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**Ethnomedicinal Plants for Indigestion in Uthiramerur Taluk,  
Kancheepuram District, Tamilnadu, India**

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**ABSTRACT**

*Uthiramerur taluk is a panchayat town in Kancheepuram district in the Indian state of Tamil Nadu . Ethanomedicinal field study reveals that the local caste and communities in Uthiramerur Taluk such as, irulan, narikuraver, vathiyas, mudhalyar and vaniyars practice the herbal medicine, extensively. A total of 8 plant species belonging to 8genera and 8 families were used to treat indigestion problems. are used by rural people in the treatment of indigestion specifically. The medicinal plants are listed alphabetically by the botanical name of plant species, family, followed by local name( in Tamil), plant part used, mode of utilization chemical constituents isolated and biological activities reported.*

**Key words:** Uthiramerur taluk, Ethno medicine and indigestion.

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**INTRODUCTION**

The interest in bio-dynamic phytotherapy has been increased many fold all over the world because of reasonably safe and affordable remedies for many diseased conditions. In developing countries like India, the indigenous systems of medicine together with folklore medicine continue to play a significant role in the health care system of the population. During the past few decades, there has been renewed attention<sup>1</sup> and interest in the use of traditional medicine globally<sup>[1]</sup> . The apex body like World Health Organization (WHO) has recognized traditional medicine as an important contributor to achieve its health goals set so for. As per WHO estimates as many as 80% of the world's population is still dependant on traditional medicine. In developing countries like India, 65% of the population in the rural areas uses traditional form of medicine to meet their

primary health care needs<sup>[2]</sup>. Moreover, traditional medicine practices, conserved over decades from old civilizations, can serve as an effective basis for the discovery and development of modern therapeutic drugs.

From the literature survey<sup>[3-20]</sup>, reports on ethno botanical knowledge in Tamil Nadu state are restricted to certain areas for various purposes. There are no previous reports on the documentation of knowledge of utilization of medicinal plants from Uthiramerur Taluk of Tamil Nadu state, India. Hence, an attempt was made to collect and document the ethno-medicinal knowledgespecifically for indigestion from local herbal practitioners and knowledgeable people residing in the villages of Uthiramerur Taluk.

### EXPERIMENTAL SECTION

Uthiramerur is a panchayat town in Kancheepuram district in the Indian state of Tamil Nadu ( Figure 1). Uthiramerur is situated on the northern East Coast of Tamil Nadu and is adjacent by Bay of Bengal and Chennai town and is bounded in the west by Vellore and Thiruvannamalai district, in the north by Thiruvallur district and Chennai district, in the south by Viluppuram district in the east by Bay of Bengal. Uthiramerur as a total geographical area of 416.35sq.km. It lies between 11° 00' to 12° 00' North latitudes and 77° 28' to 78° 50' East longitudes. This town flat with small hills in Chengalpattu and Maduranthakam Taluks. The climate is normal during winter but very hot in summer. The Maximum and minimum temperature is 37.6' C and 21.4' C respectively. The town depends on the South-West and North-East Monsoons for rainfall. As of 2001 India Uthiramerur had a population of 23,653. Males constitute 50% of the population and females 50%. Uthiramerur has an average literacy rate of 67%, higher than the national average of 59.5%: male literacy is 76%, and female literacy is 59%. In Uthiramerur, 11% of the population is under 6 years of age.



Figure 1: Location Map of Study Area

#### Method of Survey:

Frequent field surveys were conducted in 11 randomly selected villages namely, Elanagar, Arasanimangalam, Athiyour, Melthuli, Karuveppam Poondi, Manammathy, Kunnavakkam, Pazhaveri, Pennalour, Ravathanallur and Rettaimangalam during Oct 2009 to May 2010. Ethno-medicinal information on medicinal plants was recorded through interviews, discussion and field observation with herbal healers and knowledgeable elder people ( Figure 2 ) of the study area using a semi-structured questionnaire (Form: 1). Since most of the herb healers are illiterates, the respondent's consent was sought and obtained. Also, the objective of survey was clearly explained. Out of 15, 11 were male and 4 female respondents under the age groups of 45 to 68 years. The ethno-medicinal information obtained was confirmed by cross-checking with respondents and also with the former patients residing in the same or neighboring villages of the

study area. The ethno medicinal plants were not collected from the study area, but photographs were taken without damage to them and identified using the standard floras, text books and already identified specimen<sup>[21-27]</sup>. A detailed literature survey was conducted to obtain information of earlier reports of phytochemical and pharmacological data on these plants<sup>[22-25]</sup>.



