard method was followed with regard to collection of plant materials, drying, mounting, preparation and preservation of plant specimens [6]. Voucher specimens of medicinal plants in triplicates were collected, prepared and identified. Plants with their correct nomenclature were arranged alphabetically by family name, vernacular name and ethnomedicinal uses. Identification of the plants was done with the help of local traditional healers, senior persons including researchers, forest officers, subject experts, regional floras and herbarium specimens were deposited at the herbarium of department of PG Studies and Research in Botany, Sir Syed College, Taliparamba. The plant species commonly known in the local name, used to treat various diseases were collected and recorded. It is an undeniable fact that, most of the informants who have in depth knowledge about the flora and medicinal properties of the plants are very old.

RESULTS

The results of this study presented in table 1 and the botanical names are arranged in alphabetical order. In the present investigation it has been identified that, 96 medicinal plants belonging to 92 genera and 54 families are used for the treatment of snake bite, insect bite, rheumatism, cuts and wounds, skin diseases, cough, digestive problems, fever, diabetes, jaundice, diarrhoea, kidney stone, bone fracture, intestinal gas and menstrual problems. For each species botanical name, plant parts used, family, local name, and medicinal uses are provided in the table 1. Fig. 1 shows the nature of plant parts used for various medicinal preparations by the traditional healers in the study area. The medicinal plants

belonging to 54 families and Acanthaceae, Apocynaceae, Euphorbiaceae, Asteraceae, Lamiaceae and Orchidaceae were the families with more number of medicinal plants. Four medicinal plants were in Acanthaceae and Euphorbiaceae family, five medicinal plants each in Euphorbiaceae, Asteraceae, Lamiaceae and Orchidaceae families. Fig. 2 shows the major families of medicinal plants used in the study area. While considering the habit of the plants it comes under herb, shrub, under shrub, tree, climber, creeper and woody climber categories. Among the 96 medicinal plants used by the traditional healers 46 were herbs, 14 were shrubs, 20 were trees, 7 were climbers, 8 were creepers and 1 epiphyte. Fig. 3 describes the habit of the medicinal plants in the study area used for medicinal purposes.

Nattuvaidyam (sometimes also referred to as agranny cure) is a treatment to cure a disease or ailment that employs certain spices, herbs, vegetables, or other common items, home remedies, ayurvedic medicinal practices (Therapies include herbal medicines, special diets, meditation, yoga, massage, laxatives, enemas, and medical oils), kalarichikitsa (related to bone setting and musculature), marmachikitsa (vital spot massaging), ottamoolivaidyam (single dose medicine or single time medication), toxic treatment for snake bite, treatment for jaundice, maternity care, asthma treatment, and treatments for kidney stone were the traditional medicinal practices in the study area which use locally available medicinal plants.

A traditional healer in the study area familiarises about 55 leafy vegetables were common and available in our surroundings. All of them were rich with nutrients and easy to cultivate. Our ancestors make use of such leaves in their food and it was reported that life style diseases and deficiency diseases were very rare in good old days even though the modern medicine was not approachable for the poorest portion of the society.

Cleome viscosa (kaduku cheera), *Talinum portulacifolium* (sambarcheera), *Euphorbia hirta* (pal cheera), *Amaranthus viridis* (kuppacheera), *Basala alba* (vasala cheera), *Achyranthus aspera*, *Alternanthera sessilis* (ponnamkanni cheera), *Sesbania grandiflora* (agathi cheera), *Amaranthus spinosus* (cherucheera, mullan cheera), *Waltheria indica* (mara cheera), *Spinacia oleracea* (palak cheera), *Bidens biternata* (aalanchappu), *Solanum nigrum* (mudunga chappu), *Erytherena stricta* (Murikkin chappu), *Zehneria maysorensis* (aaliyan chappu), *Capsicum annum* (kanthari), *Spinacea oleracea* (palak cheera), *Oxalis corniculata* (puliyarila), *Tamarindus indica* (puliyla), *Laportea interrupta* (koduthoova), *Centella asiatica* (muthil), *Cyathula prostrata* (cherukadaladi), *Boerhaavia diffusa* (thazhuthama), *Desmodium triflorum* (nilamparanda), *Cassia tora* (thakara), *Colocasia esculenta* (vayal thalu) etc were the main ingredient of thoran or chammanthi of our ancestors. While we make use of plants in our daily food we can get rid of lifestyle diseases like diabetes, cholesterol and blood pressure. Leafy vegetables rich in vitamins, minerals and they digest easily.

