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A Survey on Medicinal Plants of Thengapatanam, Kanyakumari District, Tamilnadu, India

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Abstract

Folk medicine is one of the natural health care systems that have been practicing by all human community from the beginning of civilization. Biodiversity existing in each area also plays an inevitable role in the development of such healthcare practices. Kanyakumari district, the southernmost part of India is also blessed with one of the most luxuriant vegetation and its diversity, its indigenous people utilizes these rich biodiversity resources to meet the primary healthcare requirements. The present paper deals with 47 plants belonging to 31 families are used by the local healers, traditional practitioners of Thengapatanam region, of Kanyakumari district for the treatment of various diseases. Each species mentioned in the botanical name, family, local name and uses of plant parts were recorded in this study.

Keywords: Traditional knowledge, Medicinal plants, Thengapatanam, Health care practice

1. INTRODUCTION

Human cultures from the beginning of civilization using traditional medicine as one of the natural health care systems. Traditional medicinal plants have been found to produce an important role in the primary health care and treatment of disease [1] . An ethnomedicinal survey is one of the steadfast sources of natural and synthetic drug discovery [2-3]. Traditional medicine is referred as to maintain health and to prevent, diagnose, and treat physical and mental illness in your own way from allopathic medicine based on theories, beliefs, and experiences [4]. Plants an inevitable role in the health of millions of people's lives in villages of India in their routine life by their traditional usage [5]. Rural people prefer the use of traditional medicine to treat most disease and ailments. Its significant contribution to society, traditional medicine has experienced very little attention in modern research and development and less effort has been made to upgrade the practice [6]. The present study mainly focuses on plant species used by the local people of Thengapatanum (Keezhkulam Panchayat) of Kanyakumari district for their primary healthcare needs.

2. MATERIALS AND METHODS

2.1 Description of the Study Area

The present study was carried out in and around Thengapatanam region in the Kanyakumari District. Thengapatanam, a small city in Kanyakumari district of Tamilnadu, India. The Kanyakumari district is bounded between 77°15' and 77°36' east longitude and 8°03' and 8°35' north latitude. The elevation of the district from sea level is 1.829 mts. Thengapatanam region, with a population of about 26813. The 13244 male and 13569 females respectively. The total geographical area of Thengapatanam town is 11 km into the Tamil Nadu border from Kerala. The natural vegetation of this region represents biomass ranging from southern thorn forests, dry deciduous, moist deciduous, semi-evergreen forest to ever-green hill sholas with grassy downs. Well, adaptability, climatic, and characteristic features plants have been present in the study area. The maximum temperature here reaches up to 34^{O}C and the minimum temperature goes down to 20.3^{O}C.

2.2 Medicinal Plant Survey

An extensive systematic field survey was done between two months (Jan 2021 to Feb 2021). The plant specimens were collected at various seasons and in different reproductive stages (flower either fruit or both) from their natural habitats. The interviews were conducted with local people, medicine men, and elderly settlers nearby the medicinal plants for documenting indigenous knowledge of the local people and utilization value of the plant species. The interviews were made particularly for knowing the medicinal value of plants and plant parts used of each plant species the result was tabulated with all details (7). The target groups were interviewed based on their occupation which includes medicinal plant collectors, practitioners, and local farmers.

2.3 Plant collection, Identification, and Preservation

Frequent field trips have been made in and around Thengapatanam region during the study period from Jan 2021 to Feb 2021. 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.

2.4 Enumeration of medicinal flora:

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 to the study area. All the collected medicinal plants were enumerated with legitimate binomial nomenclature, local name, family, habit, disease, useful part, mode of preparation, uses, and chemical constituents.

