A survey and investigation of medicinal plant from Keleyur and Pattipadi in Yercaud Hills, Salem District, Tamil Nadu, India

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Abstract

The survey of medicinal plants was done at Yercaud hills, Salem district, Tamilnadu, India.Fifty eight important medicinal plants were observed and listed in this study. This is the first survey on medicinal plants in Nochikuttai village. The plants were reported with its common/ Vernacular name, morphology of parts used for medicine, family and its medicinal/Commercial properties. The people of Nochikuttai using different morphological useful parts such as leaves, flowers, bark, fruit, stem, for health care. These remedies are taken internally or applied externally in the form of paste, decoction, powder and extract. The traditionally using anti-diabetic medicinal plants are in Tamilnadu, India. The medicinal plants used for anti-diabetic activity using herbal Siddha and Ayurveda doctors that control diabetes includethe families Mimosaceae, Malvaceae, Apocyanaceae, Rubiaceae and Zingiberaceae and species*Abromaaugusta, Albiziaprocera, Cassia auriculata and Zingiberofficinale.* These plants are used to control diabetes and other therapeutic uses. In Sirumalai hills of southern India of Tamilnadu, a number of plants are used by Paliyan tribes withabout 90% medicinal plants are used in 17 various health problems,12%of them being for woundhealing. The majority of the remedies are prepared from freshly collected plants. The plants are used to cure chronic stomach pain, Asthmatic eruption, dry skin and as hair cleaners to prevent Dandruff. The extensively used plant part in the preparation of medicine for various ailments is the leaf, followed by bark, through the collection of leaves is highest it does not pose a great danger to the existence of an individual plant.However, collection of underground plant parts, stem and whole plantcollection will be of grave consequences from both ecological as well as survival point of view of the species.

Key words: anti-diabetic, herbal diversity, medicinal plants, tribal medicine, Yercaud hills.

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INTRODUCTION

India is one of the most important mega biodiversity of hotspot rich in ethnic diversity and traditional knowledge. The tribal people are the ecosystem people who live in harmony with the nature and maintain a close link between man and environment. The tribals have developed their own distinct culture, religious rites, food habits and traditional knowledge related to plant medicine, which have become a treasure trove and cultural heritage of our nation. Traditionally, this knowledge has been passed on orally from generation to generation without any written document.

The ethnic person residing in different geographical belts of India depends on wild plants to meet their basic requirements. The ethnic communities have their own pool of secret in ethno-medicinal and ethno pharmacological knowledge about the plants available in their surroundings. According to WHO, about 80% of the world's population, especially in the rural areas depends on herbal medicine for their healthcare need. All over 35,000 medicinal plant taxa are widely used in medicine in different regions of the world. Traditional medicinal practices are an important part of the primary health care system in the developing world.

India is endowed with a rich wealth of medicinal plants. In India, medicinal plants are widely used by all sections of people either directly as folk remedies or indifferent indigenous systems of medicine or indirectly in the pharmaceutical preparations of modern medicines. Medicinal plants have been used to cure a number of diseases. India is one of the 12 mega diversity countries in the world and has 17,000 flowering plants. Of the designed 25 hotspots in the world, the Eastern Himalaya and the Western Ghats are the 2 host posts in India. India has about 550 ethnic tribes with rich traditional and indigenous knowledge. Plants have been used in traditional medicine for several thousand years. The knowledge of medicinal plants has been accumulated in the

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course of many centuries based on different Indian systems of medicines such as Ayurveda, Unani and Siddha.

In India it is reported that traditional healers use 2500 plant species and medicine. In recent years, there has been a tremendous range of interest in the medicinal plants especially those used in Ayurveda's and other traditional systems of medicines. Drugs obtained from plants are believed to be much safer and exhibit a remarkable efficacy in the treatment of various ailments. Plants have always been the source of medicines and have many uses to mankind. According to some earlier workers, the notable contributions of ethno botanical interests on Tamilnadu are by Ramachandran and Nair (1981), Ansari and Dwarakan (1993) and in Indian prospective by Kaushik (1988) and Kaushik and Dhiman (2000), Murugesan*et al*,(2014).

