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**Research Article – Traditional Medicine**

# Traditional uses of medicinal plants for the treatment of skin diseases in Thottiyam Taluk, Tiruchy District, Tamil Nadu

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## Abstract

Medicinal plants played an important role in the healthcare of people around the world for several thousand years. The traditional medical systems are generally based on the uses of natural and local medicinal plants which are commonly related to the people's perspective.Poverty, ignorance and non-availability of modern health facilities necessitate that to continue the practice traditional medicines for their common day ailments. Skin diseases have always been associated with a specific relation with the quality of patient's daily life and personal hygiene. For the present study, a total number of 70 plants belonging different family are reported that are used by the traditional healers to treat skin disease in Thottiyam Taluk, Tiruchirappalli District.

*Key words:* Ethnobotany, Medicinal Plants, Skin Disease and Thottiyam Taluk

## Introduction

Medicinal plants an important role in the healthcare of people around the world, especially in developing countries. World Health Organisation (WHO) also estimates that about 80% of the population in developing countries still use traditional medicines for treating human diseases. The traditional, indigenous, folklore knowledge of medicinal plants has been accumulated in the course of many centuries based on different medicinal systems. These traditional medical systems are generally based on the uses of natural and local products which are commonly related to the people's perspective on the world and life (Toledo *et al*., 2009).

In the traditional system many parts of the medicinal plants are used including, bark, flower, fruit, latex, leave, rhizome, root, seed, stem and whole plant etc.,. These plant parts are helped in curing diseases related to skin problems, cold, fever, cough, headache, diarrhoea, fertility problems, toothache, stomach ache, wounds, diabetes, rheumatism, asthma, dysentery, small pox, bone fractures, earache and hair loss. Singh *et al.* (2003) described that Primitive societies have depended on herbal remedies for the treatment and disorders since time immemorial.

In India, traditional healers also believed that ethnomedicine is a part of culture. Traditional medicine has tremendous contemporary relevance because it can ensure both health security to millions of people and also provide new arid safe herbal drugs to the human beings. During the last few decades there has been an increasing interest in the study of traditional use of medicinal plants in different parts G. Watt (1889). An ethnobotanical study in various parts of Tiruchirappalli District was carried out earlier by several research scholars. A perusal of the available literature reveals that information on the comprehensive survey, documentation and enumeration of medicinal plants by the indigenous people in the Thottiyam Taluk, Tiruchirappalli District is meagure and there is no such a

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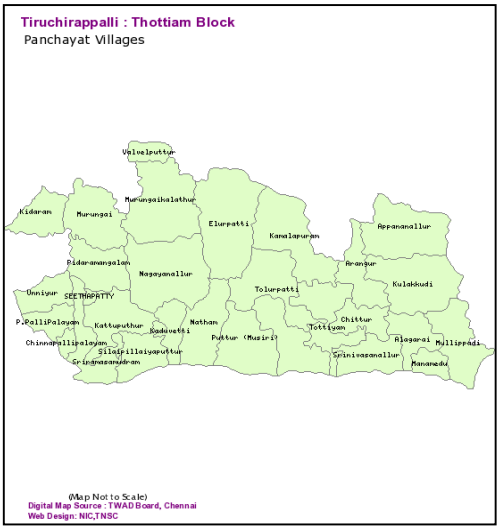
comprehensive study in the particular region as a whole.

**Study Area**

In the present attempt, the medicinal uses of the plants that are used to treat skin diseases among the human settlements of ThottiyamTaluk, Tiruchirappalli District was selected.

ThottiyamTaluk in Tiruchirappalli District is in the State of Tamil Nadu, South India.Location in Tamil Nadu, India 10.9833°N 78.3333°E. The name of the town is said to derive from the large number of Thottiya Nayakar caste peoples living there. The city also known for its historic celebration of Kalimman Temple. The taluk consists of 29 villages. According to the 2011 census, the taluk of Thottiyam had a population of 135,118 with 67,258 males and 67,860 females. There were 1009 women for every 1000 men. Fog and dew are rare and occur only during the winter season.There are only a few hills of considerable elevation in the district. Paddy is the major crop cultivated in this district followed by groundnuts, sugarcane, cereals, millets and pulses.

Fig. 1. Study Area




**Data Collection**

For the purpose of present study, with a view to collect information about plants of medicinal use and their application by the local tribal people and patients with that of the distribution of various plant species; intensive field survey is undertaken in the selected villages in the study area. The personal interview was conducted in unstructured way in many villages of Thottiyam Taluk, Tiruchirappalli District between November 2015 - March 2016. A total of 22 residents were interviewed. Randomly people were selected out of which 9 men 13 women of age 45 and above.

A personal interview method was in an unstructured way; to collect information in the local language and respondents were queried for the type of herbal cure known to him for skin disease and skin disorders.

