

## SURVEY ON ETHNOMEDICINAL PLANTS AMONG THE PEOPLE OF KUCHANUR, THENI DISTRICT, TAMIL NADU, INDIA.

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### ABSTRACT

An ethnobotanical plant survey was conducted to explore the medicinal plant knowledge and their uses in the study area. The exploration of the ethnomedicinal survey includes 56 plant species belonging to 48 genera of 32 families practiced by the people of Kuchanur, Theni district, Tamil Nadu, India. The traditional knowledge of people having reliable ethnomedicinal expertise in the drug's formulation using available plants and its dosage practiced were documented. The suitable data were collected through questionnaires as well as informal personal interviews during the field trips in the study area. These data were documented from Jan 2022 to May 2022. The collected therapeutic plants were used to cure skin ailments, jaundice, diabetes, headache, migraine, urinary infection, wounds, and kidney ailments. The curative plants used by the Kuchanur people are systematized sequentially, by their plant name, family name, nearby name(s), part(s) utilized, method of treatment, and their relating illness were documented. The conservation of the ethnomedicinal practices as well as the plants are needed in order to cope up with the predominant illness. This has made us to revert the people's life back to the natural way of healing practice for the health enrichment in the future.

**Keywords:** Ethno-medicinal plants; Traditional knowledge; Kuchanur.

### INTRODUCTION

Herbal medicine has been widely practiced around the world from timeworn. These drugs are both safe and environmentally friendly, yet approximately 80% of the world's population is dependent on the traditional healthcare system (Rajadurai *et al.*, 2006). Herbal medicines are in high demand as a source of basic health care in both developed and developing nations due to their broad therapeutic properties (Lekha and Menakashree, 2018). Plants have been employed in traditional health care systems since ancient times, especially among tribal cultures (Uma *et al.*, 2020) Numerous wild and cultivated plants play an important part in their culture, customs, traditional health care system rituals, and so on, and

this interdependence has grown over generations of experience and practice (Ganie Aijaz Hassan *et al.*, 2013, Rashida *et al.*, 2021).

Humans have been inextricably linked with the plant world. They are a major source of medicinal drugs and play a vital part in tribal and ethnic communities' survival. The tribes are ecological people that live in peace with nature and preserve a strong relationship between man and the environment (Senthil Kumar *et al.*, 2013). The knowledge of medicinal plant usage is regularly passed down from generation to generation through verbal communications, and the majority of this information has not been recorded (Anup Kumar Dey *et al.*, 2014).

Herbs have long been used by humans as a source of food, shelter, clothing, and medicine. Plants, and to a lesser extent animal and minerals, were employed in diverse formulations for illness treatment by traditional medical practitioners prior to the arrival of modern conventional medicine and synthetic pharmaceuticals (Uma *et al.*, 2021) Historically, all medical medicines were obtained from plants, whether in the form of basic plant parts or the more complicated form of a crude extract combination (Shosan *et al.*, 2004). According to WHO assessments, almost 80% of the population in impoverished countries relies directly on plants for medication (Ganie Aijaz Hassan *et al.*, 2013). There is currently a need to maintain the area's biodiversity through offering sustainable ecological services and chances for fair development. The purpose of this research is to examine the richness and variety of plant species (Neil Alejandro *et al.*, 2015).

## MATERIALS AND METHODS

### Study Area

The current research was conducted in and around Kuchanur, a panchayat town in Theni District. Kuchanur is a tiny hamlet in Theni District, Tamil Nadu. It is 20.00 kilometres away from Theni. Kuchanur has a latitude of 9.877395, while its longitude is 77.375511. In Kuchanur, 90 percent of population are directly involved in agriculture. Kuchanur Panchayat, which has an area of 16.06 square kilometres, is the nearest town, located 6.3 kilometres from Chinnamanur and 18.5 kilometres from Bodinayakanur. It has a population of 6118 people. Males comprise 49% of the population, while females add up 51%. Kuchanur has a literacy rate of 59 percent on average. The annual river Surabi runs, taking the waters of the Periyar and Suruliyaru rivers.