Herbal medicines are comparatively safer than synthetic drugs. Plant based information has become a recognized tool to investigate for new sources of drugs and neutraceuticals. Herbal medicine, which is also known as utilization of herbs for their phototherapeutic or medicinal importance. In traditional medicinal scientific investigation, specifically the literature and field work information have been properly evaluated. The documentation of indigenous information on the utility of local plant resources by various ethnic groups or communities is one of the essential purposes of ethno botanical study (Shrestha, 1998). Many workers reported uses of medicinal plants to treat different diseases by rural and tribal people inhabiting different areas of Tamilnadu (Ayyanar and Ignacimuthu, 2005; Udayan*et al*., 2006; Ignacimuthu*et al*., 2008; Alagesaboopathi, 2009; Sankaranarayanan*et al*., 2010; Umapriya*et al*., 2011; Murugesan *et al*,2012; Samydurai*et al*., 2012).

However, no previous works has been carried out so far on the enumeration and status of medicinal plants in Arunoothmalai hills of Salem district of Tamilnadu. Salem is one of the most significant districts of Tamilnadu. It lies between 11′ 14" 46" and 12′ 53" 30" North latitude and between 77′ 32" 52"– 78′ 53" 05" East longitude. The district is mountainous in nature. Enumerated below are some notable Hills*viz*., Shevaroy Hills, Kalvarayan, Suriyamalai, Kanjamalai Hills, Kumaragiri Hills, Bodamalai, Vanavasi Hills, Arunoothmalai and Palamalai. The information of medicinal plants has been accumulated in the course of several centuries based on various medicinal systems such as Siddha, Ayurveda, Unani, Naturopathy, Amachi and Homeopathy. These systems of medicinal performance are having a notable role in health care system of rural people so as to cover all categories of disorders (Das *et al*., 2009). They evolved over years of attention, attempt and blunder, consequence and inheritance and have widely remained with the aboriginal people (Ragupathy and Mahadevan, 1991).

Yercaud Hills range of the Eastern Ghats is situated in Salem district in Tamil Nadu. It is situated at an altitude of 1515 meters (4970 ft) above sea level and the highest point in Yercaud is the Servarayan temple, at 5,236 feet (1.623 m). They are located between 11°C 45′ 56" N latitude and 78°C 17′ 55" E longitude. The temperature ranges from 13° C to 29° C on the peaks and 25° C to 40° C at the foot hills. The average annual rainfall is around 1500 mm – 1750 mm. The soil is deep and non-calcareoces. The forest types range from every green to moist deciduous (Champion and Seth, 1968).

In India, it is reported that traditional healers utilize 2,500 plant species and 100 species of plants supply normal sources of medicine (Pei, 2001). India is one of the 12-megabiodiversity centres with 2 hot spots of biodiversity in the North eastern Region and Western Ghats. There are about 400 families in the world of the flowering plants, among which at least 315 are represented in India (Sharma, 2003).

The ethnic people residing in different geographical belts of India depend on wild plants to meet their basic requirements. The ethnic communities have their own pool of secret in ethno-medicinal and ethno pharmacological knowledge about the plants available in their surroundings. According to WHO, about 80% of the world's population, especially in the rural areas depends on herbal medicine for their healthcare needs. All over 35,000 medicinal plant taxa are widely used in medicine in different regions of the world. Traditional medicinal practices are an important part of the primary health care system in the developing world.

MATERIALS AND METHODS

Study Area

Eastern Ghats are chains of broken hills ranges and are divided into three zones via,

i) North Eastern Ghats,

ii) Middle Eastern Ghats,

iii) South Eastern Ghats.

Southern East portion of the Eastern Ghats in Tamil Nadu consists of several broken hill ranges viz. The study area, Pattipadi and Keleyur is a tribal village situated in Yercaud hills at Salem District. Yercaud

