Ethnobotanical explorations in Unamancheri, a village in the outskirts of Chennai, Tamil Nadu, India

Ramar Ramesh, Nagarajan Muthu Karthick, Mani Vivekanandan

Correspondence

Ramar Ramesh[1*], Nagarajan Muthu Karthick[1], Mani Vivekanandan[1]

[1]Care Earth Trust, No 5, Shrinivas, 21st Street, Thillaiganga Nagar, Chennai, Tamil Nadu 600061.

*Corresponding Author: thamizram@gmail.com

Ethnobotany Research and Applications 33:60 (2026) - http://dx.doi.org/10.32859/era.33.60.1-20
Manuscript received: 22/01/2026 - Revised manuscript received: 09/03/2026 - Published: 09/03/2026

Research

Abstract

Background: The study aims to document the ethnomedicinal plants used in the Unamancheri village near Chennai. This is the first time documenting the medicinal plants used in an urbanized area.

Methods: The uses of medicinal plants were identified through questionnaires and interviews with the local people. Data obtained from the interview analyzed with MS-office.

Results: In this study, we identified 60 Angiosperm species from 36 families that cure multitude of external as well as internal ailments. Much of the plants utilized for ethnomedicine belong to the family Fabaceae. Herbaceous species are preferred more than other plant life forms and leaves are the predominant utilization parts for curing illness. Most people in this village recommended plants and their highest use value observed was from *Ormocarpum cochinchinense* (Lour.) Merr. (0.91) followed by a combination of *Morinda pubescens* J.E.Smith, *Vitex negundo* L. var. negundo and *Azadirachta indica* A.Juss. (0.84) and *Acalypha indica* L (0.82)

Conclusions: The study evinces that people still depend on plants for curing health issues. The plants with high use value index should be prioritised for conservation.

Keywords: An urbanized area, Conservation, Ethnobotanical studies, Irula tribal, *Ormocarpum cochinchinense*

Background

The World Health Organization (WHO) has stated that 80% of people from developing countries rely on traditional systems of medicine to treat illnesses (WHO, 2008). India has the largest human population in the world with 1.4 billion people with a diversity of socio-cultural and economic backgrounds. Herbal medicine plays a vital role in India's traditional healthcare systems. The impact of traditional systems of medicine in the public healthcare system of India is substantial and such medicines are intimately interwoven with religion and ethnicity (Broom *et al.* 2009). The transition from synthetic allopathic medicine to herbal remedies are happening after people have realized that there are minimal side effects (Veena *et al.* 2013).

Tamil Nadu is an Indian state and it has a high floristic diversity of 6723 species (Narasimhan & Irwin 2021. The medicinal properties of majority of the species have not been fully explored or documented. There are many traditional practitioners of herbal cure in the state and the endemic system known as Siddha Medicine is widely practiced. Through AYUSH, the Government of India is promoting the state's traditional medicine systems and is creating various research and treatment facilities, including the National Institute of Siddha and the Central Council for Research in Siddha in Chennai.

The present study has focused on a village in the outskirts of Chennai, where there is still plenty of indigenous plants that are protected within state-owned reserve forests, wetlands and home gardens. On the other hand, the traditional knowledge of our ancestors was shared through nonverbal communication with those who were close to them. A lack of interest has resulted in misunderstandings, which prevents this knowledge from being passed down to future generations. Therefore, this research aims to document Ethnobotanical knowledge for future generations.

Materials and Methods

Study area

The study was undertaken in a rural village called Unamancheri (12°51'36"N 80°06'17"E) in Vandalur taluk of Chengalpattu District, Tamil Nadu India (Figure 1). The Unamancheri gram panchayat administers the village and comes under the Kattankolattur community development block. The closest township is Tambaram, which is approximately 10 kilometres north of Unamancheri. To the south of the village lies the Vandalur reserve forest, Chitheri and Periyaeri lakes and agricultural lands. To the east, the Tamil Nadu Police Training Academy is located. Kolapaakkam, where there the State Forest Research Institute borders the northern part of the village.

According to the 2011 census of India, the total population of the village is 3399. Due to rapid urbanization, the wild habitat in and around the village is slowly being decimated. With further development within the vast Chennai Metropolitan area that includes the Tambaram Municipal Corporation, threats loom for the village being transformed into a township and the loss of vegetation and the associated traditional knowledge becomes henceforth inevitable.

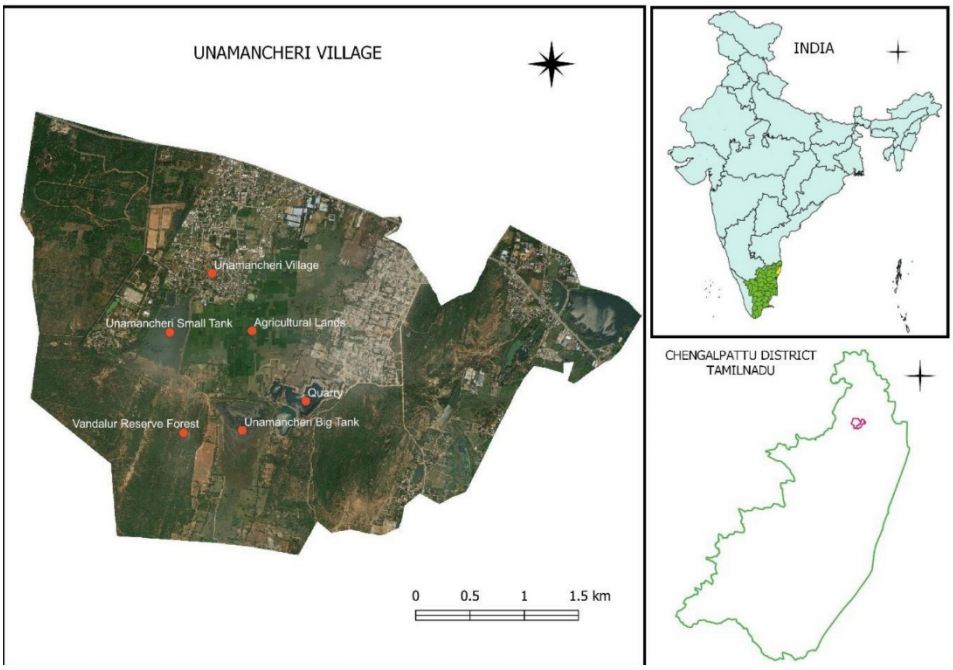

Figure 1. Location of the study area in Tamil Nadu, Unamancheri

Data collection

The field survey was conducted from November 2023 to July 2024 in and around the study village. Local informants were selected from various communities Vanniyar, Adi Dravidar and Irular. Before interview briefing them about the purpose of the study according to the biodiversity act 2002. In the present study, 44 informants including traditional herbalists and other local people were interviewed based on simple random sampling (Figure 2). These interviews were designed to record information about the plants used to treat various health problems and diseases, their local names, the parts used, the methods of preparation, and the administration of medicines and concoctions. The participants were interviewed in their mother tongue (Tamil). The information was then translated to English and standard medical terminology has been employed wherever necessary.