### Plant collections and preservations

During the research period from Jan 2022 to May 2022, frequent field excursions were undertaken in and around kuchanur village. When accurate identification was not feasible in the field, various samples of medicinal plants were gathered from the research region and conserved as herbarium using established techniques. Using several regional floras, preliminary identification of the plants was undertaken (Fabricant and Fransworth,2001, Andrade-Cetto ,2009; Lee *et al.*, 2008; Gamble, 1915; Henry *et al.*,1978; Henry *et al.*, 1989; Matthew,1983; Matthew, 1999; Nayar and Sastry, 1987; Hooker, 1872).

The voucher herbarium specimens were later authenticated by comparison with specimens from the Botanical Survey of India's southern circle at Coimbatore. The herbarium specimens were preserved in the Department of Botany at Hajee Karutha Rowther Howdia College in Uthamapalayam, Theni District.

### Enumeration of medicinal flora

Through ethnobotanical interviews with local healers, medicinal plant collectors, medicinal plant practitioners, and farmers around the research region, the gathered medicinal plants were recognized for their native therapeutic purposes. The therapeutic qualities of the plants were determined using accessible literature. All medicinal plants gathered were identified using binomial nomenclature, local name, family, habit, illness, beneficial portion, manner of preparation, and applications.

**Table -1: Enumeration of medicinal plants and their uses in Kuchanur, Theni District.**

Sl. No.	Botanical Name / Family Name	Local Name / Habit	Uses
1.	<i>Achyranthus aspera</i> (L.) Blume. [Amaranthaceae]	Naayuruvi / Herb	Leaves and stem ground well and made into paste. Paste is applied on wounds.
2.	<i>Aloe vera</i> (L.) Burm. F. [Liliaceae]	Sotthukatthalai / Herb	Inner fleshy leaf is made into paste, add a little turmeric powder to give coolness to the body. It also used to get relief from the burning sensation of the skin.
3.	<i>Alternanthera sessilis</i> (L.) R. Br. ex DC. [Amaranthaceae]	Ponnonkanni / Herb	Stem and leaves are ground with ginger and garlic eaten orally for curing stomach disorder.
4.	<i>Amaranthus viridis</i> L. [Amaranthaceae]	Kuppaikerai / Herb	Whole plant is ground with Turmeric and the paste is applied to cure the hand pain.
5.	<i>Anacardium occidentale</i> L. [Anacardiaceae]	Kollampazham / Tree	Flower is mixed with cumin seeds and Ocimum leaves, then boiled with water taken orally for curing small pox.
6.	<i>Andrographis paniculata</i> (Burm. f.) Wall. [Acanthaceae]	Nilavembu / Herb	Shade dried leaves are mixed with water and taken orally to cure diabetes and fever.

7.	<i>Annona squamosa</i> L. [Annonaceae]	Sithapalam / Tree	The leaf paste is to reduce the Dandruff.
8.	<i>Aristolochia bracteolata</i> Lamk. [Aristolochiaceae]	Aduthennapalli / Climber	Leaf paste is applied externally for scorpion poisonous bites.
9.	<i>Azadirachta indica</i> A. Juss. [Meliaceae]	Vembu / Tree	Fresh leaves paste and mix turmeric powder and applied externally to cure chicken box.
10.	<i>Boerhaavia diffusa</i> L. [Nyctaginaceae]	Mukkuratai / Climber	Leaves, stem paste consumed in the empty stomach to cure asthma.
11.	<i>Calotropis gigantea</i> L. [Asclepiadaceae]	Erukku / Herb	Powdered flower is mixed with gingelly oil, it is applied over the wounds for healing.
12.	<i>Cardiospermum halicacabum</i> L. [Sapindaceae]	Mudakathan / Climber	Leaves, cumin seed, garlic are boiled, the decoction to cure joint pain. It also used to cure Rheumatism.
13.	<i>Carica papaya</i> L. [Caricaceae]	Pappali / Tree	The fruit and latex are made into paste and the raw paste curing the swelling
14.	<i>Cassia fistula</i> L. [Fabaceae]	Konnai / Tree	Leaves paste applied externally for snakebite.
15.	<i>Cassia occidentalis</i> L. [Fabaceae]	Sudalai avarai / Herb	Leaves, cumin seeds and garlic decoction is taken orally to remove kidney stone.
16.	<i>Catharanthus roseus</i> L. [Apocynaceae]	Nithya Kalyani / Herb	Whole plant powdered is mixed with honey and taken orally as a cure for cancer.
17.	<i>Cissus quadrangularis</i> L. [Vitaceae]	Pirandai / Climber	The stem is ground well and the paste is applied over the affected region to cure bone fracture.
18.	<i>Citrus lemon</i> (L.) Obseck. [Rutaceae]	Elumichai / Tree	Lemon juice extracted from the fruit mixed with a cup of water and add necessary amount of salt, is used to control low blood pressure if taken orally
19.	<i>Clitoria ternatea</i> L. [Fabaceae]	Sankupoo / Climber	The seed fried in ghee are powdered and given orally with