3 RESULTS AND DISCUSSION

The present study revealed the use of 47 species of plants distributed in 42 genera belonging to 31 families, which were commonly used by elderly people and traditional healers of Thengapatanam region, for the treatment of various diseases(Table-1). They include herbs, shrubs, trees, and climbers. They are mostly found growing in various places and sometimes widely distributed in all places. Some of them are cultivated near the houses particularly of medicinal healers. Herbs form the major source of medicine consisting of about 36% followed by trees, shrubs, and climbers comprising 34%, 24%, 6%, respectively. Different plant parts like leaves, leaves and stem, flower, fruit, rhizome, root and leaf, latex, bark, stem, root, seed, and sometimes the whole plant are used as medicine for the treatment of various diseases. Lamiaceae have a greater number of representatives with 5 species. Families like Solanaceae and Oleaceae are represented by three members each. Acanthaceae, Apocynaceae, Lythraceae, Malvaceae, Fabaceae, Annonaceae, Moringaceae, Asteraceae, and Piperaceae are represented only by 2 members each. Acoraceae, Rutaceae, Asphodelaceae, Bromeliaceae, Meliaceae, Caricaceae, Apiaceae, Vitaceae, Euphorbiaceae, Boraginaceae, Cucurbitaceae, Rutaceae, Musaceae, Phyllanthaceae, Myrtaceae, Rubiaceae, Zingiberaceae, Rhamnaceaeare represented by one member each. The most dominant genera of the study area are Solanum which includes 3 species. It is followed by Annona, Piper, and Jasminum having 2 species each. The remaining 38 genera are represented by single species. Several plants are used by the people directly because most of the people in the study area know about the uses of common medicinal plants. For simple wounds, cuts, etc. the people never go to the hospital or to herbal doctors. For, example, the people squash the leaves of *Eclipta prostrata*, etc. and apply the juice over the wound directly and get a cure. Different plant parts such as bark, seed, fruit, latex, flowers, whole plants, rhizome, and roots are used for the preparation of herbal medicine to cure different diseases. Leaves from 23 plants, seed from 5 plants, fruit from 3 plants, latex from 1 plant, flower from 2 plants, 8 whole plants, leaves and fruits from 2 plants, Stem alone from 2 plants, rhizome alone from 1 plants, flower, root, and leaves from 1 plant were used to treat various diseases.

Table-1: Botanical name and family and medicinal uses of Medicinal Plants of Thengapatanam, Kanyakumari District, Tamilnadu, India

Sl. No.	Plant Name / Family	Local Name / Habit	Medicinal uses
1	Abutilon indicum (Link) Sweet. (Malvaceae)	Cheepukai / Shrub	Crushed leaves extract was cured piles
2.	Acorus calamus L. (Acoraceae)	Vasambu / Annual shrub	Leaves were used for breaks down snack poison.
3.	Aegle marmelos (L.) Correa. (Rutaceae)	Vilvam / Tree	Raw leaves were reduced corneal redness.
4.	Aloe vera (L.) Burm.f. (Asphodelaceae)	Katazhai / Herb	Reduce burning sensation due to burn.
5.	Ananas comosus (L.) Merr. (Bromeliaceae)	Annasi / Shrub	Eating of fruits were killing of stomach worm
6.	Andrographis paniculata (Burm.f.) Nees. (Acanthaceae)	Nilavembhu / Herb	Whole plant crush and extracts were cure viral fever
7.	Annona reticulata L. (Annonaceae)	Chemamunthiri / Tree	Leaves were reduce cancer cell
8.	Annona squamosa L. (Annonaceae)	Munthiri / Tree	Seed powder was reduce dandruff