Common medicinal plants used by the traditional medical practitioners in the study area were listed in the table given below.

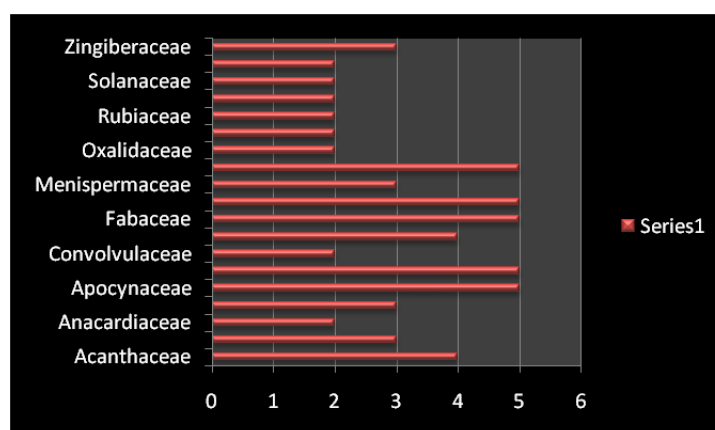


Fig. 1: Major families of medicinal plants in the study area

Table 1: Medicinal plants used by the traditional medical practitioners in the study area

S. No.	Botanical name	Local name	Family	Habit	Medicinal uses, parts used
1	<i>Aerva lanata</i>	Cheroola	Amaranthaceae	H	Used against kidney stone and snake poison, whole plant
2	<i>Aegle marmelos</i>	Koovalam	Rutaceae	T	Leaves used in cuts, leaf, fruit
3	<i>Acampe praemorsa</i>	Upputhali	Orchidaceae	H	Cure Rheumatism, root
4	<i>Acorus calamus</i>	Vayambu	Acoraceae	H	Rhizome for the brain and nervous system rejuvenation, rhizome and leaf against poison
5	<i>Adhatoda vasica</i>	Adalodakam	Acanthaceae	S	The leaves, roots and flowers to treat respiratory disorders
6	<i>Anethum graveolens</i>	Satakuppa	Apiaceae	H	Ingredient of lehyam for post partum care, seed
7	<i>Andrographis paniculata</i>	Kiriyath	Acanthaceae	H	Muscular pain, rheumatism, arthritis, leaves for cuts
8	<i>Amaranthus viridis</i>	kuppacheera	Amaranthaceae	H	While consume regularly it removes all poison in human body, leaf
9	<i>Asparagus racemosus</i>	Sathavari	Liliaceae	Cl	increase breast milk in lactating mothers
10	<i>Aristolochia indica</i>	Urithooki	Aristolochiaceae	Cr	Snake bite, root
11	<i>Azadiracta indica</i>	Veppu	Meliaceae	T	Leaves and Bark used for snake and insect poison, acne, Post chicken pox treatment, Skin diseases
12	<i>Boarhavia diffusa</i>	Tazhutama	Nyctaginaceae	Cr	Treat anaemia, cough, increase appetite, whole plant
13	<i>Biohytium sensitivum</i>	Mukkuti	Oxalidaceae	H	The paste made of the leaf can cure the fresh wounds
14	<i>Bacopa monnieri</i>	Brahmi	Plantaginaceae	H	Improving memory, fight against stress, use against allergy, leaf
15	<i>Capsicum frutescens</i>	Kantari mulaku	Solanaceae	S	Tooth ache, digestion problems, intestinal gas, fruit
16	<i>Carica papaya</i>	Papaya	Caricaceae	T	Latex of the fruit and the seeds used to flush out worms from the body, acne control
17	<i>Catharanthus roseus</i>	Nityakalyani	Apocynaceae	H	Gastro intestinal problems, whole plant
18	<i>Centella asiatica</i>	Muthil	Apiaceae	H	Bowel complaints in children, mental retardation, leaves
19	<i>Cissus quadrangularis</i>	Changalam paranda	Vitaceae	Cl	Heal broken bones, menstrual problems, whole plant
20	<i>Cnidioscolus aconitifolius</i>	Chaya manasa	Euphorbiaceae	S	Darken hair, skin diseases, scorpion bite and as leafy vegetable, leaf
21	<i>Coffea Arabica</i>	Kappi	Rubiaceae	T	Caffeine is used as a stimulant, root
22	<i>Coscinium fenestratum</i>	Maramanjil	Menispermaceae	H	Kapha and vata, inflammations, skin diseases, rhizome
23	<i>Crateva magna</i>	Neermathalam	Capparaceae	T	The bark and roots are generally used against various female disorders or as a tonic
24	<i>Curcuma longa</i>	Manjal	Zingiberaceae	H	Anti inflammatory, used for insect and snake bites, rhizome
25	<i>Curculigo orchoides</i>	Nilappana	Hypoxidaceae	H	Used in preparations of cough and asthma, tuber paste used for skin diseases, root