			hot water to cure joint pain.
20.	<i>Cocos nucifera</i> L. [Arecaceae]	Thengu / Tree	The brownish sugary residue comes while preparing the oil from the fruit is used to cure black dots on the face it applied over the black dots
21.	<i>Coleus aromatius</i> Benth. [Lamiaceae]	Karpuravalli / Herb	Leaf juice is taken orally once in a day for one week is used to get relief from urinary problems.
22.	<i>Commelina benghalensis</i> L. [Commelinaceae]	Valaipachai / Herb	Leaves ground well and made into paste. The paste of is mixed with few drops of lemon juice and a pinch of turmeric powder. Apply this paste over a wound for quick healing.
23.	<i>Cucurbita pepo</i> L. [Cucurbitaceae]	Pusanikai / Climber	Flowers, leaves of <i>Leucas aspera</i> and seeds of <i>piper nigrum</i> are boiled with water and prepare a decoction. The decoction is taken orally for curing cough and cold.
24.	<i>Curcuma longa</i> L. [Zingiberaceae]	Manjal / Shrub	A little amount of Turmeric powder is mixed with the boiled milk, if it is taken orally it is used to cure throat problem.
25.	<i>Cynodon dactylon</i> L. pers. [Poaceae]	Arugampul / Herb	Extract of whole plant is taken orally to reduce the body heat.
26.	<i>Euphorbia hirta</i> L. [Euphorbiaceae]	Amman pacharissi / Herb	Latex is applied over the pimples to heal the pimples.
27.	<i>Gomphrena globosa</i> L. [Amaranthaceae]	Vadamalli / Herb	Fresh juice of leaves used for eye disease. The extract of leaves is used for eye diseases.
28.	<i>Hibiscus rosa-sinensis</i> L. [Malvaceae]	Sembaruthi / Shrub	The flower decoction is consumed regularly to reduce the body temperature.
29.	<i>Ixora coccinea</i> L. [Rubiaceae]	Idlipoo / Shrub	The flowerets, onion bulbs and cumin seeds are boiled with water and the decoction is taken orally a cure for asthma.

30.	<i>Jatropha curcas</i> L. [Euphorbiaceae]	Kaatamanakku / Shrub	Cumin seeds and garlic are boiled with water, and the decoction curing muscles pain.
31.	<i>Jatropha gossypifolia</i> L. [Euphorbiaceae]	Amanakku / Shrub	Fresh fruit paste applied externally to cure for foot pain.
32.	<i>Justicia adhathoda</i> L. [Acanthaceae]	Adhathoda / Shrub	The leaves are ground with little amount of turmeric few pieces of garlic, few onion bulbs and few drops of lemon, and made into paste. The paste is applied externally over the infected region of ring worm.
33.	<i>Lantana camara</i> L. [Verbenaceae]	Unnichedi / Shrub	Decoction of root is used as mouth wash.
34.	<i>Lawsonia inermis</i> L. [Lythraceae]	Maruthani / Shrub	Leaf extract to cure hair fall and used to colour hair.
35.	<i>Leucas aspera</i> (Willd.) link. [Lamiaceae]	Thumbai / Herb	Leaves paste, apply over the head to cure head ache.
36.	<i>Mangifera indica</i> L. [Anacardiaceae]	Mamarum / Tree	Stem bark filterate used to cure menstrual problems and taken orally.
37.	<i>Momordica charantia</i> L. [Cucurbitaceae]	Pagarkai / Climber	Leaves, cumin seeds, Garlic and salt decoction is taken orally for curing fever.
38.	<i>Moringa oleifera</i> Lamk. [Moringaceae]	Murungai / Shrub	The fruits and leaves are cooked as vegetables. Handful of leaves along with long of coriander seeds are boiled with water. The decoction is filtered and consumed twice a day for two to cure all the pains of pregnant women. It also increases the hemoglobin in the blood.
39.	<i>Murrya koeinigii</i> (L.) Spreng. [Rutaceae]	Karuvapilai / Tree	Leaves ground into paste and apply as a cure for dog bite.