**Result and Discussion**

The information about the plants was collected from study area from the traditional healers about the best traditional method usage of medicinal plants in curing various skin diseases. Respondents were randomly selected out of which 9 men 13 women of age 45 and above. Information on medicinal plants, local/vernacular name, family, plants parts used, and mode of administration for curing diseases.The medicinal plants were botanically identified using the "Flora of Presidency of Madras" (Gamble, 1935) and the "Flora of Tamil Nadu Carnatic" (Mathew, 1983).

The authenticity of the plant specimens was done through the comparison of our specimens with those housed in the Herbarium of the Botanical survey of India (BSI), Southern Circle, Coimbatore, India. The list of common skin diseases of the village and native people often suffered are commonly reported.

The study documented the ethno medicinal aspect of 70 plant species belonging to 63 genera and 70 species; total about 37 families which are used by the native village people and traditional healers for skin diseases. An ethnobotanical knowledge on medicinal plants of the survey are presented in Table 1 and the families of the plants are arranged as following botanical identity, family, local name, habitat, parts used, uses and preparations.

During the survey it was found that the healers of this community collect medicinal plants from variety of habitats. Mainly wild plants were collected from their agricultural fields. Some these medicinal plants are also collected from nearby hills. It was observed that, most of the remedies consisted of single plant part and more than one method of preparation.

**Table1:** An ethnobotanical knowledge on medicinal plants of the present survey

| Sl. No | Family | Botanical Name | Vernacular Name | Habitat | Part (s) used | Method of preparation | Method of Usage |
|---|---|---|---|---|---|---|---|
| 1. | Asclepiadaceae | *Gymnemasylvestre* | Sirukurinjan | Herb | Whole plant | Paste | Topical |
| 2. | | *Hemidesmusindicus* (L) R.Br | Nannari | Shrub | Root | Decoction | Oral |
| 3. | Acanthaceae | *Andrographispaniculata (*Burm.f) Wallich. Ex. Nees. | Nilavembu | Herb | Whole Plant | Paste | Oral |
| 4. | Agavaceae | *Aloe vera (*Linn) Burm | Sotrukatrazhai | Herb | Leaf | Paste | Topical |
| 5. | Alangiaceae | *Alangiumsalvifolium* (L. f.) Wang. | Alangi | Tree | Leaf | Powder, Paste | Oral / Topical |
| 6. | Amaranthaceae | *Achyranthesaspera* L. | Naiyuruvi | Herb | Leaf | Paste | Oral |
| 7. | | *Alternantherasesilis* (L.) R. Br. Ex. DC | Ponnankannikeerai | Herb | Whole Plant | Paste | Oral |
| 8. | Annonaceae | *Polyathialongifolia* (Sonn.) Thw | Asogu, nettilingam | Tree | Bark | Decoction | Topical |
| 9. | Apiaceae | *Centellaasiatica* (L.) Urb. | Vallarai | Creeper | Leaf | Paste | Oral |
| 10. | Apocyanaceae | *Catheranthusroseus* G. Dun. | Nithyakalyani | Shrub | Leaf | paste | Oral |
| 11. | | *Calotropisgigantea* (L.) R.Br. | Erukku | Shrub | Leaf | Paste | Topical |
| 12. | Aristolochiaceae | *Aristolochiaindica* Linn | Garuda kodi | Creeper | Leaf | Paste | Oral |
| 13. | Asteraceae | *Bidenspilosa* L. | Ottaraichedi | Herb | Whole plant | Paste | Oral /Topical |
| 14. | Asteraceae | *Eclipta prostrate* (L.) L. | Karisalanganni | Herb | Leaf | Powder | Oral /Topical |
| 15. | | *Helianthus annuus* L. | Suriyakanthi | Herb | Seed | Powder | Oral /Topical |
| 16. | | *Launaeanudicaulis* (Linn.) Hook.f. | Ezhuthanipoondu | Herb | Leaf | Juice | Oral |
| 17. | | *Tridaxprocumbens* L. | VettukayaPoondu | Herb | Leaf | Paste | Topical |
| 18. | Boraginaceae | *Cynoglossumzeylanicum* (Vahl ex Hornem.) Thunb. Ex Lehm. | Vandugadichedi | Herb | Whole plant | Paste | Topical |
| 19. | Boraginaceae | *Heliotropiumindicum* Linn | Telkodukkai | Herb | Leaf | Paste | Topical |
| 20. | Boraginaceae | *Tricodesmaindicum* (L) R.Br. | Kalludaithumbai | Herb | Whole plant | Paste /Decoction | Topical |
| 21. | Caesalpiniaceae | *Cassia Occidentalis* L. | Thakkarai | Shrup | Leaf | Paste | Topical |