26	<i>Cynodon dactylon</i>	Karuka	Poaceae	H	Eye diseases, grind with turmeric and apply on infected skin, whole plant
27	<i>Cyperus rotundus</i>	Muthanga	Cyperaceae	H	Indigestion, pain reduction, whole plant
28	<i>Cuminum cyminum</i>	Jeerakam	Apiaceae	H	Roasted seeds in warm water used to reduce stomach ache due to gas problems, seed
29	<i>Canarium strictum</i>	Venga katal	Burseraceae	T	Resin powder used to cure cough, rheumatism, skin problems, bark
30	<i>Cocos nucifera</i>	Tengin pookula	Arecaceae	T	Gynecology, coconut oil and coconut milk is used for various ailments of pregnant and new born, seed
31	<i>Caesalpinia bounduc</i>	Kazhanjikuru	Caesalpiniaceae	S	To treat burns, leaf
32	<i>Cardiospermum helicacabum</i>	Uzhinja	Sapindaceae	Cr	Rheumatism, snake bite, leaf
33	<i>Cyathula prostrata</i>	Cheru kadaladi	Amaranthaceae	H	Bronchitis, burns, leaf
34	<i>Cyclea peltata</i>	Padavalli	Menispermaceae	Cr	Snake bite, skin diseases, wounds, leaf
35	<i>Datura metal</i>	Ummam	Solanaceae	S	External application on wound, skin diseases, leaf
36	<i>Desmodim gangeticum</i>	Orila	Fabaceae	H	inflammation, fever, leaf
37	<i>Euphorbia hirta</i>	Nilappala	Euphorbiaceae	H	Respiratory diseases, gastro intestinal disorders, stem
38	<i>Elephantasis scaber</i>	Anachuvadi	Asteraceae	H	fungal skin diseases, leaf
39	<i>Emilia sonchifolia</i>	Muyalchevi	Asteraceae	H	Fever, Snake bite, Tonsillitis, whole plant
40	<i>Gmelina arborea</i>	Kumizhu	Verbenaceae	T	Leaf paste for head ache
41	<i>Gloriosa superba</i>	Menthonni	Colchicaceae	Cl	Snake bite, kidney disease, leaf
42	<i>Holoptelea integrifolia</i>	Avil	Ulmaceae	T	Piles, Fistula, antimicrobial, bark
43	<i>Holarrhena antidysenterica</i>	Kudakappala	Apocynaceae	T	Dysentery, piles, kidney stone, promote milk in lactating mother, bark
44	<i>Hygrophila auriculata</i>	Vayalchulli	Acanthaceae	H	Rheumatism, jaundice, hepatic infection, root
45	<i>Helicteres isora</i>	Edampiri valampiri	Sterculiaceae	S	Root juice for intestinal infections, diabetes
46	<i>Holostemma adakodian</i>	Adapatiyan	Acanthaceae	Cr	Liver diseases, leaf
47	<i>Impatiens balsamina</i>	Kasithumba	Balsaminaceae	H	leaves, flower used for rheumatism, Treatment of pains in the joints
48	<i>Ipomea paniculata</i>	Palmudhukku	Convolvulaceae	S	Constipation, leaf
49	<i>Ipomoea separia</i>	Thiruthali	Convolvulaceae	Cl	female infertility, whole plant
50	<i>Ixora coccinia</i>	Chethi	Rubiaceae	S	Roots Anti inflammatory
51	<i>Kaempferia galanga</i>	Kacholam	Zingiberaceae	H	The roots are an ingredient of a post partum medicine, rhizome cooked with rice and eaten by lactating mother can improve quality of breast milk
52	<i>Lagenandra toxicaria</i>	Neer koova	Araceae	H	swellings, wound healing, leaf
53	<i>Leucas aspera</i>	Tumba	Lamiaceae	H	Reduce fever, flower juice for worm infection in children, leaf, flower
54	<i>Lepidagathis keralensis</i>	Paramullu	Commelinaceae	H	Anti inflammatory, roots
55	<i>Mallotus philippensis</i>	Kurukkutti	Euphorbiaceae	T	fruits for skin problem, against constipation

