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Survey of Medicinal Plants in Kariyamanikapuram, Nagercoil, Kanyakumari District, Tamil Nadu India

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Abstract

Traditional medicine is used to maintain health, diagnose, treat, and to prevent physical and mental illnesses. It differs from allopathic medicine on the basis of its theories, beliefs and experiences. The present study is to conduct an ethno botanical survey of medicinal plants used to treat various diseases in the Kariyamanikapuram area of Kanyakumari District, Tamil Nadu. The information gathered from the old aged people of the traditional medicinal practitioners and local faith healers by interview and semi structural questionnaire method. The total of 54 plant species belonging to 30 families have been reported in which Amaranthaceae family is the most dominant family consisting of about 6 species. This is followed by the Leguminoseae which are represented by 5 species. This is followed by the Euphorbiaceae which is represented by 3 species. All these 54 plants are used to treat various diseases such as cough, fever, asthma, diabetes, anemia, diarrhoa and etc., The medicinal plants contain chemical compounds such as alkaloids, flavonoids, saponins, acetogenin, azadirachtin etc., Most of the plant contain tannin. In the study area in need to be explored for phytochemical and pharmacological studies.

Key words: Biodiversity Medicinal plants, Kariyamanikapuram

1. INTRODUCTION

Ethnobotany is considered as the interaction between plants and people with a particular emphasis on traditional tribal cultures. Herbal remedies is an oldest forms of health care known to mankind on this earth. Prior to the development of modern medicine, the traditional systems of medicine that has evolved over the centuries within various communities, are still maintained as a great traditional knowledge base in herbal medicines [1]. Traditionally, this wealth of precious knowledge has been passed on orally from generation to generation without any proper document and is still retained by various indigenous/ tribal groups around the world [2].

According to the World Health Organization (WHO), about 65-80 % of the world's population in developing countries depends primarily on plants for their basic healthcare due to poverty and lack of access to modern medicine. It has a distinctive appeal in reporting the utilization of medicinal plants by local people groups from various regions of the world[3]. Indian systems of Medicine has many curative tools derived from plants which are used as drugs reported in old literature like Atharveda, Charak Samhita, Sushruta and Samhita [4-7].

India is enriched sources of medicinal plants which are widely used by all section of people either directly as folk remedies or different indigenous system of medicine or indirectly in the pharmaceutical preparations of modern medicines[5]. Plants an essential part of daily life nowadays, although in many parts of the world there is evident loss of traditional knowledge in use of wild medicinal and edible plants. Due to an increase in demand seeking therapeutic drugs from natural products, particularly from ethno medicinal plants has grown throughout the world[6].

The growing demand of the herbal products in the domestic and global market also makes the use of ecosystem specific medicinal plants a livelihood strategy. At present India is experiencing great pressure on its, resources due to its fast growing population [9]. There is an increase in human activities on commercialization of plant based drugs and demand from the pharmaceutical industry for domestic needs and the export of herbal drugs leads scarcity of medicinal

plants in forests and plains. The efficacy and necessitate of botanical exploration in the country is to identify and search the economically important medicinal plant which has to be propagated and conserved for future generation[10].

The present research was designed to document the medicinal plants and its therapeutic applications of the Kariyamanikapuram and surrounding villages for the scientific community.

2. MATRIALS AND METHODS

The present study was carried out in and around Kariyamanikapuram which is located near to Suchindrum in Kanyakumari District of Tamil Nadu. It is located 10 km away from Nagercoil. Ethnobotanical survey was carried out in the study area during Jan 2021 To Feb 2021. The information regarding the medicinal plants and their uses were gathered from the traditional healers, old aged people, and local medicine men by semi structured questionnaire method. The questionnaire contains local name, Tamil name and medicinal uses. The medicinal plants used by the local people of the study area were collected with the help of the traditional healers. The collected specimens were identified by using the Flora of the Presidency of Madras. Representative samples of medicinal plants were collected from the study area only when species identification was not possible in the field and preserved as herbarium as per the standard methods. All the herbarium specimens were deposited in the P. G. and Research Department of Botany, S. T. Hindu College, Nagercoil. The collected medicinal plants were identified for their local medicinal uses through ethnobotanical interviews with local healers, medicinal plant collectors, medicinal plant practitioners and farmers adjacent study area. The survey of medicinal plants gathered from the information about the chemical constituents of the various plants.