Table 1. Medicinal Plants of the study area inYercaud Hills

Botanical Name	Local Name	Family	Plants parts used	Medicinal uses
Argemonmexicana	Bhrahmadandu	Papaveraceae	Stem	Antidote for poisonous bites
Andrographisaffinis	Kodikkurunthu	Acanthaceae	Leaf	Leaf paste mixed with cow's milk used in liver ailments
Anamirtacocculus	Kakkaikolli	Menispermaceae	Seed	Seeds used for epilepsy, night sweats, and as a stimulant
Andrographisalata	Periyanangai	Acanthaceae	Leaf	Treatment of Jaundice
Andrographis lineate	Periyanangai	Acanthaceae	Leaf	Leaf juice mixed with cow's milk for 5 days regularly in liver diseases
Andrographismacrobotrys	Uppali	Acanthaceae	Leaf	Fresh leaf juice is given orally thrice a day for one week to treat liver disorders
Andrographispaniculata	Nilavembu	Acanthaceae	Whole plant	To treat Jaundice and liver complaints
Aliospermummontanus	Red physic nut	Euphorbiaceae	Root	Root is used for abdominal pain, piles.
Aloe barbadensis	Katralai	Liliaceae	Whole plant	Powder of different parts of plants is given in tablet form
Artemisia nilagirica	Makkippu	Asteraceae	Leaf	The drugs obtain from the leaf ,has been used for malaria
Asparagus racemosus	Shatavari	Liliaceae	Root	The roots are useful in nervous disorders
Andrographisserpyllifolia	Kaatuppoorankodi	Acanthaceae	Leaf	To treat stomach pain
Azadirachtaindica	Vembu	Meliaceae	Bark	Decoction of the bark,sugar is given internally for jaundice
Boerhaaviadiffusa L.	Mukkurattai	Nyctaginaceae	Root	The root powder mixed with cow's milk is used for jaundice
Caralluma umbellate	Paraikalli	Apocynaceae	Leaf	It is used to cure diabetes
Ceasalpiniapulcherima	Mayirkonrai	Fabaceae	Seeds	Seeds are edible.
Cleome viscosa	Naaivalai	Capparidaceae	Leaf	Fresh leaf juice mixed with hot water is used for jaundice
Coffeaarabica	Coffee	Rubiaceae	Seed	Seeds are made into powder and used to make coffee
Cassia fistulata	Sarakondrai	Caesalpinaceae	Flower	Powdered flower is used to cure liver ailments
Cymbopogon citrates	Elumichai	Poaceae	Leaf	Oil for skin diseases

Botanical Name	Local Name	Family	Plants parts used	Medicinal uses
Desmodiumgangeticum	Oorilai	Fabaceae	Whole plant	To treat Headaches, diarrhea
Drymariacordata	Mudavattukal	Caryophyllaceae	Leaf	To treat Snake bite
Eclipta alba	Manjalkarisalankanni	Asteraceae	Leaves	Decoction of leaves mixed with hot water used in liver disorders
Ecliptaprostrata	Karisalankanni	Asteraceae	Leaf	To treat Jaundice
Emblicaofficinalis	Nelli	Euphorbiaceae	Fruit	Fruit is consumed orally to control jaundice
Eucalyptus globules	Karpooramaram	Myrtaceae	Stem	To cure body aches
Euphorbia hirta	Amman pacharisi	Euphorbiaceae	Leaf	To Heal wounds
Erythrinaindica	Kalyanamurungai	Fabaceae	Leaf	To treat Liver troubles, dysentery, joint pain
Erythroxylummonogynum	Sembulichan	Erythroxylaceae	Bark	Bark is made into a chrism to apply on the affected part externally
Ficusglomerata	Attimaram	Moraceae	Whole plant	Powder mixed with milk to drink orally
Geranium	Vetchi	Geraniaceae	Leaves	Essential oils are obtaind from the leaves
Gloriosasuperba	Kanthal	Colchicaceae	Flower	It has been used for treatment of snake bite, open wounds, ulcers
Grewiadisperma	Uduppai	Tiliaceae	Fruit	Unripe and ripped fruits eaten
Gymnemasylvestre	Sarakondrai	Asclepiadaceae	Whole plant	To treat Diabetes
Hemidesmusindicus	Nannari	Asclepiadaceae	Root	To treat Rheumatic complaints
Indigoferaaspalathoides	Sivanarvembu	Fabaceae	Whole plant	Different parts of plants is given orally in tablet form
Jatrophacurcas	Kattamanakku	Euphorbiaceae	Leaf	Leaf and bark juice is mixed with salt and applied for skin diseases
Justiaadhatoda	Adathoda	Acanthaceae	Leaf	To treat Cough, cold and asthma
Justiciatranquebariensis	Thavasimurungai	Acanthaceae	Leaf	To treat Cold and cough and leaf paste, which reduce pain in the swellings
Leucasaspera	Thumbai	Lamiaceae	Whole plant	To treatHeadache
Nilgirianthus ciliates	Kurinji	Acanthaceae	Leaf	To treat Glandular swellings
Ocimum sanctum	Thulasi	Lamiaceae	Leaf	To treat Dry cough
Phyllanthusamarus	Keelanelli	Euphorbiaceae	Root	To treatJaundice
Piper longum	Tippili	Piperaceae	Fruits	Different parts of plants is given orally in tablet form
Piper nigrum	Kurumilagu	Piperaceae	Fruit	To treatCough
Santalum album	Sandanum	Santalaceae	Bark	Different parts of plants is given orally in tablet form
Solanumtrilobatum	Thoothuvalai	Solanaceae	Leaf	The leaf is used to cure cough, cold.