Figure 2. Landscape view of lakes and forest of Unamancheri

Identification of plants

During this study, plants mentioned by the informants were collected and identified with the assistance of traditional healers, fellow botanists, and other local participants. Plants were documented from various locations, including the wetlands, reserve forests, home gardens, and along the narrow streets. The identification of all plants was further confirmed using standard flora literature such as (Gamble & Fischer 1967; Hooker 1872-1897, Livingstone &Henry 1994, Matthew 1983, Narasimhan & Irwin 2021). Voucher specimens were collected for herbarium preparation and have been deposited in the Care Earth Trust's laboratory in Chennai for future reference. The identified plants were named and classified after Angiosperm Phylogeny Group III 2009. Further, the nomenclatural information was verified with authentic online portals like Plants of the World Online (POWO 2024) and International Plant Names Index (IPNI 2024).

Calculating Use Value

Use value (UV) is a widely used simple index that provides the relative importance of plants used locally in traditional medicine (Vijayakumar *et al.* 2015). Use value was calculated using the following formula:

$$UV = \sum U/n$$

Where, UV is the use value of species, *U* is the number of informants who mentioned the use of the species, and *n* is the total number of informants interviewed for the species. This exercise is repeated for other uses of the same species. The highest number of uses recorded in the interviews for a given plant species provides the highest UV value.

Results and Discussion

Socio-demographic characteristics and medicinal knowledge of informants

In the present study, a total of 44 informants, ranging in age from 21 to 94 years, were interviewed (Table 1). The mean age of the informants was 53.8 years. Among the 44 informants, 28 (63.44%) were females, and 16 (36.36%) males. Further, 25 (56.82%) were uneducated and 19 (43.18%) were literate. Four (11.36%) persons were professional healers (herbalists) and the remaining 40 (88.63%) informants were local people who have good knowledge of medicinal plants and were practicing herbal medicines for their personal use and in helping others in the neighbourhood.

They use various methods to diagnose the ailment. For example, they check the effect of snake venom by first making the patient taste of the plant example *Andrographis paniculata* (Table-2). If the patient senses a bitter taste, then the level of venom is low and, if patient does not sense the bitter taste, the venom level is high. Some of the traditional healers said that **pathiyam** (diet regimen) is important during the period of treatment. When compared to other communities, the indigenous Irula communities exhibit an enhanced familiarity with plants, a result of their historical engagement in snake catching and the harvesting of tubers from the forest.

Table 1. Profile of the informants interviewed in Unamancheri

Attributes	**Number of informants**	**Frequency (%)**
Age		
21-50	16	36.36
51-80	26	59.09
81-100	2	4.55
Total	**44**	**100**
Gender		
Male	16	36.36
Female	28	63.64
Total	**44**	**100**
Education		
Uneducated	25	56.82
Primary school level (1-5)	5	11.36
Middle and high school level (6 -10)	9	20.45
Secondary school level (11-12)	2	4.55
Degree holders	3	6.82
Total	**44**	**100**
Occupation		
Agriculture labour and The Mahatma Gandhi National Rural Employment Guarantee	15	34.09
Construction labour	9	20.45
Farmer	6	13.63
Housekeeping	4	9.09
Traditional healer	4	9.09
Security	2	4.55
Cattle herder	3	6.82
Retired government servant	1	2.27
Total	**44**	**100**
Community		
Irular	6	13.64
Adi Dravidar	14	31.82
Vanniyar	24	54.55
Total	**44**	**100**

Medicinal Plants and Floristic Analysis

In the present study, it was found that a total of 60 species belonging to 36 plant families (five were monocots and 55 are dicots) were utilized for the treatment of various diseases and health issues. The analysis of the habits of the medicinal plants in the study revealed that herbs were the most common with 23(38%) species being used. Trees followed with 16 (27%) species. Shrubs and climbers were represented by 13 (22%) and 8 (13%) species respectively. (Table 2 and Figure 3).

Ormocarpum cochinchinense

Cucumis maderaspatanus

Eclipta prostrata

Aristolochia indica

Rauvolfia tetraphylla

Justicia adhatoda

Clerodendrum phlomidis

Leucas aspera

Figure 3. Medicinal plants reported by the indigenous people

Table 2. Medicinal Plants and their uses in Unamancheri

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
Acanthaceae	***Justicia adhatoda*** L. CET305	**ஆடாதொடை (Aduthoda)**	Shrub	Leaf	Infusion	Oral	Infusion of the leaves cures cold	Cold	0.43
Acanthaceae	***Andrographis paniculata*** (Burm.f.) Wall. ex-Nees CET306	**சிறியாநங்கை (Siriyaanangai)**	Herb	Leaf	Juice	Oral	Fresh leaves or juice of the leaves consumed orally to cure snake bite	Snake venom	0.68
			Herb	Leaf	Paste	Topical	The paste of the leaf is applied to the place of Scorpion stings.	Scorpion stings	0.68
			Herb	Leaf	Paste	Topical	The paste of the leaf is applied onto the place of the centipede bite.	Centipede venom	0.68
Acoraceae	***Acorus calamus*** L **CET300**	**வசம்பு (vasambu)**	Herb	Rhizome	Paste	Topical	Vasambu mixed with salt and ***Acalypha indica*** then the paste is applied onto the bitten part of the Centipede	Centipede venom	0.18
			Herb	Rhizome	Paste	Oral	Vasambu is given to child for improve indigestion.	Indigestion	0.18
			Herb	Rhizome	Paste	Oral	Vasambu paste is applied onto stomach to cure stomach pain.	Stomach problems	0.18
Aizoaceae	***Trianthema portulacastrum*** L. CET376	**சாரணை (Saaranai)**	Herb	Leaf	Cooked	Oral	The young leaves of the plant used as food	Anemia	0.16
			Herb	Leaf	Cooked	Oral	The young leaves are used to cook.	Kidney problems	0.16
Amaranthaceae	***Alternanthera sessilis*** (L.) DC. CET402	**பொன்னாங்கண்ணி (Ponnankanni)**	Herb	Leaf	Cooked	Oral	leaves taken as food, enhance vision and promote eye health	Eye Health	0.23
Amaranthaceae	***Ouret lanata*** (L.) Kuntze CET412	**சிறுபீளை (Sirupeelai)**	Herb	Aerial parts	Decoction	Oral	Boil the aerial parts of this plant until the water is reduced by one-fourth, then consume it to cure kidney stone problems.	Kidney problems	0.23
Amaryllidaceae	***Crinum bulbispermum*** (Burm.f.) Milne-Redh. & Schweick. CET455	**விசமூங்கி (visamoonki)**	Herb	Leaf	Daub	Topical	The leaf with castor oil put onto the lump	Lump	0.34