3. RESULT AND DISCUSSION

In the present observation about 65 medicinal plants were collected from the study area. The botanical Name, Family, Tamil Name, Habitat, Medicinal uses and their chemical constituents of collected medicinal plants were tabulated which of plants 27 are herbs, 12 are shrubs, 6 are trees,7 climbers,2 creepers and 1 tendril contributed in total plant species.

Amaranthaceae family is the most dominant family consisting of about 6 species. This is followed by the Leguminosae which are represented by 5 species. This is followed by the Cucurbitaceae, Lamiaceae, Euphorbiaceae, Apocynaceae which are represented by 3 species each. This is followed by the Malvaceae, Acanthaceae, Verbinaceae, Compositae, Solanaceae which are represented by the 2 species each. This is followed by the most mono family is Rutaceae, Aeraceae, Asphodelaceae, Annonaceae, Meliaceae, Poaceae, Nyctoginiaceae, Apiaceae, Cleomaceae, Zingiberaceae, Colciaceae, Lythraceae, Anacardiaceae, Fabaceae, Muntingiaceae, Uricaceae, Passifloraceae, phyllanthaceae, Menispermaceae, Caricaceae, Sapindaceae are represented by single species each.

Table-1: Survey of Medicinal Plants in Kariyamanicapuram, Nagercoil, Kanyakumari District, Tamil Nadu India.

S. No.	Botanical Name	Family	Local Name / Habit	Medicinal Uses
1.	Abrus precatorius L.	Leguminosae	Climber / Kundumani	Cough and ovary inducer
2.	Abutilon indicum (L.) Sweet	Malvaceae	Shurb / Thuthi	Fever
3.	Abutilon theophrasti Medik,	Malvaceae	Seeppukaai / Herb	used for a soothing, lubricant treatment that softens irritated tissues
4.	Acalypha indica L.	Euphorbiaceae	Kuppaimeni / Herb	Bronchitis asthma, pneumonia, rheumatism and ulcer
5.	Achyranthes aspera L.	Amaranthaceae	Herb / Naayuruvi	Asthma, jaundice, urinary disorders, abdomen activity and cancer
6.	Acorus calamus	Aeraceae	Vasambu / Perennial plant	stomach lining (gastritis), intestinal gas (flatulence), upset stomach and loss of appetite (anorexia).
7.	Aegle marmelos (L.) Correa,	Rutaceae	Tree / Vilvam	Diabetes, diarrhoea and snakebite