56	<i>Mimusops elengi</i>	Elanji	Sapotaceae	T	To treat bleeding gum, to reduce the effect of poison, bark, flower
57	<i>Mucuna pruriens</i>	Nayikkurana	Fabaceae	Cr	bean, seed used to cure anxiety, scorpion stings, treat male infertility
58	<i>Mangifera indica</i>	Mavintalir	Anacardiaceae	T	strengthen the muscles, leaf
59	<i>Nervilia prainiana</i>	Orilathamara	Orchidaceae	H	Kidney stone, whole plant
60	<i>Nervilia infundibulifolia</i>	Cheriya orilathamara	Orchidaceae	H	Kidney stone, fungal infection, whole plant
61	<i>Oxalis corniculata</i>	Puliyaarila	Oxalidaceae	Cr	Urinary tract infections, whole plant
62	<i>Ocimum sanctum</i>	Tulasi	Lamiaceae	H	Home remedy, leaf
63	<i>Phyllanthus amarus</i>	Kizharnelli	Euphorbiaceae	H	Problems of kidney, liver and stomach, ulcers and wounds, leaf
64	<i>Phyllanthus emblica</i>	Nellikka	Phyllanthaceae	T	Used for overall health of eyes, reduce sugar level in urine, fruit
65	<i>Piper nigrum</i>	Kurumulaku	Piperaceae	Cl	Gastro intestinal disorders, anti-inflammatory, Snake poisoning, cough, fruit
66	<i>Passiflora foetida</i>	Podappazhm	Passifloraceae	Cr	Neurological disorders Insomnia oedema. Fruit, leaves
67	<i>Plectranthus amboinicus</i>	Panikoorka	Lamiaceae	H	Treat coughs and cold in children, leaf
68	<i>Plumbago indica</i>	Chekki koduveli	Plumbaginaceae	H	Respiratory problems, root, leaf
69	<i>Plumbago zeylanica</i>	Vella koduveli	Plumbaginaceae	H	Piles, skin diseases, leaf
70	<i>Pogostemon cablin</i>	Pachila	Lamiaceae	H	Skin diseases, leaf
71	<i>Premna serratifolia</i>	Munja	lamiaceae	S	Fever, head ache, snake poison, root
72	<i>Rawolfia serpentina</i>	Sarpagandhi	Apocynaceae	Us	Cure anxiety, psychosis, cataract and medicinally very useful plant, root
73	<i>Rhynchostylis retusa</i>	Maravazha	Orchidaceae	E	Rheumatism, anti-inflammatory, leaf
74	<i>Ruta graveolens</i>	Arootha	Rutaceae	H	bone fracture, snake bite, whole plant
75	<i>Santalum album</i>	Chandanam	Santalaceae	T	Weakness, fever, urinary tract infection, bark
76	<i>Scoparia dulcis</i>	Kallurukki	Scrophulariaceae	H	Entire plant Anti diabetic, kidney, gall bladder stones and many other diseases
77	<i>Sida cordifolia</i>	Kurunthoti	Malvaceae	Us	Nerve tonic, anti-inflammatory, antifungal, root
78	<i>Syzygium cumini</i>	Njaaval	Myrtaceae	T	fruits used for curing digestive ailments, fruit
79	<i>Salacia reticulata</i>	Ekanayakam	Celestraceae	S	Diabetics, root
80	<i>Saraca asoka</i>	Asokam	Fabaceae	T	Menstrual problems, bark
81	<i>sphaeranthus indicus</i>	Adakamaniyan	Asteraceae	H	Diabetics, cough, leaf
82	<i>Spondias pinnata</i>	Ambazham	Anacardiaceae	T	Diabetics, diarrhoea, leaf, bark
83	<i>Seidenfia rheedii</i>	Jeevakam	Orchidaceae	H	Ingredient of chyavanaprasha, whole plant
84	<i>Taebernaemontana divericata</i>	Nandiyarvatam	Apocynaceae	S	Flowers used for Eye diseases
85	<i>Tribulus terrestris</i>	Njerinjil	Zygophyllaceae	H	Urinary tract infection, improve fertility, whole plant
86	<i>Tamarindus indicus</i>	Puliyila	Fabaceae	T	Leaf boiled with water reducing swelling and pain of joints, dried and powdered leaf for wound healing
87	<i>Tinospora cordifolia</i>	Amruthu	Menispermaceae	Cl	Considered as divine herb, Stem used for diabetes and as Immune stimulant, stem
88	<i>Uvaria narum</i>	Narumpaanal	Annonaceae	Wc	leaves anthelmintic, jaundice
89	<i>Utricularia reticulata</i>	Kaakkappoo	Lentibulariaceae	H	urinary tract infections, whole plant
90	<i>Vitex negundo</i>	Karinochchi	Verbenaceae	S	Root is an ingredient of dasamoola arishta used for cough, dysentery, diarrhoea fever, vomiting
91	<i>Vernonia cinerea</i>	Povamkuruntil	Asteraceae	H	Controlling pain, fever, diarrhoea, recently proved anti cancerous activity, root
92	<i>Wedelia trilobata</i>	Kammalpo	Asteraceae	H	antibacterial, used for wound healing, leaf
93	<i>Wrightia tinctoria</i>	Danthappala	Apocynaceae	T	Antibacterial, bark
94	<i>Woodfordia fruticosa</i>	Tatiri	Lythraceae	S	Diarrhoea, piles, dysentery, flower
95	<i>Zornia gibbosa</i>	Kozhuppa	Fabaceae	H	anti inflammatory, skin diseases, root
96	<i>Zingiber officianalis</i>	Chukku	Zingiberaceae	H	Stomach upset, motion sickness, vomiting, fever, whole plant