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
Apocynaceae	***Rauvolfia tetraphylla*** L. CET470	நவகுஞ்சன் **(Navakunjan)**	Shrub	root	Paste	Oral	The root paste is ingested orally to treat snake bites, while a paste made from the roots is applied to the affected area of snake the bite.	Snake venom	0.64
Arecaceae	***Borassus flabellifer*** L. **CET796(DH)**	பனைமரம் **(Panaimaram)**	Tree	Stem	Juice	Ear drop	Stem sap put in ear to cure earache	Earache	0.25
Arecaceae	***Cocos nucifera*** L. **CET795(DH)**	தென்னை **(Thennai)**	Tree	Young shoot	Raw	Oral	The young shoot induces puberty in female	Delayed puberty in females	0.07
Aristolochiaceae	***Aristolochia indica*** L. CET521	பெருங்காயவேறு **(Perunkaaya veru)**	Climber	root	Paste	Topical	The paste of root is applied onto the stomach to prevent indigestion problems	Indigestion	0.68
			Climber	root	Chewing	Oral	The root t was chewed to cure breathing problems	Breathing problem	0.68
Asclepiadaceae	***Calotropis gigantea*** (L.) W.T.Aiton CET537	எருக்கு **(Erukku)**	Shrub	Leaf	Raw	Topical	Leaf put on heated soil brick then put the heel on brick to cure heel pain	Heel pain	0.41
Asclepiadaceae	***Pergularia daemia*** (Forrsk.) Chiov. CET540	உத்தாமணி **(Uthamani)**	Climber	Leaf	Paste	Topical	The paste of the leaves with lime applied onto the throat for recover cold.	Cold	0.32
			Climber	Leaf	Paste	Topical	The paste of the leaves used to treat fever	Fever	0.32
Asclepiadaceae	***Gymnema sylvestre*** (Retz.) R.Br. ex Sm. CET539	சிருகுறிஞ்சான் **(Sirukurunjan)**	Climber	Leaf	Chewing	Oral	Fresh leaves were chewed to reduce the sugar	Diabetes	0.18
Asteraceae	***Baccharoides anthelmintica*** (L.) Moench **CET540**	காட்டுசீரகம் **(Kaattuseeragam)**	Herb	Seed	Raw	Oral	The raw seed are are consumed as a remedy for snake bites	Snake venom	0.23
Asteraceae	***Tridax procumbens*** L. CET577	கதிர்பூண்டு **kathir poondu**	Herb	Leaf	Paste	Topical	Paste of leaves is externally used to cure fresh cutting wounds and control blood bleeding	Wound	0.77

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
Asteraceae	***Eclipta prostrata*** (L.) L. CET569	கரிசலாங்கண்ணி **(Karisalankanni)**	Herb	Leaf	Juice	Oral	The juice extracted from the leaves is utilized in the treatment of Jaundice	Jaundice	0.41
Brassicaceae	***Raphanus raphanistrum*** subsp. sativus (L.) Domin **CET794**	முள்ளங்கி **(Mullanki)**	Herb	Root	Infusion	Oral	The infusion of Mullanki (Radish) used to relieve from Jaundice	Jaundice	0.09
Fabaceae	***Delonix elata*** (L.) Gamble CET622	வாதநாராயணன் **(Vaathanaarayan)**	Tree	Leaf	Cooked	Oral	Leaves are consumed as food	Joint pain	0.30
			Tree	Leaf	Cooked	Oral	Various foods prepared from the leaves like Adai (Adai Dosa) and eat to cure rheumatism	Rheumatism	0.30
Fabaceae	***Tamarindus indica*** L. CET645	புளியமரம் **(Puliya maram)**	Tree	Stem bark	Raw	Topical	Paste of the stem bark is used to cure burn wound	Burn wound	0.23
Caricaceae	***Carica papaya*** L. CET651	பப்பாளி **(Pappaali)**	Tree	Leaf	Infusion	Oral	Infusion of the leaves is remedy for fever	Fever	0.34
Cleomaceae	***Cleome viscosa*** L. CET652	வேளக்கீரை **(Velakkeerai)**	Herb	Leaf	Cooked	Oral	Fresh leaves used to cook and eaten relief from body heat.	Body heat reduction	0.14
Combretaceae	***Terminalia chebula*** Retz. **CET793(DH)**	கடுக்காய் **(Kadukka)**	Tree	Fruit	Raw	Oral	Powder of the fruit is used to relief from fever	Fever	0.18
Cucurbitaceae	***Cucumis maderaspatanus*** L. CET685	முசுமுசுக்கை **(Musumusukkai)**	Climber	Leaf	Juice and cooked	Oral	The juice extracted from the leaves can be consumed directly and the leaves themselves are utilized in various food recipes.	Cold	0.82
Cucurbitaceae	***Corallocarpus epigaeus*** (Rottler) Hook.f. CET688	கருடன் கிழங்கு **(Karudan kilangu)**	Climber	Tuber	Powder/ Decoction	Oral	Powder or decoction of the root is taken to cure snake venom	Snake venom	0.18
Asparagaceae	***Dracaena roxburghiana*** (Schult. & Schult.f.) Byng & Christenh. CET691	வளர்மட்டை **(Valarmattai)**	Herb	Leaf	Extract	Ear drop	Extracts from the heated leaf are poured into the ear after temperature are normal to relieve from earache	Ear ache	0.30
Euphorbiaceae	***Acalypha indica*** L. CET703	குப்பைமேனி **(Kuppaimeni)**	Herb	Leaf	Paste	Topical	Leaves paste mixed with turmeric powder is	Skin disease	0.82

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
							applied to cure rash and scabies		
			Herb	Leaf	Paste	Topical	Leaves mixed with vasambu, coconut oil and ***Trachyspermum ammi*** seed then light heat and applied to the stomach	Stomach pain	0.82
			Herb	Leaf	Juice	Oral	Leaves with salt orally are given to cure cold.	Cold	0.82
			Herb	Leaf	Juice	Oral	Leaves are used to cure cough.	Cough	0.82
Phyllanthaceae	***Phyllanthus amarus*** Schum. & Thonn. CET721	கீழாநெல்லி **(Keezhanelli)**	Herb	whole plant	Juice	Oral	Juice of the whole plant mixed with cow milk reduces the body heat.	Body heat reduction	0.45
			Herb	whole plant	Juice	Oral	Juice mixed with cow milk taken to cure Jaundice	Jaundice	0.45
Euphorbiaceae	***Jatropha gossypiifolia*** L. CET728	காட்டாமணக்கு **(Kaattamanakku)**	Shrub	Stem	Raw	Toothbrush	Brushing teeth with a stick of this tree cures toothache	Toothache	0.18
			Shrub	Stem	Raw	Toothbrush	Young twig is remedy for Gum infections.	Gum problems	0.18
Fabaceae	***Ormocarpum cochinchinense*** (Lour.) Merr. CET633	எலும்பொட்டி **(Elumbotti)**	Shrub	Leaf	Juice	Oral	Juice made from leaves combined with goat or cow milk consumed in the morning provides strength to the bones	Bone strength	0.91
			Shrub	Leaf	Paste	Topical	A paste made from leaves combined with a portion of egg white should be applied solely to the area of the bone fracture.	Bone fracture	0.91
			Shrub	Flower	Infusion	Oral	The infusion of the floral beverage in the morning helps regulate blood sugar levels.	Diabetes	0.43

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
Fabaceae	***Erythrina variegata*** L. CET613	கல்யாணமுருங்கை **(Kalyaana murungai)**	Tree	Leaf	Cooked	Oral	Fresh leaves are utilized in cooking, which helps to alleviate body heat and regulate irregular menstrual cycles.	Irregular menses	0.30
Fabaceae	***Clitoria ternatea*** L. CET612	சங்குபூ **(Sankupoo)**	Climber	Flower	Infusion	Oral	The infusion from the flower used to cure diabetes	Diabetes	0.20
Lamiaceae	***Leucas aspera*** (Willd.) Link CET735	தும்பை **(Thumbai)**	Herb	Leaf	Infusion	Oral	Infusion of leaves reduces the blood sugar level	Diabetes	0.25
			Herb	Leaf	Infusion	Paste	Leaves paste applied onto the skin to cure skin related problem	Skin disease	0.25
Lamiaceae	***Coleus amboinicus*** Lour. CET731	கற்பூரவள்ளி **(Karpooravalli)**	Herb	Leaf	cooked	Oral	Leaves used to make Rasam with Pepper, Cumin and Holy Basil cure cold	Cold	0.41
			Herb	Leaf	Infusion	Oral	Infusion of the leaves drink to relieve cough	Cough	0.41
Lamiaceae	***Clerodendrum phlomidis*** L.f. CET734	தழுதாழை **(Thaluthaazhai)**	Shrub	Leaf	Infusion	Bath	The leaves were boiled in water and used to bath this cure body pains.	Body pain	0.23
Lythraceae	***Lawsonia inermis*** L. CET753	மருதாணி **(Maruthaani)**	Shrub	Leaf	Paste	Topical	Crushed leaves employed to treat problems related to foot cracks	Foot crack	0.30
Malvaceae	***Abutilon indicum*** (L.) Sweet CET755	துத்தி **(Thuththi)**	Shrub	unripe fruit	Paste	Topical	The immature fruit paste used to treat wound.	Wound	0.39
			Shrub	Leaf	Juice	Oral	Juice get from the fresh leaves are drunk to cure piles, and sauteed leaves are applied to the piles.	Piles	0.39
Malvaceae	***Hibiscus rosa-sinensis*** L. CET756	செம்பருத்தி **(Semparuththi)**	Shrub	Leaf	Paste	Topical	The paste of fresh leaves mixed with fenugreek seed was applied onto the head to reduce the body heat	Body heat reduction	0.16

