Ethnomedical Value of Plants in Nagapattinam District of Tamil Nadu, India

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ABSTRACT

The present survey was undertaken to explore the traditional knowledge of plant species found in four villages (Athamangalam, Vadukkuveli, Thalainayar and Perumangalam) in Sirkali taluk of Nagapattinam district, Tamil Nadu state. The ethnomedicinal information was collected through oral interviews to village elders and vaidyas (those who cure disease by traditional methods) of the rural areas of this district. The knowledge available to the rural population of the area is transmitted only through oral language from generation to generation over time and therefore it needs to be recorded in order to be preserved. Medicinal plants are listed by botanical name, family name, local name, plant parts used and mode of preparation and the names of the diseases cured. About 50 plant species belonging to 27 families were described as effective herbal drugs for various ailments. The documented ethnobotanical uses of plants mostly related to the treatment in curing stomach pain, breast pain, headache, bleeding, yellow fever, muscle pain and blood purifier.

**Keyword:** Ethnomedicine; traditional medicine; Athamangalam; Nagapattinam and Tamilnadu

1. INTRODUCTION

The term ethnobotany was first coined by an American botanist, John Harshburger (1896), to study the plants used by the primitive and aboriginal people. Since then it has been defined as the traditional knowledge on indigenous communities, about surrounding plant diversity and as the study of how the people of particular culture and region make use of indigenous plants. Ethnobotany has its roots in Botany. Botany in turn originates in part from an interest in finding plants to help fight illness. In fact, medicine and botany have close ties. Many of today’s drugs have been derived from plant resources.

Ethnobotany deals with the people of a particular culture and regions makes the use of indigenous plant while the ethnobotanist explores how plants are used for food, shelter, medicine, clothing, hunting and religious ceremonies. It is the relationship between a given society and its environment and in particular the plant world (Aumeeruddy, 1996).

The traditional knowledge of medicinal plants in India is enormous since many centuries based on different practical measures. It has been reported that traditional healers used more than 3000 plant species. Medicinal plants are considered to be the basic health care of rural households from the ancient days. A large number of medicinal plants are uninvestigated. The medicinal products from plants also have great interest in the process of
drug discovery. Their vast diversity of plants in nature permits the identifications of molecules for the development of new therapeutic agents as well as biochemical and molecular mechanism of action involved in most physiological and pathological process. The medicinal properties of a plant depend upon the presence of certain chemical constituents. These chemical constituents seem to be responsible for curing disease. This chemical constituent have to be isolated, purified and identified as definite chemical compounds (Kumar and Chaturvedi, 2010).

The urbanization and industrialization lead to reduction in nature heritage, including the ethnic medicines of the Indian sub-continent. Only few of the ethnic groups in our country still retain their knowledge on the uses of medicinal plants, which are growing naturally in forests. From the literature survey, it is understood that the information available regarding the study of traditional medicines in Nagapattinam district of Tamilnadu is meager.

The rural communities, ethnic groups and folklore throughout the world are utilizing plant parts like root, stem, leaf, bark, flowers and fruits in various ways for the treatment of various ailments. An attempt has been made to record ethnomedicinally important plants and their useful parts. These plants have been successfully used in the different systems of medicines like Siddha, Ayurveda, Unani, Homeopathic and other. One of the major problems with this herbal formulation is that the active ingredients are not well defined. It is important to know the active component and their molecular interaction, which will help to analyze therapeutic efficacy of the product and also to standardize the product (Jayaprasad et al., 2011).

2. STUDY AREA

The district of Nagapattinam lies on the shores of the Bay of Bengal between Northern Latitude 10° 46’ degrees and 79° 49’ degrees Eastern Longitude an area of 2716 km², which has a lot of herbs, shrubs and trees of important medicinal values.