8.	Aervalanata (L.) Juss.Ex. Schult	Amaranthaceae	Herb / Koolachedi	Urinary calculi, dysuria, wounds, piles, polyuria and cardiac.
9.	Aloe barbadensis	Asphodelaceae	Shurb / Arborescent, Kattralai	aloe vera is often used to treat burns.
10.	Alternanthera pungens Kunth.	Amaranthaceae	Herb/Kuppaikeerai	Cough, sore throat, and diabetes and lithiasis
11.	Amaranthus spinosusL.	Amaranthaceae	Herb/Mulkeerai	Snakebite
12.	Andrographis paniculate (Burm.f.) Nees	Acanthaceae	Herb/Nilaveembu	Hepatitis, fever, jaundice, skin disease and blood purifier
13.	Annona squamosa Delile	Annonaceae	Tree/Sithapalam	Diarrhoea, dysentery and Anemia
14.	Azadirachta indica A. Juss ,	Meliaceae	Vembu/ Tree	To prepare leaf extract to use skin disease
15.	Bambusa arundinacea Willd	Poaceae	Tree /Moongil	Scaffolds, handicrafts
16.	Boerhaavia diffusa L.	Nyctaginaceae	Herb/Mukkirattai	Diuretic, jaundice, gonorrhoea, and asthma
17.	Calotropis gigantea (L.) Dryand	Apocynaceae	Erukku/ Shrub	Fever, indigestion, rheumatism, cold, cough, asthma, nausea, vomiting and dyspepsia
18.	Cardiospermum halicacabum L.	Sapindaceae	Climber/Mudakkathan	Fever, arthritis, neuropathy, piles and chronic bronchitis
19.	Carica papaya L.	Caricaceae	Herb /Papaya	Used for illness related to digestive system, and again used in treatment of arthritis. cholesterol levels as it is a good source of fiber.
20.	Catharanthus roseus (L.) G.Don ,	Apocynaceae	Nithyakalyani/shurb	Destroys intestinal parasites and cancer cells.
21.	Centellaasiatica (L.)Urb. ,	Apiaceae	Herb /Vallarai	Leprosy and brain
22.	Cleome viscosa L.	Cleomaceae	Nilavelai/ Herb	Crush the leaves to use skin diseases
23.	Clitoria ternatea L. ,	Leguminosae	Sangupushbam/ Creeper	Natural food colouring
24.	Coccinia grandis (L.) Voigt ,	Cucurbitaceae	Climber /Kovai	Diabetes
25.	Crotalaria pallida Aidon ,	Leguminosae	Kilukiluppai/Herb	This plant is used to reduce fever
26.	Cucurbita maxima Duchesne	Cucurbitaceae	Poosani/Climber	seeds to treat intestinal infections and kidney problems
27.	Curcuma longa L.	Zingiberaceae	Herb /Manjal	Blood purifier, wounds and skin infections
28.	Datura innoxia Mill.	Solanaceae	Umattai/sub-shurb	Asthma and loose motion
29.	Datura metal L	Solanaceae	Herb /Ummatham	The plant is used in the treatment of stomach and intestinal pain that results from worm infestation, toothache, and fever from inflammation. The juice of its fruit is applied to the scalp, to treat

				dandruff and falling hair.
30.	Euphorbia hirta L.	Euphorbiaceae	Herb/Amman pacharisi	Respiratory diseases (cough, coryza, bronchitis, and asthma), worm infestations in children, dysentery, jaundice, pimples, gonorrhea, digestive problems, and tumors.
31.	Gloriosa superba L.	Colchicaceae	Climber/Kalapaikilangu	This plant is used in the treatment of gout, infertility, open wounds, snakebite, ulcers, arthritis, cholera, colic, kidney problems, typhus, itching, leprosy, bruises, sprains, hemorrhoids and cancer
32.	Gomphrena globose L.	Amaranthaceae	Vadamalli/ Herb	Baby gripe, oliguria, cough, and diabetes
33.	Gomphrena serrata L.	Amaranthaceae	Nilampurandi/Herb	diarrhea, hay fever, pains, carminative, bronchial asthma, diabetes, and dermatitis
34.	Lantana camara L.	Verbenaceae	Unni/ Thorny shrub	Rheumatism, malaria, abdominal viscera
35.	Lawsonia inermis L.	Lythraceae	Tree/Azhavanam	antibacterial, antifungal, antiparasitic, antiviral, anticancer, antidiabetic, tuberculostatic, anti-inflammatory, antifertility and wound healing properties.
36.	Mangifera indica L.	Anacardiaceae	Maa/ Tree	Uterine haemorrhage, asthma
37.	Mimosa pudica L,	Fabaceae	Creeper/Thottalsurungi	piles, dysentery, sinus, and also applied on wounds
38.	Momordica charantia L.	Cucurbitaceae	Tendril/Paahal	diabetes, fever, HIV and AIDS
39.	Muntingia calabura L.	Muntingiaceae	Shurb/Sarkaraipalamaram	Antiseptic properties.
40.	Ocimum tenuiflorum L.	Lamiaceae	Thulsi/ Herb	treatment of bronchitis, bronchial asthma, malaria, diarrhea, dysentery and skin diseases
41.	Parietariapensyl vanica Muhl.ex wild,	Urticaceae		The whole herb, gathered when in flower, is cholagogue, slightly demulcent, diuretic, laxative, refrigerant and vulnerary
42.	Parthenium hysterophorus L.	Compositae	Malari/ Herb	To treat malaria
43.	Passiflora foetida L.	Passifloraceae	Climber/Sirupoonaikaali	Asthma,biliousness, and hysteria
44.	Phyllanthus urinaria L.	Phyllanthaceae	Keelanelli/ Herb	Remedy to luxury jaundice, diabetes, malaria and liver problems
45.	Plectranthus barbatus Andrews	Lamiaceae	Indian coleus/ Herb	respiratory, circulatory and nervous disorders
46.	Ricinus communis L.	Eubhorbiacae	Aamanaku/Shurb	Sores and cathartic
47.	Ruelia patula Jacq ,	Acanthaceae	Vedichchedi/Shurb	gonorrhea, syphilis, eye sore, renal infection, cough, wounds, scalds,