Fig. 1; Major Families of medicinal plants used by traditional healers, H; Herb, S; Shrub, Us; Undershrub, Cr; Creeper, Cl; Climber, T; Tree, Woody climber; Wc, E; Epiphyte

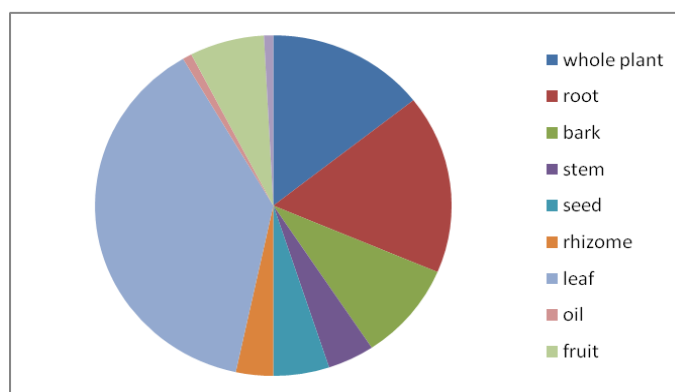


Fig. 2: Useful part of medicinal plants used by traditional healers

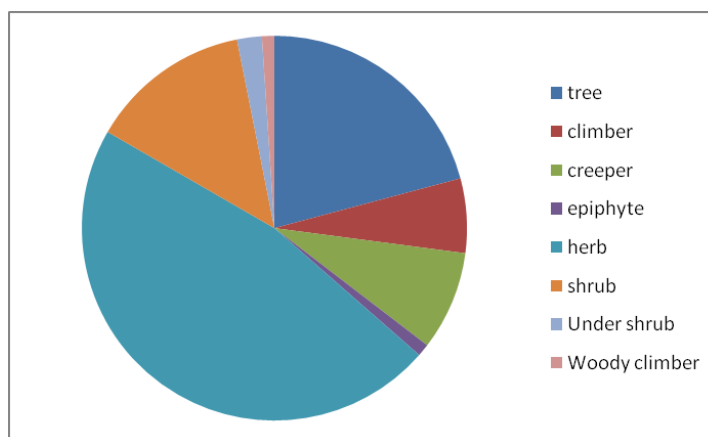


Fig. 3: Habit of medicinal plants used by traditional healers

DISCUSSION

Local healers and old persons collected medicinal plants mainly from sacred groves, paddy fields, riversides and from wild areas in the locality. Almost all the forests were protected by the ancient people. Later man started to trespass into the forests and deplete it to create his own habitat, but they had the awareness about the importance of conservation of forest and its rich and ethnic bio diversity. So they connected religious belief and forests each other. There are about 25 sacred groves near Payyanur and thousands of medicinal plants, trees, birds and insects were conserved by rural people by these conservation areas. Karippal, Kottanachery, Cheemeni mundya, Kolichar veeran kotam, Madayii kavu, Mundi kavu, Muthukatu kavu, Verikkara kavu, Pararathu kavu, Poongotu kavu, Thazhe kavu, Undiyalam nagaru kavu, Thavidisseri kavu, Thekke kavu, Paliyeri kavu, Chamakkavu, Poomalakavu, Valliketu, Mannampurathu kavu, Puthiya parambil kavu, Kammadam kavu, Teyyottu kavu, Idayilakadu, Karakakavu, Kammadan kavu etc. were some of them. These sacred forests were the main sources of medicinal plants in the study area.

According to the healers many rare medicinal plants were abundant in the study area and the healers are reluctant to reveal the source due to the fact that the modern researchers not give due respect to the conservation of the plants. Local plant collectors are collecting very rare items which are very difficult to find out. According to them modern generation does not know the importance of plants.

26 medicinal plants which are extensively used by local people of Ponneri, Thiruvallur district, Tamilnadu and used for the treatment of skin problems, cold, fever, headache, Gastro-Intestinal problem, Jaundice, Swelling in Joints, Toothache, poison [7]. An ethno medico botanical survey was conducted in 6 randomly selected panchayaths of Vythiri taluk of Wayanad district, Kerala investigating the tribal healing systems and they identified 67 medicinal preparations