3. METHODOLOGY

The present study was carried out during 2012 to 2013 to collect data on traditional uses of medicinal plants used in the preparation of crude herbal drugs by the rural area people living in Sirkali taluk of Nagapattinam district. During this surveys personal interview were conducted with the village dwellers, the herbal medicine practioners and other traditional healers. Each of the plant material was assigned field book number and documented as to family, scientific name, vernacular name (Tamil), part used and medicinal uses, Plant parts that were identified as having use in ethnobotany were collected and Recorded.

4. RESULTS AND DISCUSSION

In the present investigation, we recorded around 50 species belonging 27 families used as herbal medicine for the treatment of various disease like Asthma, rheumatism, diarrhea, filariasis, diabetes, and yellow fever, and other. These have been successfully used in the
different systems of medicines like Siddha, Ayurveda, Unani, Homeopathic and others. They utilize different parts of plants like roots, stem, leaf, bark, flower and fruits in various ways for the treatment of various ailments since ancient time. Some parts of the plants were taken internally in the form of powders, decoction and infusion. Some are made into paste and applied externally. The specific use of these herbal medicines depends upon the nature of diseases to be treated. The medicinal plants collected from the study area are listed below as the botanical name of the species. Family, vernacular name, plant organ used and mode of uses.

| S. No | Botanical name                  | Family     | Local name | Habits | Part used | Treatment                                                                 |
|-------|---------------------------------|------------|------------|--------|-----------|--------------------------------------------------------------------------|
| 1     | *Abutilon indicum* L.           | Malvaceae  | Thuthi     | Herb   | Root      | Root extract is taken orally twice a day for two weeks to cure piles.    |
| 2     | *Acalypha indica* Linn.         | Euphorbiaceae | Kuppaimeani | Herb   | Leaves    | Leaf paste is applied twice a day for 1 week to cure bronchitis.        |
| 3     | *Achyranthes aspera* Linn.      | Amaranthaceae | Nauruvi    | Herb   | Leaves    | Leaf paste with onion paste is applied external on the bitten site of dog and to cure skin diseases. |
| 4     | *Acorus calamus* (Linn).        | Acoraceae  | Vasambu    | Herb   | Rhizome   | As sedative, cancer, pneumonia.                                          |
| 5     | *Adhatoda vasica* Nees.         | Acanthaceae | Adhatoda   | Shrub   | Leaves and seed | Leaves are used as aromatic, antiarthritis, antispasmodic, bronchiodilator, diuretic and sedative. Poultice of seed application is best to cure inflammation, new wounds and rheumatic pains. |
| 6     | *Aegle marmelos* Corv.          | Rutaceae   | Vilvam     | Tree    | Roots, leaves, unripe fruits and ripe fruits | Various parts of plant are used to relieve thirst, stomach pain, night fever, breast pain. Fruit decoction used for treatment of intestinal diseases. |
| 7     | *Aerva lanata* (L.) Juss.       | Amaranthaceae | Sirukanpeelai | Herb   | Roots and flowers | Decoction of root and flower are used to treat kidney stone. |
| 8     | *Alternanthera sessilis* DC.    | Amaranthaceae | Ponnaanganni | Herb   | Leaves    | Leaf is cooked and eaten with normal diet for 20-30 days to cure night blindness. |
| 9     | *Andrographis paniculate* (Burm.F.) | Acanthaceae | Nilavembu  | Herb   | Leaves    | The leaves are used as chiken guinea, Swine flu and Typhoid.             |
| 10    | *Annona squamosa* L.           | Annonaceae  | Seetha     | Tree    | Leaves, bark | Whole plant is used to inhibit HIV replication. |
| No. | Species | Family | Habit | Part(s) Used | Uses |
|-----|---------|--------|-------|-------------|------|
| 11  | *Azadiracta indica* A. JUSS. | Meliaceae | Tree | Flowers | Flowers boiled in gingili oil are applied on head against dandruff once days in the morning after taking bathing. |