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
Meliaceae	***Azadirachta indica*** A. Juss.CET757	**வேம்பு (Vembu)**	Tree	Leaf	Paste	Topical	Turmeric mixed with a leaf paste is used to cure wounds	Wound	0.59
			Tree	Leaf	Paste	Topical	Turmeric mixed with a leaf paste serves as a remedy for skin disorders.	Skin disease	0.59
			Tree	Leaf	Paste	Topical	Leaf paste is applied onto hair to control dandruff problems	Dandruff	0.59
			Tree	stem bark	Sap	Ear drop	Sap obtained from the core cork of the stem is inserted into the ear to remedy an earache.	Earache	0.59
			Tree	Seed	Oil	Oral	Neem oil is used to cure worms in the stomach	Stomach worms	0.59
Meliaceae	***Melia azedarach*** L. CET758	**மலைவேம்பு (Malai vembu)**	Tree	Leaf	Paste	Oral	Paste of the leaves eaten before breakfast, during menses to cure female infertility	Women infertility	0.32
Fabaceae	***Mimosa pudica*** L. CET625	**தொட்டால்சினுங்கி (Thottaalsinunki)**	Herb	Root	Raw	Oral	Root powder is used to cure snake bite	Snake venom	0.36
Molluginaceae	***Trigastrotheca pentaphylla*** (L.) Thulin CET759	**பற்படாகம் (Parpaadagam)**	Herb	Aerial parts	Paste	Topical	Paste of the plant with turmeric applied to Scabies	Scabies	0.30
			Herb	Aerial parts	Juice	Oral	Juice from the leaf with salt given to babies for recover from cold	Cold	0.30
Moraceae	***Ficus racemosa*** L. CET762	**அத்தி (Aththi)**	Tree	Stem	Sap	Topical	Sap comes from the stem used to cure cutting wound	Wound	0.18
Moringaceae	***Moringa oleifera*** Lam. CET765	**முருங்கை (Murungai)**	Tree	Leaf, flower, tender fruits	Cooked	Oral	Leaves and tender fruits are eaten to get iron nutrient	Anaemia	0.34
Myristicaceae	***Myristica fragrans*** Houtt. CET792(DH)	**ஜாதிக்கா (Jaathikkaa)**	Tree	Seed	Paste	Oral	Paste of the seed cures indigestion problems	Indigestion	0.14

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
Myrtaceae	***Eucalyptus tereticornis*** Sm. CET766	தைலமரம் **(Thailamaram)**	Tree	Leaf	Infusion	Inhalation	Leaves are boiled with water and then inhaled the vapour	Headache	0.30
Nyctaginaceae	***Boerhavia diffusa*** L. CET767	மூக்கிரட்டை **(Mookkirattai)**	Herb	Leaf	Cooked	Oral	The young leaves of the plant are used as food	Cold	0.18
Ranunculaceae	***Nigella sativa*** L. CET791(DH)	கருஞ்சீரகம் **(Karunseeragam)**	Herb	Seed	Cooked	Oral	Used to remove the waste in the uterus after abortion	Waste removal after abortion	0.11
Rubiaceae Verbenaceae Meliaceae	***Morinda pubescens*** J.E.Smith (CET768) ***Vitex negundo*** L. var. ***negundo*** (CET769) ***Azadirachta indica*** A.Juss. (CET757)	நுணா **(Nuna)** நொச்சி **(Notchi)** வேம்பு **vembu**	Tree Shrub Tree	Leaf	Fried	Oral	The young leaves of three plants are fried in sesame oil and dried then make small balls. This was given to the child after a head bath to cure breathing problems	Breathing problem	0.84
Salvadoraceae	***Azima tetracantha*** Lam. CET770	செங்கம்வேர் **(Sengam ver)**	Shrub	Root	Decoction	Oral	The root is boiled with garlic, pepper and cumin, this decoction control sugar level	Diabetes	0.16
			Shrub	root	Paste	Topical	Paste of the root is used to cure rheumatism	Rheumatism	0.16
Sapindaceae	***Cardiospermum halicacabum*** L. CET771	முடக்கறுத்தான் **(Mudakaththaan)**	Climber	Leaf	Cooked	Oral	Leaves are used to cook in various ways, like Dosa and Rasam. These remedies for joint pain	Joint pain	0.41
Sapotaceae	***Madhuca longifolia*** (L.) J.F.Macbr CET774	இலுப்பை **(Iluppai)**	Tree	Seed	Oil	Topical	Oil from the seed is used to cure joint pain	Joint pain	0.25
			Tree	Seed	Oil	Topical	Oil from the seed is used to cure bone fractures	Bone fracture	0.25
Sapotaceae	***Mimusops elengi*** L. CET776	மகிழம் **(Makilam)**	Tree	Unripe fruit	Raw	Oral	Unripped fruit eaten for cure Amoebiasis	Amoebiasis	0.16
Solanaceae	***Solanum trilobatum*** L. CET780	தூதுவளை **(Thootuvalai)**	Climber	Leaf	Cooked	Oral	Pickle from leaves increase digestion and given body strength	Appetizing	0.32
			Climber	Leaf	Cooked	Oral	Soup from the leaves cures cold	Cold	0.32
			Climber	Leaf	Cooked	Oral	Soup from the leaves cure cough	Cough	0.32

Family	Name of the plant and voucher number	Local name	Habit	Parts used	Mode of utilization	Mode of application	Preparation method	Therapeutic uses	Use value
Solanaceae	***Datura innoxia*** Mill. CET782	**ஊமத்தை (Oomaththai)**	Herb	leaf	Daub	Topical	The leaf is pasted onto the lump to ripen and cure	Lump	0.20
Solanaceae	***Nicotiana tabacum*** L. ***CET790(DH)***	**புகையிலை (Pukaiyilai)**	Herb	leaf	Daub	Topical	Dried tobacco leaf is pasted onto the lump to ripen and cure	Lump	0.25
Solanaceae	***Solanum virginianum*** L. CET785	**கண்டங்கத்திரி (Kandankaththari)**	Herb	Fruit	Paste	Topical	Unripe fruits are crushed and applied to cure ringworm	Ringworm	0.34
			Herb	Fruit	Fumigation	Inhalation	Smoke from the fruit was used to Toothache	Toothache	0.34
Verbenaceae	***Vitex negundo*** L. var. ***negundo*** CET769	**நொச்சி (Notchi)**	Shrub	Leaf	Raw	Fomentation	The leaves are mixed with the light heat ash, tied in a cloth and applied to the head	Sinus	0.45
			Shrub	Leaf	Infusion	Inhalation	Leaves are boiled with water, and then the vapor was inhaled	Cold	0.45
			Shrub	Leaf	Infusion	Inhalation	Leaves were boiled with water, and then the vapor was inhaled	Headache	0.45
Vitaceae	***Cissus quadrangularis*** L. CET787	**பிரண்டை (Pirandai)**	Shrub	Stem	Cooked	Oral	The tender stem of the plant used to make pickles, which helps to digestion	Appetizing	0.41
			Shrub	Stem	Cooked	Oral	The pickle of tender stem, which helps to strengthen bones	Bone strength	0.41