9.	Azhadirachta indica A.Juss. (meliaceae)	Vembu / Tree	Whole plant was reduce infectional activity
10.	Carica papaya L. (Caricaceae)	Papali / Tree	Fruit paste was reduce black dots, leaves paste reduce tooth ache.
11.	Cathranthus roseus (L.) G.Don. (Apocynaceae)	Nithyakalyani / shrub	Flower paste was reduce cancer cell
12.	Centella asiatica (L.) Urban. (Apiaceae)	Vallari / Herb	Leaves powder increase memory power
13.	Cissus quadrangularis L. (Vitaceae)	Pirandai / Herb	Stem paste increase born strenthening
14.	Clitoria ternatea L. (Fabsceae)	Sangupushpam / climber	Flower, root, leaves extract increase memory power
15.	Cynodon dactylon (L.) Pers. (Lamiaceae)	Pull / Herb	Whole plant cure blood purification
16.	Eclipta prostrata (L.) L. (Asteraceae)	Kaiyanthirai / Shrub	Crushed Leaves and stems extract cure wound healing.
17.	Euphorbia hirta L. (Euphorbiaceae)	Amman pacharisi / Herb	Milky latex scrub and reduce black dots
18.	Heliotropium indicum L. (Boraginaceae)	ThelKoduku / Herb	Leaves paste injury place
19.	Jasminum grandiflorum L. (Oleaceae)	Mullai / Shrub	Flower suppress lactation.
20.	Jasminum officinale L. (Oleaceae)	Pitchi / Shrub	Crushed leaves paste cure foot eruption
21.	Justicia adhatoda L. (Acanthaceae)	Adathoda / Herb	Leaves extract substance cure cough and cold
22.	Lawsonia inermis L. (Lytheraceae)	Maruthani / Shrub	Leaves paste cure paronychia
23.	Leucas aspera (Willd.) Link. miaceae)	Thumbai / Herb	Leaf paste cure ring worm
24.	Mexican mint Lour. (Lamiaceae)	Navarapachali / Herb	Leaves extract cure cold
25.	Mimosa pudica L. (Moringaceae)	Thotazhi / Herb	Whole plant kidney, liver cure stone
26.	Momordica charantia L. (Cucurbitaceae)	Pagarkai / Climber	Leaves reduce suger level
27.	Moringa oleifera Lam. (Moringaceae)	Murungai / Tree	Leaves increase haemoglobin in the blood.
28.	Morinta tinctoria Roxb. (Rubiaceae)	Manchanathi / Tree	Leaves extract reduce thyroid
29.	Murraya koenigii L. (Sprengel.) (Rutaceae)	Karuvepilai / Tree	Leaf powder reduce stomach germ
30.	Musa paradisiaca L. (Musaceae)	Vazhai / Tree	Stem extract reduce kidney stone
31.	Nyctanthes arbor tis L. (Oleaceae)	Pavalamalli / Tree	Crushed leaves paste used to rheumatism
32.	Ocimum tenuiflorum L. (Lamiaceae)	Vezhathulasi/Herb	Whole plant uce cold (mucus)
33.	Pergularia daemia (Forssk.) Chiov. (Apocynaceae)	Veliparuthi / Climber	Whole plant extract wound healing
34.	Phyllanthus niruri L. (Phyllanthaceae)	Keezhanelli / Herb	Whole plant extract substance reduce jaundice
35.	Piper betle L. (Piperaceae)	Vettilai / Shrub	Leaf extract reduce cold
36.	Piper nigrum L. (Piperaceae)	Nallamilagu / Herb	Seed powder will break poison.
37.	Psidium guajava L. (Myrtaceae)	Perikai / Tree	Raw leaf chewing reducestooth ache.
38.	Punica granatum L. (Lytheraceae)	Mathulai / Tree	Leaves reduce diarrhoea
39.	Solanum nigrum L. (Solanaceae)	Manathakali / Herb	Fruits reduce mouth ache
40.	Solanum torvum SW. (Solanaceae)	Sundakai / Herb	Seed powder cure stomach grem
41.	Solanum trilobatum L. (Solanaceae)	Thithuvazhai / Herb	Crushed Leaves cure asthuma
42.	Tamarindus indica L. (Fabaceae)	Puzhi / Tree	Seed powder cure blood clot

43.	Thespesia populnea (L.) Sol. ex. Correa. (Malvaceae)	Chenanthi / Small tree	Seed powder cure skin disease
44.	Vitex negundo L. (Lamiaceae)	Notchi / Small tree	Leaves extract cure cough and cold
45.	Weddelia chinensis Jacq. (Asteraceae)	Manjalkarisalai / Shrub	Leaves paste reduce premature white hair
46.	Zingiber officinalae Roscoe. (Zingiberaceae)	Inghi / Shrub	Rhizome reduce through infection cure cold
47.	Ziziphus jujuba Mill. (Rhamnaceae)	Ilanthai / Tree	Fruit reduces hungry

The conclusion of the present study provided evidence that the medicinal plants continued to play an important role in the healthcare system of this community. Forty-seven medicinal plants collected from the present area are used by the local people for treating various kinds of diseases. Hence there is a need for detailed investigation of ethnomedicinal knowledge held by these indigenous people before such valuable knowledge is forever. The new claims which re-recorded from the study area showed that still much can be learned from investigating herbals available abundantly in the study area. These plants may indicate compounds and it requires a search for potential new drugs to treat various ailments. The medicinal plants have rich therapeutical values and the economic value of plants has been present in the area.

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