40.	<i>Musa paradisiaca</i> L. [Musaceae]	Valaimarum / Tree	Pseudostem is crushed the extract obtained is taken orally as a cure for kidney stones.
41.	<i>Ocimum basilium</i> L. [Lamiaceae]	Tiruneetru pachhilai / Herb	Decoction of the whole plant is taken orally for curing cough and cold 5 to 10 leaves are crushed and the extract obtained is taken orally to cure cough and cold
42.	<i>Ocimum sanctum</i> L. [Lamiaceae]	Tulasi / Herb	Leaves juice is taken orally in empty stomach to cure the cold.
43.	<i>Ocimum tenuiflorum</i> L. [Lamiaceae]	Karuthulasi / Herb	Leaves and seeds are grained with Black pepper and given orally for the pregnant ladies to cure leg pain and swellings of the leg.
44.	<i>Phyllanthus emblica</i> L. [Euphorbiaceae]	Nellikai / Tree	Coconut oil is boiled with cumin seeds and leaves of <i>Murraya koeinigii</i> and flowers of <i>Hibiscus rosa-sinensis</i> . Finally, and the crushed fruits of <i>Phyllanthus emblica</i> . This oil is used as hair oil it used to control hair fall problems. Fruits are edible it is rich in vitamin C. The fruit extract is taken orally in the empty stomach as a cure for diabetes.
45.	<i>Phyllanthus niruri</i> L. [Euphorbiaceae]	Keezhanelli / Herb	Handful of leaves are boiled with water and the decoction is taken orally in the empty stomach for curing jaundice.
46.	<i>Piper betal</i> L. [Piperaceae]	Vetrilai / Climber	Petal stalk, cardamom seed and clove are ground well, made into paste and it is applied over the fore head to cure headache.
47.	<i>Piper nigrum</i> L. [Piperaceae]	Nalla Milaku / Climber	Seed powder is mixed with fresh water and made into paste it is mixed with honey and taken orally as a cure for fever.
48.	<i>Psidium guajava</i> L. [Myrtaceae]	Koyya / Tree	The leaves are crushed well and the extract can be used as drop for

			ear ache.
49.	<i>Punica grandium</i> L. [Lythraceae]	Mathulai / Tree	The fresh juice extracted from the ripened fruit is taken orally to cure stomach pain
50.	<i>Solanum nigrum</i> L. [Solanaceae]	Manathakkali / Herb	Leaf paste is applied externally to cure the skin disease and ring worm
51.	<i>Solanum trilobatum</i> L. [Solanaceae]	Thoothuvilai / Herb	The dried powdered leaf is mixed with water and taken orally in empty stomach for curing cold
52.	<i>Solanum xanthocarpum</i> L. [Solanaceae]	Kandankathiri / Herb	The leaves or fruit ground well and made into paste. The paste is applied externally over the skin to prevent skin diseases.
53.	<i>Syzygium cumini</i> (L.) Skeets. [Myrtaceae]	Navalmaram / Tree	Stem bark is soak in water for a week and filter it. If it is taken orally in the empty stomach it is used to cure stomach problem.
54.	<i>Tridax procumbens</i> L. [Asteraceae]	Vettukaya Patchalai / Herb	Paste of leaves and root is applied externally over the wounds for quick healing.
55.	<i>Vitex negundo</i> L. [Verbinaceae]	Nochi / Tree	The leaves ground into paste and apply over the head as a cure for headache
56.	<i>Zingiber officinale</i> Roscus. [Zingiberaceae]	Ingi / Herb	Crush the Zingiber underground stem and mix the honey in the ratio of 1:1 and it is consumed orally to cure wheezing.