Figure 2: Investigator interacting with Narikuravar for their herbal medicine in study area

### Form 1 –Questionnaire on Medicinal plants used by the local communities of Uthiramerur Taluk For indigestion

**Traditional medicine survey project, Department of Pharmaceutical Chemistry,  
Adhiparasakthi College of Pharmacy, Melmaruvathur  
(One form should be completed for each plant)**

1. Name: \_\_\_\_\_
2. Sex: \_\_\_\_\_
3. Age: \_\_\_\_\_
4. Address: \_\_\_\_\_
5. Occupation: \_\_\_\_\_
6. Date: \_\_\_\_\_
7. Collection No: \_\_\_\_\_
8. Taxon: \_\_\_\_\_
9. Community : \_\_\_\_\_
10. Botanical name: \_\_\_\_\_
11. Family: \_\_\_\_\_
12. Locality(specific): \_\_\_\_\_
13. Habitat: Tree: Monocot \_\_\_\_\_ Dicot: \_\_\_\_\_
14. Height: \_\_\_\_\_ Diameter: \_\_\_\_\_
15. Bark characteristics: \_\_\_\_\_
16. Smell: \_\_\_\_\_
17. Latex: Present \_\_\_\_\_ Absent: \_\_\_\_\_ Colour: \_\_\_\_\_
18. Tree parts used in medicine  
Root: \_\_\_\_\_ Stem: \_\_\_\_\_ Twig: \_\_\_\_\_ Root bark: \_\_\_\_\_ Stem bark: \_\_\_\_\_  
Flower: \_\_\_\_\_ Fruit: \_\_\_\_\_ Seed: \_\_\_\_\_
19. How a plant is used: Fresh: \_\_\_\_\_ Dried: \_\_\_\_\_ Boiled: \_\_\_\_\_
20. Other plant or tree ingredient added to it \_\_\_\_\_
21. Method (s) of preparation for use: Powdered: \_\_\_\_\_ Extracted with cold water: \_\_\_\_\_  
With hot water: \_\_\_\_\_ Boiled: \_\_\_\_\_ Extracted with local gin: \_\_\_\_\_ Any other: \_\_\_\_\_
22. Mode of administration: \_\_\_\_\_
23. Dosage: \_\_\_\_\_
24. Source of collection of herb: \_\_\_\_\_
25. Any other comment -----

To develop a good rapport with them and to gain the confidence of the healers and headmen, a task which is often difficult to accomplish, as the healers usually keep their knowledge a secret and are unwilling to reveal it to outsiders, eatables, money and cool drinks were offered to them, which were accepted. During the survey, it was easier to approach the healer individually in private, as they were willing to reveal easily their traditional plant- rather than when they are in large groups.

## RESULTS AND DISCUSSION

Local caste and communities in Uthiramerur Taluk such as, *irulan*, *narikuraver*, *vathiyas*, *mudhalyar* and *vaniyars* practice the herbal medicine, extensively. Ethno-medico-botanical information gathered from herbal practitioners and experienced people of the study area is arranged alphabetically by the botanical name of plant species, family followed by local name (in Tamil), plant part used, mode of usage, chemical constituents isolated and biological activities reported. Perhaps this is the first hand investigation of medicinal plants for indigestion among the local communities of Uthiramerur Taluk of Kancheepuram District.

In the study area, 8 plant species of 8 genera and 8 families were used to treat indigestion problems. For the herbal formulation, leaves (3) were the most preferred plant part, followed by stem bark (1), root bark (1), root (1), seed (1) and stem (1). Among the drug formulations, powder (1), paste (1), juice (4), decoction (1), and raw material (1) are used. Dried plant materials were used only upon the non-availability of fresh plant parts. Recommendation of the dosage and duration of the herbal drug depended on the age of the patient and severity of illness. The rural people of the study area prefer to use single plant species for indigestion rather than combination of plants. Sometimes, a single species is used to cure more than one disease. Preservation was indicated as a serious problem especially in the rainy season. The medicine men collect the plants needed particular application, either directly from the forest or from the local shop. Generally medicinal plant parts are collected by the males and prepared by the females. They worship the goddess kalamman. The photographs of some very important medicinal plants have been appended (Figure 3). Literature survey showed that the chemical constituents and pharmacological actions of the most the species are already known to some extent.