involving 67 species of plants belonging to 44 families used for medicinal preparations by tribals in that area. According to this study *Azadiracta indica* and *cissus* species were used to cure diseases in cattle many other plant parts and preparations were differed slightly in these two areas [8]. The traditional healers of Kancheepuram district, Tamilnadu, india, used 85 species of plants distributed in 76 genera belonging to 41 families to treat various diseases. The documented medicinal plants were mostly used to cure skin diseases, poison bites, stomach ache and nervous disorders. In that study the most dominant family was Euphorbiaceae and leaves were most frequently used for the treatment of diseases [9].

Traditional wound healing plants used by rural communities of Kasargod district, kerala, India documented 64 plant species for healing treatment. 52 Single plant remedies and 10 polyherbal formulations were used by the traditional healers of Kasargod district. Most of the plants used in this study were also used by the traditional healers of Kasargod and from these it was observed that many of these plants were also used for cuts and wounds [10]. A

survey on ethnomedicinal uses by Kuruma tribals of Wayanad district identified 34 plant species belonging to 32 genera and 25 families used for cuts and wounds traditionally and leaves were the major part used by them [11]. An ethno botanical study of medicinal plants used by traditional healers in silent valley of Kerala showed that a total of 102 species of plants distributed in 95 genera belonging to 53 families used by traditional healers of Silent valley for the treatment of 19 ailments [12].

CONCLUSION

Traditional medicine utilises indigenous knowledge for diagnose and treating various diseases. Majority of people in developing countries rely on these traditional medicines. Many of these practices have not been identified and systematically recorded yet. This study has identified many rare and medicinally important plants and their medicinal values. Traditional healers use plants for treating various ailments for themselves and for others.

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AUTHORS CONTRIBUTIONS

All the authors have contributed equally.

CONFLICT OF INTERESTS

Author has declared that there is no competing interest in this study.

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