## RESULTS AND DISCUSSION

The current study indicated the use of 56 plant species ranged over 48 genera and 32 families by elder people and traditional healers in Kuchanur village for the treatment of various ailments. Herbs, shrubs, trees, and climbers are among them. They are commonly seen growing in a variety of locations and are occasionally extensively scattered around the world. Some of them are grown near the homes of medicinal healers in particular.

Herbs account for approximately 41.9 percent of all medicinal plants, with trees, climbers, and shrubs accounting for 33.8 percent, 14.5 percent, and 9.6 percent, respectively. Plant components such as leaves, leaves and stem, flower, fruit, Rhizome, Root and leaf,



latex, bark, stem, root, seed, and even the entire plant are used as medication to treat a variety of ailments.

With five species each, Lamiaceae and Euphorbiaceae have the most representatives. This is followed by the Amaranthaceae, which has four species. Families such as Solanaceae and Fabaceae each have three members. Each of the following families has only two members: Acanthaceae, Apocynaceae, Lythraceae, Myrtaceae, Cucurbitaceae, Piperaceae, Zingiberaceae, Verbenaceae, Anacardiaceae, and Rutaceae. Each of the following families has one member: Nyctaginaceae, Liliaceae, Musaceae, Sapindaceae, Meliaceae, Asteraceae, Malvaceae, Poaceae, Moringaceae, Aristalochiaceae.

For the manufacture of herbal medicine to treat various ailments, various plant parts including bark, seed, fruit, latex, flowers, entire plants, rhizome, and roots are employed. 3 plant's bark, 1 plant's seed, 3 plant's fruit, 5 plant's latex, 5 plant's flowers, 5 entire plants, 4 plant's leaves, and 3 plant's stems, Different illnesses were treated using the stem alone from two plants, the rhizome alone from two plants, the root and leaves from one plant.

The current study found that 56 medicinal plants can treat a variety of illnesses, including cancer, swelling, earaches, ringworm, and hair issues, as well as cuts, wounds, stomach pain, swelling, skin problems, kidney stones, coughs and colds, asthma, headaches, eye conditions, animal bites, fevers, jaundice, joint pain, leg pain, throat issues, chicken pox, and urinary diseases. Traditional knowledge based on plants is increasingly being used to find new sources for pharmaceuticals and nutraceuticals. Due to species scarcity brought on by human activity and excessive animal grazing, traditional uses of plants have decreased. Therefore, concentrating on the protection of these plants has become essential and vital.

Internal usage (59.67 percent) outnumbered exterior applications (40.32 percent). The most common ways for external usage were direct application of paste or with oil and generally dealt with problems such as skin disorders, cuts and wounds, poison stings, rheumatism, bodily discomfort, swellings, and headache. The majority of the medications were administered orally, as stated by some global workers [Lee *et al.*, 2008 and Gamble, 1915].

Traditional healers are well-versed in the use of several herbs. They diagnose diseases using their eyes, ears, nose, and hands. This method of diagnosis is interesting because they live in remote areas and lack access to modern scientific equipment for treatment. However, they treat diseases using medicinal plants. Herbal medicines prescribed by tribal healers are either preparations based on a single plant part or a combination of several plant parts.

The ethnomedicinal studies clearly indicated that it is preferable to begin researching the effectiveness of the plant based on their use in folk medicine were initially tried in crude

form in traditional of folk healing practices (Fabricant and Fransworth *et al.*, 2001) rather than trying to identify the active compounds and pharmacological actions of plants through massive collection of plants from natural sources.

## CONCLUSION

The current investigation offered evidence that medicinal plants continued to play an essential part in this community's healthcare system. This precious trove of knowledge is on its way out in the near future due to a lack of enthusiasm among newer generations of traditional healers, as well as their proclivity to travel to cities for opulent occupations. As a result, the current study might help to avoid the extinction of local ethno-medicinal practices. The fresh claims that were re-recorded from the research region demonstrated that there is still much to be gained by examining herbals that are prevalent in the study area. These plants may contain chemicals, necessitating a search for possible new medications to treat a variety of diseases.

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