				toothache, stomach-ache and kidney stones.
48.	Salvia hispanica L.	Lamiaceae	Sia/ Herb	treatment of respiratory infections. Culinary uses of chia seeds are categorized as whole seeds, seed flour, seed mucilage, and seed oil.
49.	Stachytarpheta jamaicensis (L.) vahl ,	Verbenaceae	Eluthanipoondu/ Sub-shurb	High blood pressure
50.	Senna occidentalis (L.)	Leguminosae	Payaverai/Shurb	Antibacterial, antifungal, antimalarial, anti-inflammatory, antioxidant, hepatoprotective and Immunosuppression activity.
51.	Tabernaemontana divaricate (L.) R.Br	Apocynaceae	Nanthiyavattai/Shurb	Leaf extract and gingelly oil to prepare oil in eye problem
52.	Tephrosia purpurea (L.) pers	Leguminosae	Kolingi/ Herb	To treat leprosy, ulcers, ashma, and tumors
53.	Tinospora cardifolia (Willd.)	Menispermaceae	Climbing shrub/Seenthil	Heard diseases and diabetes
54.	Tridaxprocumbns (L.)	Compositae	Thathapoo/ Herb	The juice extracted from the leaves is directly applied on wounds. Its leaf extracts were used for infectious skin diseases in folk medicines.

The most dominant genera of the study area are Abutilon, Datura and Gomphrena which includes 2 species each. The remaining 48 genera are represented by single species each. The medicinal plants with their botanical name, family, local name, habit, medicinal uses, chemical constituents and application mode are listed in table 1. Customary healers have great information about the utilization of numerous plants. They accept that all difficulties are brought about by heavenly powers. They utilize their eyes, ear, nose and hands to analyze the infections this method of analyze is intriguing on the grounds that they live in inside regions and come up short on the utilization of current logical gear for treatment they anyway treat infections utilizing therapeutic plants, home grown medications recommended by ancestral healers are either arrangement dependent on single plant part or a blend of a few plant parts. All these 54 plants are used to treat various diseases such as cough, fever, asthma, diabetes, anemia, diarrhoa etc., Customary medication dependent on home grown cures has consistently assumed a vital part in the wellbeing arrangement of numerous nations. In India the local individuals are abusing an assortment of herbals for successful restoring of different illnesses. The valuable part, planning and organization of medications changed from one spot to other. Be that as it may, the information on home grown medication is steadily dying. Albeit a portion of the conventional home grown men are as yet rehearsing the craft of natural recuperating adequately. These plants are much of the time utilized by the neighbourhood occupants of the space for treatment of different illnesses. Ethno restorative examinations have offered massive extension and openings for the improvement of new medications. Tamil Nadu is spotted with ancestral pockets, rich in germplasm of therapeutic plants. Finally, it includes chemical constituents of plants followed by the gallic acid, catechin, tannin, lectins, phenols, alkaloids, saponins, tannic acid, β-sitosterol, azadirachtin. etc.,

3.1 Conclusion

The current documentation on the customary medication of the investigation region underscores that numerous individuals of the locale actually rely on natural medication for treatment of human infections. Exhaustive biochemical examination and clinical preliminaries of neighbourhood customary medications may give new heading for human medical care framework. These drugs have been accounted for to have lesser or then again insignificant side wellbeing consequences for people in contrast with other clinical medicines. Hence, it has gotten fundamental and need of great importance to zero in on protection of these plants. State Government needs to direct vivacious preservation and practical administration programs among neighbourhood individuals for the advancement of this area.

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