| 12  | *Calotropis gigantean* R. Cr. | Asclepiadaceae | Shrub | Roots and flowers | Juice from the plant is used to cure piles. Root bark is made into a paste and applied to treat elephantiasis. Flower decoctions are good digestive and also cure stomach ache. |
| 13  | *Cardiospermum halicacabum* L. | Sapindaceae | Climber | Leaves and whole plant | Leaf juices are taken internally to treat diabetes. They inhaling leaf juice relieves head ache. |
| 14  | *Cassia auriculate* Linn. | Caesalpiniaceae | Shrub | Roots | 30 mL of the boiled water extract of the roots is taken twice a day for a period of one month to treat diabetes. |
| 15  | *Cathranthus roseas* L. | Apocynaceae | Shrub | Leaves and Roots | Leaf and root juices are used daily two times to cure diabetes. |
| 16  | *Centella asiatica* (L.) Urban. | Umbelliferae | Herb | Leaves | Extract from the leaves and whole plant are taken internally for improving memory capacity and also used externally to cure head ache. |
| 17  | *Clitoria ternatea* L. | Fabaceae | Climber | Leaves | Fresh leaf paste with the paste of pepper (*Piper nigrum*) is applied on swelling of legs. |
| 18  | *Cleome viscosa* L. | Capparidaceae | Herb | Leaves | Leaves paste is applied for inflammations. |
| 19  | *Coccinia indica* L. | Cucurbitaceae | Climber | Leaves | Leaves juice is taken orally twice a day for 2 days to cure fever. |
| 20  | *Curcuma aromatic* Salisb. | Zingiberaceae | Herb | Rhizome | Dried rhizome is used against various skin diseases. |
| 21  | *Cynodon dactylon* (Linn) Pers. | Poaceae | Perennial grass | Leaves | Pounded leaves boiled coconut oil is applied once a day till the cure various type of skin diseases. |
| 22  | *Cyperus rotundus* Linn. | Cyperaceae | Shrub | Root | Decoction from the root is useful to treat intestinal problems, stomach pain. Root pastes are applied to cure wounds sores etc. |
| No. | Scientific Name                          | Family     | Local Name        | Type       | Parts Used | Uses                                                                 |
|-----|-----------------------------------------|------------|-------------------|------------|------------|----------------------------------------------------------------------|
| 23  | *Datura metal* Linn.                    | Solanaceae | Ummattai          | Shrub      | Leaves     | Dried leaf powder is smoked as cigarette twice a day for 2 – 3 weeks to get relief from asthma. |
| 24  | *Eclipta alba* Hossak.                  | Asteraceae | Karisalaganni     | Herb       | Leaves     | Leaf juice boiled with coconut oil is used for luxuriant black hair. Extract from the leaves cure skin diseases by external application. |
| 25  | *Emblica officinalis* Gaertn.           | Euphorbiaceae | Nellikka        | Tree       | Root, bark, leaves and fruits | Root and bark is astringent, decoctions from leaves are useful for ulcers are useful for ulcers in mouth. Fruits are used for laxative and purgative and also for abundant growth of hair. |
| 26  | *Euphorbia hirta* L.                    | Euphorbiaceae | Amman Pacharisi  | Herb       | Latex      | Juice from the plant is given to treat dysentery and colic, latex is applied to cure warts. |
| 27  | *Ficus benghalensis* Linn.              | Moraceae   | Alamaram         | Tree       | Stem, bark and root | The decoction obtained is taken once a day for a period of six weeks to treat diabetes. |
| 28  | *Gymnema sylvestre* (Retz.) Schult.     | Asclepiadaceae | Sirukurunjha    | Herb       | Leaves and roots | In diabetes, digestive, liver tonic and cardio tonic. |
| 29  | *Hemidesmus indicus* R. Br.             | Asclepiadaceae | Nannari        | Herb       | Root       | Roots are made into a paste and applied externally to cure various skin diseases. Decoction from the root as a good blood purifier and also cure stomach ache. |
| 30  | *Hibiscus rosa sinensis* Linn.          | Malvaceae  | Sembaruthi       | Shrub      | Flower and Leaves | Decoction of petals given for bronchial catarrh and also to strengthen the heart. Leaf juice is given for blackening the hair. |