Regarding family-wide plant use, Fabaceae had seven species, Solanaceae four species, while Asclepiadaceae, Asteraceae, and Lamiaceae had three species each. Additionally, the families Acanthaceae, Amaranthaceae, Arecaceae, Euphorbiaceae, Cucurbitaceae, Malvaceae, Meliaceae and Sapotaceae had two species each. Acoraceae, Aizoaceae, Amaryllidaceae, Apocynaceae, Aristolochiaceae, Brassicaceae, Caricaceae, Cleomaceae, Combretaceae, Asparagaceae, Lythraceae, Molluginaceae, Moraceae, Moringaceae, Myristicaceae, Myrtaceae, Nyctaginaceae, Ranunculaceae, Rubiaceae, Salvadoraceae, Sapindaceae, Phyllanthaceae, Verbenaceae, and Vitaceae had one species each.

The findings of the study indicated that a significant proportion of the plants belonged to Fabaceae and Solanaceae families; both the families are known for many edible and food plants such as beans, pea, potato, tomato, eggplant, etc. Herbs were the most commonly used plant forms utilised by the local people for treating multiple ailments. In similar ethnobotanical studies all over the world, herbs were mostly used for ethnomedicine preparation (Adnan *et al.* 2015, Rajeswari & Murugesh 2019).

Parts of use, mode of utilization and application

Even though all plant parts are important in the remedy of different ailments, in the present study, as shown in, leaves were predominantly utilized with 55% application in traditional medicines followed by stem 9%, root and fruit 8% each, seed 6%, other aerial parts, stem bark and flower each 3%, whole plant and tuber 2% and Rhizome 1%. Harvesting leaves is more beneficial for the survival of medicinal plants than collecting entire plants, including roots and stems, which can pose a significant risk to local flora (Zheng & Xing 2009, Usha *et al.* 2016). The prominent use of leaves agrees with studies conducted in other parts of India, and in a few other countries (Morvin *et al.* 2014, Islam *et al.* 2014, Ullah *et al.* 2019, Prabhu *et al.* 2021).

The mode of utilization to treat the ailment (Figure 4) falls into 14 categories. Among these, the use of paste was high 21%, cooked concoction 18%, fresh infusion 14%, juice and raw consumption each 13%, daub and fresh decoction each 4%, chewing, oil and sap each 3% and extract, fried, fumigant and powder 1%. Paste preparation is the most common methods used in Siddha medicinal system and similar results of various surveys also support that of the present study (Usha *et al.* 2016, Vijayakumar *et al.* 2016, Chinnasamy *et al.* 2018)

The present study showed that most of the herbal medicines (58%) are taken orally raw or sometimes along with milk, water etc., followed by topical 29%, inhalation and as drops each 4%, toothbrush, fomentation each 2% and bath 1%. Our current findings align closely with those previously documented in Thailand, as well as among certain tribal communities in India, specifically the Malayali and Palliyar tribal groups (Kottaimuthu 2008, Prabhu *et al.* 2014, Jaganathan *et al.* 2016, Tamilvannan *et al.* 2016, Kantasrila *et al.* 2020).

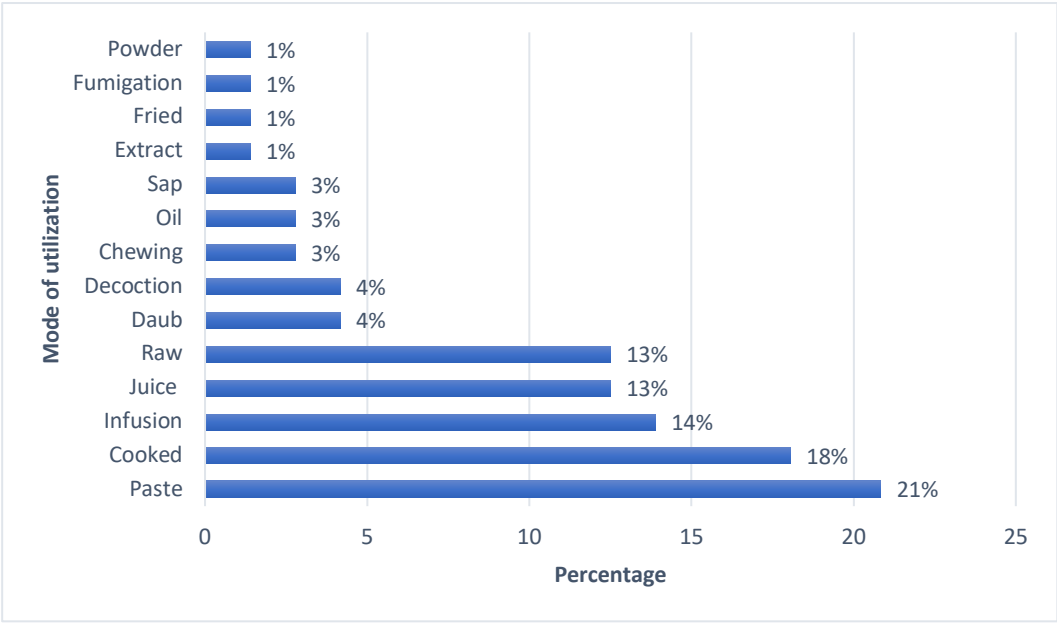

Figure 4. Various methods of using medicinal plants in Unamancheri

Various ailments treated by plants

In Unamancheri, people reported 15 categories of ailments that involve circulatory system, dermatology, gastrointestinal system, oncology, bleeding, venomous bites, etc. along with 42 biomedical terms like anaemia, burn-wound, indigestion, snakebite, cough, jaundice, etc. (Table 3). Dermatology contained the highest number of biomedical terms in the category of ailments, totalling seven, by genitourinary problems six, while skeletal-muscular and gastrointestinal each with five terms. Respiratory diseases, venomous bites, neurological and ear, gum and toothache each three and circulatory system, endocrinal, eye, fever, bleeding, oncological and plantar fasciitis each one. Ghorbani (2005), studied medicinal plants and reported that 48 species of plants were used to treat gastrointestinal disorders in the north of Iran. Previous studies have also indicated that diseases related to the gastrointestinal system and genitourinary tract represent the most dominant category of ailments treated using traditional medicines. These findings suggest a correlation with unhealthy lifestyle choices (Sadeghi & Mahmood 2014, Yaseen *et al.* 2015). Muthu *et al.* (2006), reported that nine plants used to treat dermatological problems in the Irula tribes of the Kancheepuram district.