Botanical Name	Local Name	Family	Plants parts used	Medicinal uses
Tephrosiapurpurea	Kolingi	Fabaceae	Leaves	Different parts of plants is given orally in tablet form
Terminaliaarjuna	Marudam	Combertaceae	Bark	Different parts of plants is given orally in tablet form
Terminaliabellerica	Thanrikk	Combertacea	Bark	Different parts of plants is given orally in tablet form
Terminaliachebula	Kadukai	Combertaceae	Bark	Different parts of plants is given orally in tablet form
Thespesiapopulnea	Poovarasumaram	Malvaceae	Bark	Different parts of plants is given orally in tablet form
Vincarosea	Nithiyakalyani	Apocynaceae	Leaves	Anticancer treatments
Vitexagnus	Seemainochi	Laminaceae	Leaves	To treat Eye diseases and stomach ache
Vitexnegundo	Nochi	Lamiaceae	Leaves	To treatMalaria
Vitextrifolia	Moovilainochi	Lamiaceae	Leaves	As Pain killer
Vetiveriazizanoides	Vettiver	Poaceae	Root	To treat Stomach ache and Diaphoretic

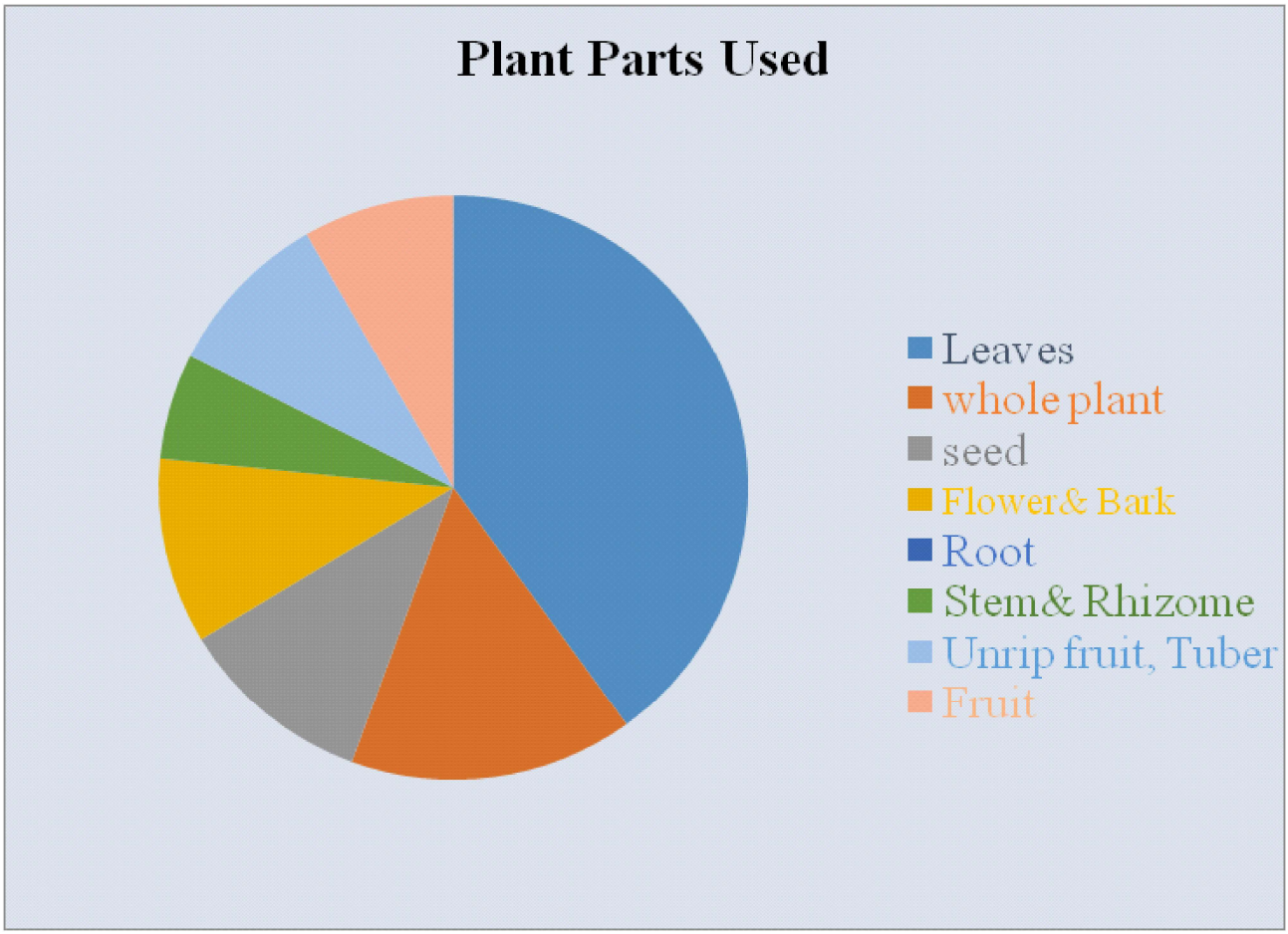

Fig. 1. Plant Parts of medicinal herbs used for the Preparation of Medicine in the study area

PLATE -I

Yercaud Hills Adivaram

Yercaud Over

Andrographis affinis

Argemone mexicana

PLATE -II

Anamirtacocculus

Andrographis macrobotrys

Andrographis lineate

Andrographis paniculata

PLATE -III

Aloe barbadensis

Asparagus racemosus

Artemisia nilagirica

Andrographisserpyllifolia

hill is situated towards north east of Salem town. The hills forms a compact block consisting of several hill ranges and contain twisted ridges and ravines running in the North East and South West directions, enclosing many narrow valley rivers *viz.*, Kallar, Varattur, Kambalai and Anaimaduvu.

RESULTS AND DISCUSSION

The present study was carried out to survey some of the medicinal plants present In Yercaud hills, Salem District, Tamilnadu, India. The collected medicinal plants were arranged alphabetically based their botanical name. Morphological characters, Phenological characters, uses and their useful parts of collected medicinal plants are presented in table 1, The relative use of their parts are shown in Figure 1. Important medicinal plants of the study area are shown in Plates I,II and III.