*Capparis zeylanica*



*Cissus quadrangularis*

*Clitoria ternatea**Morinda tinctoria**Moringa oleifera**Polyalthia longifolia**Wrightia tinctoria**Coleus aromaticus***Figure:3. Photographs of Medicinal plants in study area****Enumeration:**

1. Botanical name-*Wrightia tinctoria* (Roxb.) R.Br.

local name-*Veppalai*

Family-Apocynaceae

Mode of use -Juice of seeds taken orally to treat indigestion

Chemical constituents -  $\beta$ -amyrin, myristic acid, oleic acid, linoleic acid & arachidic acid.

Biological activity reported- Postcoital interceptive activity.

2. Botanical name-*Polyalthia longifolia* (Sonn.)

Local name-*Nettilingam*

Family-Annonaceae

Mode of use - Juice extracted from the fresh stem bark is taken orally to treat indigestion

Chemical constituents- Rutin, quercitrin, hyperoside &  $\beta$ -sitosterol

Biological activity reported - Anti-ulcer activity.

3. Botanical name-*Moringa oleifera* Lam.

Local name-*Murangai*

Family-Moringaceae

Mode of use -The leaf is taken as food and it reduces body heat and to treat indigestion

Chemical constituents- vanillin,  $\beta$ -sitosterol, morigine, moriginine & caroteen

Biological activity reported- Hypocholesterolemic and antitumor promoter.

4. Botanical name-*Morinda tinctoria* Roxb.

Local name-*Nuna, Manjanathi*

Family-Rubiaceae

Mode of use - Leaf juice is given orally to children before food for easy digestion

Chemical constituents- D-galactosamine, & alkaloids

Biological activity reported - Anti-microbial and anti-inflammatory activity.

5. Botanical name-*Coleus aromaticus* Benth.

Local name-*Karpuravalli*

Family-Lamiaceae

Mode of use -Leaf juice is taken orally by children to treat indigestion.

Chemical constituents-Thymol(41.3%), cineol(13.25%), carvacrol(5.45%), eugenol(4.4%), and caryophyllene(4.2%)

Biological activity reported- Antioxidant, Anticlastogenic and Radio protective activity.

6. Botanical name-*Clitoria ternatea* L.

Local name-*Sangupushpam*

Family-Fabaceae

Mode of use -Root powder is mixed with water and taken orally to treat indigestion. Chemical constituents-  $\gamma$ -lactone, aparajitin,  $\alpha$ -sitosterol,& anthoxanthin

Biological activity reported- Cytotoxic activity.

7. Botanical name-*Cissus quadrangularis* L.

Local name -*Pirandai*

Family-Vitaceae

Mode of use -Paste of stem is taken orally for easy digestion.

Chemical constituents-  $\alpha$ -amyrin,  $\alpha$ -amyrone, vit-c,  $\beta$ -sitosterol

Biological activity reported - Bone-healing activity.

8. Botanical name-*Capparis zeylanica* L.

Local name-*Kathotti*

Family-Capparaceae

Mode of use- Root bark is ground with water, boiled and taken orally to treat indigestion.

Chemical constituents- 2-stachydrine, rutin &  $\beta$ -sitosterol

Biological activity reported- Antipyretic activity.

Plants are the principal source of raw material for the plant- based medicine since ancient times. Of late, the traditional herbal medicine is receiving great importance in health care sector, the

world over. Each and every tribal / ethnic community has its own system of traditional medicine and they utilize natural resources around their habitats for various medicinal purposes. This traditional knowledge is handed down orally from one generation to the other through oral and written methods<sup>[28]</sup>. In India, a large section of the rural population living far away from urban areas still rely on traditional herbal medicine for their healthcare needs. This is because of the lack of primary healthcare centers and transportation facilities. Besides, medicinal plants are easily available natural products, easily formulatable and cost-effective with negligible or no side effects<sup>[29]</sup>. Urbanization and developmental activities have resulted in the decline of interest in traditional culture as well as natural vegetation in India.

The traditional knowledge documented so far in the present communication will help in preparation of action plan for the development of herbal drug industry and to boost up tribal and rural economy of this region. Since several bioactive compounds are being extracted from traditional medicinal plants, they are in great demand in pharmaceutical industries. The phytochemical analysis and pharmacological investigation of ethnomedicinally important plants would help in developing novel drug(s) to treat chronic ailments.

It has also been observed that the traditional knowledge on medicinal plants is disappearing first among the younger generation mainly due to the fact that the pertinent knowledge is not properly passed on to them by knowledgeable elderly persons. Consequently, there is an urgent need to record and preserve all information on plants used by different ethnic or tribal communities for various purposes before it is completely lost.

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