It was noted that majority of the remedies were composed of individual plant parts and utilized through various methods of preparation. However, numerous remedies incorporated multiple parts of the same plant species to treat one or more ailments. For example, in *Abutilon indicum,* unripe fruit paste is used to cure wound and leaf juice is used to treat piles. In *Azadirachta indica,* leaf paste is used to treat skin diseases, sap from stem bark is used to treat earache and oil from seed is used to treat intestinal worms. Likewise, one species of plant is used for more than one disease. Example, *Aristolochia indica* (indigestion and breathing problem), *Pergularia daemia* (cold and fever), *Acalypha indica* (cold, skin disease, stomach pain and cough), *Phyllanthus amarus* (jaundice and body heat reduction), *Leucas aspera* (diabetes and skin disease), *Mollugo pentaphylla* (scabies and cold), *Solanum trilobatum* (appetizing, cold and cough), *Cissus quadrangularis* (appetizing and cold). Additionally, four plants are employed wound healing, with several others serving various therapeutic functions (Table 4).

Table 3. Biomedical terminology related to various illnesses and specific ailments

Ailment category	**Biomedical terms**	**Tamil terms**
Circulatory system	Anemia	Raththa sokai
Dermatological	Burn wound	Theekkaayam
	Foot crack	Paathavedippu
	Skin disease	Tholnoikal
	Wound	Kaayam
	Scabies	Siranku
	Ringworm	Padarthaamarai
	Dandruff	Poduku
Ear, gums and toothache	Earache	Kaathuvali
	Gum ache	Eeruvali
	Toothache	Palvali
Endocrinal	Diabetes	Sakkara/ Neerilivunoi
Eye	Eye health	Kanvalimai
Fever	Fever	Kaaichal
Gastrointestinal	Indigestion	Ajeeranam
	Stomachache	Vayitruvali
	Intestinal worms	kudal pulukkal
	Amebiasis	Seethapethi
	Appetizing	Pasi thoondutal
Genitourinary	kidney problems	Siruneeraka pirachanai
	Jaundice	Manjalkaamalai
	Abortion waste	Karukalaivu kazhivukal
	Delayed puberty in women	Penkal pooppeithalil kaalathamatham
	Women infertility	Pen mallatuhtammai

	Irregular menses	Olunkarra maathavidaa sularsi
Bleeding	Piles	Moolam
Neurological	Headache	Thalaivali
	Sinus	Thalapaaram
	Body heat reduction	Udal kulirchi
Oncological	Lumps	Katti
Plantar fasciitis	Heel pain	Kuthikaal vali
Venomous bites	Scorpion sting	Thelkadi
	Snakebite	Paambu kadi
	Centipede bite	Pooran kadi
Respiratory	Cold	Sali
	Cough	Irumal
	Breathing problem	Moochu thinaral
Skeletal muscular	Joint pain	Moottuvali
	Body pain	Udal vali
	Rheumatism	Vaathanoi
	Bone fracture	Elumbu murivu
	Bone strengthening	Elumbu balam

Table 4. List of medicinal plants used for illness cited by the herbal practitioners and local people

Biomedical terms	**Number of plants used**	**Name of the plants**
Cold	9	*Justicia adhatoda, Pergularia daemia, Cucumis maderaspatanus, Acalypha indica, Coleus amboinicus, Mollugo pentaphylla, Boerhavia diffusa, Solanum trilobatum, Vitex negundo,*
Diabetes	5	*Gymnema sylvestre, Senna auriculata, Clitoria ternatea, Leucas aspera, Azima tetracantha*
Snake venom	5	*Andrographis paniculata, Rauvolfia tetraphylla, Baccharoides anthelmintica, Corallocarpus epigaeus, Mimosa pudica*
Wound	4	*Tridax procumbens, Abutilon indicum, Azadirachta indica, Ficus racemosa*
Body heat reduction	3	*Cleome viscosa, Hibiscus rosa-sinensis, Phyllanthus amarus*
Cough	3	*Acalypha indica, Coleus amboinicus, Solanum trilobatum*
Ear ache	3	*Azadirachta indica, Dracaena roxburghiana, Borassus flabellifer*
Fever	3	*Carica papaya, Terminalia chebula, Pergularia daemia*
Indigestion	3	*Acorus calamus, Aristolochia indica, Myristica fragrans*
Jaundice	3	*Raphanus raphanistrum, Eclipta prostrata, Phyllanthus amarus*
Joint pain	3	*Delonix elata, Cardiospermum halicacabum, Madhuca longifolia*
Lumps	3	*Crinum bulbispermum, Datura innoxia, Nicotiana tabacum*
Skin disease	3	*Acalypha indica, Leucas aspera, Azadirachta indica*
Anaemia	2	*Trianthema portulacastrum, Moringa oleifera*
Appetizing	2	*Solanum trilobatum, Cissus quadrangularis*
Bone fracture	2	*Ormocarpum cochinchinense, Madhuca longifolia*
Bone strength	2	*Ormocarpum cochinchinense, Cissus quadrangularis*
Breathing problem	2	*Morinda pubescens, Vitex negundo, Azadirachta indica, Aristolochia indica*
Centipede venom	2	*Acorus calamus, Andrographis paniculata*
Headache	2	*Eucalyptus tereticornis, Vitex negundo*
Kidney problems	2	*Trianthema portulacastrum, Ouret lanata*

Biomedical terms	Number of plants used	Name of the plants
Rheumatism	2	*Delonix elata, Azima tetracantha*
Stomach problems	2	*Acalypha indica, Acorus calamus,*
Teeth problems	2	*Jadropha gossypifolia, Solanum virginianum*
Abortion waste	1	*Nigella sativa*
Amebiasis	1	*Mimusops elengi*
Body pain	1	*Clerodendrum phlomidis*
Burn wound	1	*Tamarindus indica*
Gum problems	1	*Jadropha gossypifolia*
Dandruff	1	*Azadirachta indica*
Delayed puberty in women	1	*Cocos nucifera*
Eye health	1	*Alternanthera sessilis*
Women infertility	1	*Melia azedarach*
Foot crack	1	*Lawsonia inermis*
Heel pain	1	*Calotropis gigantea*
Irregular menstruation	1	*Erythrina variegata*
Piles	1	*Abutilon indicum*
Ringworm	1	*Solanum virginianum*
Scabies	1	*Trigastrotheca pentaphylla*
Scorpion stings	1	*Andrographis paniculata*
Sinus	1	*Vitex negundo*
Stomach worms	1	*Azadirachta indica*

Use value of medicinal plants used in Unamancheri

Even though 60 species of plants were used to treat 42 ailments, the use values of the plants varied significantly. Most of the informants cited the same plants used to treat a particular ailment and various plants cited to treat the same illnesses. *Ormocarpum cochinchinense* had the highest use value (0.91), followed by *Morinda pubescens, Vitex negundo, Azadirachta indica* (0.84), *Acalypha indica* (0.82), *Tridax procumbens* (0.77), *Andrographis paniculata* (0.68), *Rauvolfia tetraphylla* (0.64), *Azadirachta indica* (0.59) and followed by others (Table 5). Previous studies (Srividya *et al.* 2018; Nandhini *et al.* 2020; Srinivasan *et al.* 2023) reported that *Ormocarpum cochinchinense* had broad biological activities like anticancer, antibacterial, antioxidant and immuno- histological evidence in animal model studies. The above plant is not common elsewhere around the forests of Chennai, but Vandalur and Unamancheri forests (Mayuranathan 1929). *Acalypha indica* has been shown to effectively manage skin diseases and suppress bacterial growth, as reported globally (Umate et al. 2020, Gantala et al. 2023, Aruna *et al.* 2024).