The present study revealed that the medicinal plants were pre-dominantly found in the study area. Most of them were climbing species found in 18 sites and belonged to 34 families, The predominant families were cucurbitaceae (6 species), Fabaceae (4 species).Fifty two species of trees belonging to 25 families including 28 species of Malvaceae and 6 species ofCommelinaceae were found. The family Malvaceae with 28 species was by far the largest group in this survey followed by Euphorbiaceae, Rutaceae and Apocyanaceae, occupying the second position, by Asclepiadaceae Malvaceae, Moraceae, Cucurbitaceae and Sapindaceae with 4 species each, Palmaceae, Rhamnaceae, Acanthaceae, Lamiaceae with 3 species each and Ceasalpinaceae, Papillionaceae, Poaceae and oliaceae, liliaceae with totally 25 species.

SUMMARY

The present study is based on the survey of traditional information on the medicinal plants collected from Pattipadi and Keleyur village from Yercaud hills. The traditional information regarding the medicinal uses of medicinal plants have been collected, identified and described using standard flora.

As an outcome of the present investigation, 58 plant species belonging to 28 families were recorded. The documented plants are used for various diseases by the people in Pattipadiand Keleyur villages, Yercaud hills. The medicinal uses of the identified plants are for tuberculosis, white discharge, joint pain, treating lung pain, bleeding problems, arthritis, jaundice, ulcer, memory power, heart pain, syphilis, blood pressure, tumour, kidney stone, blood clot,

tooth pain, mouth sore, over bleeding, etc. Some plants have been used individually or in formulations for treatment of diabetes and its complications.

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