| 31  | *Hyptis suaveolens* (L.) Poit           | Lamiaceae  | Mint weed        | Shrub      | Whole plant | Wound healing, cough and chest pains, Ringworm and cosmetics. |
| 32  | *Ipomoea aquatic* Forsskal.            | Convolvulaceae | Veelaikkeerai   | Terrestrial Climber | Flower | Flower juice is applied once daily in early morning around the eye to cure black ring around the eye. |
| 33  | *Landana camera* Linn.                 | Verbanaceae | Unichedi         | Shrub      | Leaves     | Leaf paste is applied topically to treat wounds healings. |
| No. | Scientific Name                  | Family          | Common Name   | Part Used                          | Description                                                                                         |
|-----|---------------------------------|-----------------|---------------|-----------------------------------|-----------------------------------------------------------------------------------------------------|
| 34  | Leucas aspera Spreng            | Lamiaceae       | Thumbai       | Herb                              | Juice from the leaves is applied in the affected part to cure psoriasis; flower dot decoction is used to treat cold. The whole plant decoction is used to treat worm’s induced effects. |
| 35  | Madhuca longifolia (Koenig)     | Sapotaceae      | Eluppai       | Tree                              | Pounded seeds mixed with leaf extract of Ocimum tenuiflorum are applied on the affected parts twice a day to cure skin diseases. |
| 36  | Mimosa pudica L.                | Mimosaceae      | Thotta sinungi | Herb                              | Decoction of root is taken orally once a day for one week to get relief from urinary complaints.       |
| 37  | Momordica charantia Linn.       | Cucurbitaceae   | Pagarkai      | Climber                           | 30 ml of the juice prepared from few fresh fruits and few fresh leaves with pieces of the stem bark of Syzygium cumini is taken once a day to treat diabetes. |
| 38  | Murraya koenigii L.             | Rutaceae        | Karuveppilai  | Shrub                             | Juice taken tender leaves is taken orally to arrest vomiting.                                       |
| 39  | Ocimum basilicum L.             | Lamiaceae       | Thirunitu pacchilai | Herb                     | 5 – 10 leaves are eaten as raw twice day for cough and cold.                                           |
| 40  | Ocimum canum Sims.              | Lamiaceae       | Nai thulasi   | Herb                              | Leaf juice is taken orally twice a day for 2 days to cure cough, cold and fever.                      |
| 41  | Ocimum sanctum L.               | Lamiaceae       | Thulasi       | Leaves                            | Fruit decoction is given to drink with 50 – 100 ml of hot water twice a day for 2 – 3 days to cure diarrhea. |
| 42  | Pedalium murex L.               | Pedaliaceae     | Yaanai nerungil | Herb                              | Whole plant decoction use to treat diabetes, and also used to cure cough and chest pain. The plant extract are used externally to treat wounds. |
| 43  | Phyllanthus amarus Schum and Thonn. | Euphorbiaceae | Kizhanelli   | Herb                              | One teaspoon of the blend made by grinding some shade dried leaves and few shade dried leaves of Phyllanthus amarus (Kizhanelli) is taken with ghee thrice a day for one week to treat |
### 5. CONCLUSION

Herbal medicine is the best and cost effective medicine in curing of many diseases. It cures many diseases which are not cured by other system of medicines like, western medicines. The elders of this area are using number of medicines of plant origin. The information may be useful in the field of ethnobotany. Some of these plants were traditionally used and very few active constituent chemical compounds have been isolates and identified. This article may give rise a new pathway for researcher who works in the field of ethno medicine to isolate the active compound for particular diseases.

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