Table 5. List of medicinal plants and their use value in Unamancheri

Use value	No. of plants	Species name
0.9 to 1.0	1	*Ormocarpum cochinchinense*
0.8 to 0.9	3	*Morinda pubescens, Vitex negundo, Azadirachta indica, Acalypha indica, Cucumis maderaspatanus*
0.7 to 0.8	1	*Tridax procumbens*
0.6 to 0.7	3	*Andrographis paniculata, Rauwolfia tetraphylla, Aristolochia indica*
0.5 to 0.6	1	*Aristolochia indica*
0.4 to 0.5	9	*Aristolochia indica, Calotropis gigantea, Eclipta prostrata, Phyllanthus amarus, Senna auriculata, Coleus amboinicus, Cardiospermum halicacabum, Vitex negundo, Cissus quadrangularis*

0.3 to 0.4	9	*Crinum viviparum, Pergularia daemia, Carica papaya, Abutilon indicum, Melia azedarach, Mimosa pudica, Moringa oleifera, Solanum trilobatum, Solanum virginianum*
0.2 to 0.3	15	*Alternanthera sessilis, Ouret lanata, Borassus flabellifer, Baccharoides anthelmintica, Delonix elata, Tamarindus indica, Dracaena roxburghiana, Erythrina variegata, Leucas aspera, Clerodendrum phlomidis, Lawsonia inermis, Trigastrotheca pentaphylla, Eucalyptus tereticornis, Madhuca longifolia, Nicotiana tabacum*
0.1 to 0.2	16	*Acorus calamus, Trianthema portulacastrum, Gymnema sylvestre, Cleome viscosa, Terminalia chebula, Corallocarpus epigaeus, Jadropha gossypifolia, Clitoria ternatea, Ficus racemosa, Hibiscus rosa-sinensis, Myristica fragrans, Boerhavia diffusa, Nigella sativa, Azima tetracantha, Mimusops elengi, Datura innoxia*
0.0 to 0.1	2	*Cocos nucifera, Raphanus raphanistrum*

Summary and Conclusions

The present study has reported the use of 60 species of locally available plants are used to cure 42 health problems Unamancheri near to Chennai in Chengapattu District, Tamil Nadu. This is the first time a study has been undertaken to understand the availability and use of medicinal plants near a highly urbanized area like Chennai. People utilize medicinal plants to address common health issues such as fever and colds, as well as more serious conditions like bone fractures and snake bites. The majority of medicinal plants are herbs (23) and the part that is utilized is the leaf (33). This indicates their easy availability and sustainability for use. The research clearly demonstrates that various plants can treat specific health problems, for instance, colds can be alleviated by plants like *Justicia adhatoda, Pergularia daemia, Cucumis maderaspatanus, Acalypha indica, Coleus amboinicus, Mollugo pentaphylla, Boerhavia diffusa, Solanum trilobatum* and *Vitex negundo*. Additionally, only one plant *Abutilon indicum*, is noted for treating piles. *Ormocarpum cochinchinense* had highest use value 0.91 followed by other plants. It is observed that older individuals possess a greater knowledge of medicinal plants and their applications compared to younger generations.

Many interesting insights have emerged from the study. While many are indigenous wild plants, introduced plants like *Rauwolfia tetraphylla* is also being used. The use of neem *Azadirachta indica* is widespread in India. There are a few domesticated and cultivated plants that are also used such as *Cocos nucifera, Borassus flabellifer, Carica papaya, Moringa oleifera, Raphanus raphanistrum*, etc. Preserving the knowledge of indigenous communities and their contributions to ethnobotanical practices is crucial for the future discovery of new pharmaceuticals that can enhance human health and save lives. The study has also highlighted the fact that even in highly urbanized landscapes the fragments of vegetation that persist can continue to provide ecosystem services to the people.

Declarations

List of abbreviations: In this manuscript, we did not use abbreviations.

Ethics approval and consent to participate: The study's development adhered to the Biological Diversity Act of 2002. Prior to conducting this study, we thoroughly communicated its purpose and conducted interviews with the participants.

Consent for publication: We obtain the necessary permissions to utilize photos for this manuscript publication.

Availability of data and materials: If someone requires data, we will provide it to the individual who submitted the request.

Competing interests: In the course of this study, we had no competing interests.

Funding: Care Earth Trust.

Author contributions: RR, work designed, data collection, analyzed and wrote the manuscript. NMK, supervised the research work and corrected the manuscript and MV, data collection and plants identification.

Acknowledgements

Our sincere thanks to Care Earth Trust Chairman, Trustees and colleagues for their support and their insightful suggestions during the work. We also thanks to the Unamancheri people for their support throughout the survey.

Literature cited

Adnan M, Tariq A, Mussarat S, Begum S, AbdEIsalam NM, Ullah R. 2015. Ethnogynaecological Assessment of Medicinal Plants in Pashtun's Tribal Society. BioMed Research International 10: 196475. doi: 10.1155/2015/196475.

Aruna P, Sri J, Naveena T, Nithi R, Rengaramanujam J. 2024. Phytochemical Analysis, Antibacterial Activity and Formulation of Herbal Soap Using *Acalypha indica* Leaf Extract. International Journal of Research in Engineering, Science and Management 7(6): 72-74. doi: 10.5281/zenodo.11658988.

Biological Diversity Act 2002 and establishment of National Biodiversity Authority, Chennai.

Broom A, Doron A, Tove P. 2009. The Inequalities of Medicinal Pluralism: Hierarchies of Health, the Politics of Tradition and the Economics of Care in Indian Oncology. Social Science and Medicine 69:698-706. doi: 10.1016/j.socscimed.2009.07.002.

Chinnasamy P, Arumugam R, Ariyan S. 2018. In silico validation of the indigenous knowledge of the herbal medicines among tribal communities in Sathyamangalam wildlife sanctuary. Journal of Traditional and Complementary Medicine 9(2):143-155. doi: 10.1016/j.jtcme.2018.01.008.

Gamble JS, Fischer CEC. 1967. Flora of the Presidency of Madras 3. Botanical Survey of India, Calcutta, India (Repr).

Gantala SR, Kalukuri S, Dommat WG, Volukula V, Gangi S, Saval V, Koppula P. 2023. Therapeutic and Biological Aspects of Leaf Extracts from Indian Copper Leaf Plant (*Acalypha indica*). International Journal of Production Economics 9:150-156. doi: 10.18811/ijpen.v9i02.07.

Ghorbani A. 2005. Studies on pharmaceutical ethnobotany in the region of Turkmen Sahra, north of Iran (Part 1): general results. Journal of Ethnopharmacology 102:58-68. doi: 10.1016/j.jep.2005.05.035.

Hooker JD. 1872-1897.The Flora of British India. London: Reeve & Co.

International Plant Names Index. 2024. Published on the Internet http://www.ipni.org, The Royal Botanic Gardens, Kew, Harvard University Herbaria & Libraries and Australian National Herbarium.

Islam MK, Saha S, Mahmud I, Mohamad K, Awang K, Uddin SJ, Rahman MM, Shilpi JA. 2014. An Ethnobotanical Study of Medicinal Plants Used by Tribal and Native People of Madhupur Forest Area, Bangladesh. Journal of Ethnopharmacology 151: 921-930.

Jaganathan GK, Thanh Hoa TH and Liu BL. 2016. Ethnobotanical Survey of Irular Tribes in Pillur Valley, Coimbatore, Tamil Nadu (India). International Journal of Herbal Medicine.4 (1): 1-11.

Kantasrila R, Pandith H, Balslev H, Wangpakapattanawong P, Panyadee P, Inta A. 2020. Medicinal Plants for Treating Musculoskeletal Disorders among Karen in Thailand. Plants 9(7): 1-28. doi: 10.3390%2Fplants9070811.

Kottaimuthu R. 2008. Ethnobotany of the Valaiyans of Karandamalai, Dindigul District, Tamil Nadu, India. Ethnobotanical Leaflets 12:195-203.

Livingstone C, Henry AN. 1994. The Flowering Plants of Madras City and Its Immediate Neighbourhood. The Commissioner of Museums, Government of Tamil Nadu, Chennai, India.

Matthew KM. 1983. The Flora of Tamil Nadu Carnatic. Part 1-3. The Rapinat Herbarium. St. Joseph College, Tiruchirapalli, India.

Mayuranathan PV. 1929. The flowering plants of Madras and its neighbourhood. Bulletin of the Government Museum. New Series, Government Press Madras, India.

Morvin Yabesh JE, Prabhu S, Vijayakumar S. 2014. An Ethnobotanical Study of Medicinal Plants Used by Traditional Healers in Silent Valley of Kerala, India. Journal of Ethnopharmacology 154(3):774-789. doi: 10.1016/j.jep.2014.05.004.

Muthu C, Ayyanar M, Raja N, Ignacimuthu S. 2006. Medicinal Plants Used by Traditional Healers in Kancheepuram District of Tamil Nadu. India. Journal of Ethnobiology and Ethnomedicine. 2 (43). doi: 10.1186/1746-4269-2.

Nandhini G, Anbumalarmathi J, Madhumitha KM, Shanmuga Priya GA. 2020. Comparative Study between Plant and Callus Extracts: Analysis of Phytochemical, Antioxidant, Antibacterial and Anticancer Properties of *Ormocarpum sennoides* (Willd.) DC. International Journal of Scientific Research in Biological Sciences. 7(1):95-103.

Narasimhan D, Irwin SJ. 2021. Flowering Plants of Tamilnadu - a Compendium. Care Earth Trust, Chennai, India.

Plants of the World Online. 2024. Facilitated by the Royal Botanic Gardens, Kew. Published on the Internet; https://powo.science.kew.org/

Prabhu S, Vijayakumar S, Morvin Yabesh JE, Prakashbabu R, Murugan R. 2021. An Ethnobotanical Study of Medicinal Plants Used in Pachamalai Hills of Tamil Nadu, India. Journal of Herbal Medicine 25 (28). doi: 10.1016/j.hermed.2020.100400.

Prabhu S, Vijayakumar S, Morvin Yabesh JE, Ravichandran K, Sakthivel B. 2014. Documentation and Quantitative Analysis of the Local Knowledge on Medicinal Plants in Kalrayan Hills of Villupuram District, Tamil Nadu, India. Journal of Ethnopharmacology 157: 7-20. doi: 10.1016/j.jep.2014.09.014.

Rajeswari R, Murugesh S. 2019. Ethnogynaecological Disorders of Medicinal Plants Used by Tribal People in Gedamalai, Namakkal District, Southern Eastern Ghats, Tamilnadu. International Journal of Pharmaceutical Sciences and Research 10 (12):5559-5564. doi: 10.13040/IJPSR.0975-8232.10(12).5559-64.

Sadeghi Z, Mahmood A. 2014. Ethno-gynecological knowledge of medicinal plants used by Baluch tribes, southeast of Baluchistan, Iran. Revista Brasileira de Farmacognosia 24(6):706-715. doi: 10.1016/j.bjp.2014.11.006

Srinivasan, Bhuvaneswari C, Krishnan, Radhika. 2023. Immuno Histological Evidence of *Ormocarpum sennoides* DC Extract in the Expression of Bax and Bcl2 in Wister Rats with Glucocorticoid induced Osteoporosis. Journal of the Anatomical Society of India 72(2): 93-97. doi: 10.4103/jasi.jasi_19_22.

Srividya S, Sridevi G, Kumar BS, Sastry TP. 2018. Fabrication, characterization and osseointegration of bonegraft incorporated with leaf extracts of *Ormocarpum sennoides* and biocompatible polymers". Biocatalysis and Agricultural Biotechnology 15:92-102. doi: 10.1016/j.bcab.2018.05.004

APG III 2009. An update of the Angiosperm Phylogeny Group Classification for the Orders and Families of Flowering Plants: APG III. Botanical Journal of the Linnean Society 161: 105-121. doi: 10.1111/j.1095-8339.2009.00996.x.

Tamilvannan MV, Kadirvelmurugan V, Ravikumar S. 2016. Ethnobotanical Survey of Gudiyum Forests, Thiruvallure District, Tamilnadu, India. International Journal of Ethnobiology and Ethnomedicine 2(1): 1-9. http://dx.doi.org/10.13140/RG.2.2.19933.61923.

Ullah A, Qureshi R, Iqbal Z, Rahman IU, Ali N, Shah M, Afzal A, Ijaz F, Ullah S, Raza A. 2019. Ethnomedicinal Flora of Frontier Region Tank, Fata, Pakistan. Acta Ecologica Sinica 39(4):321-327.

Umate SK, Marathe VR, Pawar PV. 2020. Evaluation of Charu Prepared from *Acalypha indica* L- an Important Medicinal Plant of Traditional Siddha System Useful in Treating Skin Diseases. Advances in Zoology and Botany 8(3):116-121. doi: 10.13189/azb.2020.080306.

Usha S, Rajasekaran C, Siva R. 2016. Ethnoveterinary medicine of the Shervaroy hills of Eastern Ghats, India as alternative medicine for animals. Journal of Traditional and Complementary Medicine 6(1):118-125.

Veena N, Sumit A, Singh RRB, Antariksh K, Subha R, Rawat AKS. 2015. Effect of *Asparagus racemosus* (Shatavari) Extract on Physicochemical and Functional Properties of Milk and Its Interaction with Milk Protein'. Journal of Food Science and Technology 52(2): 1176-81. doi: 10.1007/s13197-013-1073-0.

Vijayakumar S, Harikrishnan JP, Prabhu S, Yabesh JM, Manogar P. 2016. Quantitative ethnobotanical survey of traditional Siddha medical practitioners from Thiruvarur District with hepatoprotective potentials through In Silico methods. Achieve Life Sciences 10(1):11-26. doi: 10.1016/j.als.2016.03.001.

Vijayakumar S, Morvin Yabesh JE, Prabhu S, Manikandan R, Muralidharan B. 2015. Quantitative Ethno Medicinal Study of Plants Used in the Nelliyampathy Hills of Kerala, India. Journal of Ethnopharmacology 161: 238-254. doi: 10.1016/j.jep.2014.12.006.

WHO: Traditional Medicine, Fact Sheet; 2008. ⟨http:/www.who.int/mediacentre/ factsheets/fs134/en/⟩.

Yaseen G, Ahmad M, Sultana S, Alharrasi AS, Hussain J, Zafar M. 2015. Ethnobotany of medicinal plants in the thar Desert (Sindh) of Pakistan. Journal of Ethnopharmacology 163:43-59. doi: 10.1016/j.jep.2014.12.053.

Zheng Xl, Xing FW. 2009. Ethnobotanical study on medicinal plants around Mt. Yinggeling, Hainan Island,China. Journal of Ethnopharmacology 124: 197210. doi: 10.1016/j.jep.2009.04.042PMID:19409476.