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 22. | Caesalpiniaceae | *Cassia fistula* L. | Sarakkondai or Kattukonnai | Tree | Leaf | Paste | Topical |
| 23. | Capparaceae | *Cleome viscosa* L. | Naikadugau | Herb | Leaf | Paste | Topical |
| 24. | Caricaceae | *Carica papaya* L. | Pappali | Tree | Leaf | Latex | Topical |
| 25. | Clusiaceae | *Calophyllum inophyllum* Linn. | Punnagam | Herb | Bark | Decoction/ Paste | Topical |
| 26. | Colchicaceae | *Gloriosasuperba* L. | Senganthal | Herb | Rhizome | Paste | Topical |
| 27. | Convolvulaceae | *Ipomoea asarifolia* (Desr.) Roem. &Schultes | Sundangodi | Herb | Leaf | Juice | Oral /Topical |
| 28. | Cucurbitaceae | *Cocciniagrandis* L. J. Vogit | Kovai | Herb | Leaf | Juice | |
| 29. | Euphorbiaceae | *Acalyphaindica* L. | Kuppaimeni | Herb | Leaf | Paste | Topical |
| 30. | | *Phyllanthusmaderaspatersis* L. | Kattukilanelli | Herb | Whole plant | decoction | Topical oral |
| 31. | | *Ricinuscommunis* L. | Amanakku, chittamanakku | Shrub | Seed | Seed oil | Topical |
| 32. | Fabaceae | *Cassia alata* | Cheemaiagathi | Shrub | Leaf | paste | topical |
| 33. | | *Acacia caesia* (L.) Willd | Nanjupatti | Liana | Bark | Paste | Topical |
| 34. | | *Mimosa pudica* L. | Thottalsurungi | Under shrub | Leaf | Paste | Oral /TopTical |
| 35. | | *Sennaauriculata* (L.) Roxb. | Avvarai | Shrub | Flower | Decoction, Paste | Oral /Topical |
| 36. | | *Abrusprecatorius* L. | Kunnimuthu | Climber | Seed | paste | Oral topical |
| 37. | | *Erythrina variegate*, Linn. | Mullumurukku | Tree | Bark | Decoction | Topical |
| 38. | | *Tephrosiapurpurea* (L) Pers. | Kozhinchi | Herb | Root | Decoction | topical |
| 39. | | *Dalbergiasissoo* Roxb. | Etti | Tree | Bark | Decoction | |
| 40. | | *Clitoriaternatea* Linn | Shankupushpam, kakkanamkolli | climber | Leaf | Paste | topical |
| 41. | | *Acacia nilotica* (L.) Willd. ex Del. subsp. *indica* (Benth) Brenan | Shikakaai | Tree | Stem bark | Paste | Topical |
| 42. | | *Indigoferatinctori* L. | Avuri | Herb | Leaf | Decoction | Topical |
| 43. | Lamiaceae | *Leucasaspera* (Willd.) Link | Thumbaichedi | Herb | Leaf | Paste | Topical |
| 44. | | *Anisochiluscarnosus* (L. f.) Wall. exBenth. | Saetthupunthazhai | Herb | Leaf | Paste | Topical |
| 45. | Magnoliaceae | *Micheliachampaca* Linn | Sempakam | Tree | Fruit | Paste | Oral |
| 46. | Malvaceae | *Abelmoschusesculentus* (L). Moench | KasthuriVendai | Under shrub | Leaf | Paste | Topical |

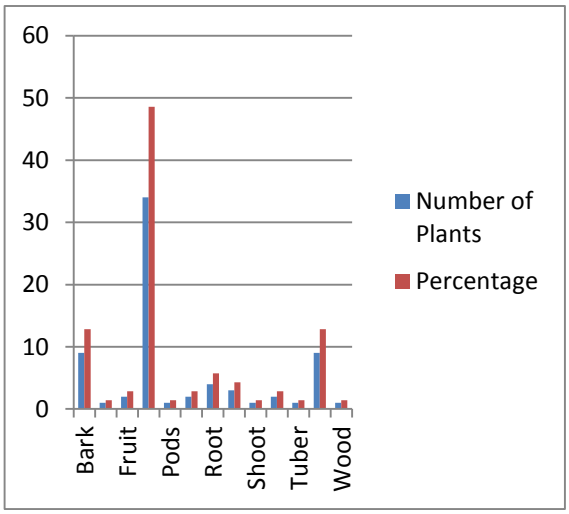
| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 47. | | *Abutilon indicum* (Linn) Sweet | Thuthi | Herb | Root | Paste | topical |
| 48. | | *Thespesiapopulanea* cav. | Poovarasam | Tree | Bark | Decoction | topical |
| 49. | Marsileaceae | *Marsileaquadrifolia*, Linn | Nirarai or Aaraakkeerai | Herb | Whole plant | Decoction | topical |
| 50. | Meliaceae | *Azadirachtaindica* A. Juss. | Vembu | Tree | Leaf | Paste | Raw Topical |
| 51. | Mimosaceae | *Acacia sinuate* (Lour.) Merr. | Ciyakkai Pods | Tree | Pods | Paste powder | topical |
| 52. | Moraceae | *Ficusracemosa* L. | Athi | Tree | Stem bark | Juice | Topical |
| 53. | | *Ficusbenghalensis*, Linn. | Alamaram | Tree | Bark | Latex | Topical |
| 54. | | *Artocarpusheterophyllus* Lam. | Plamaram | Tree | Leaf | Latex | Topical |
| 55. | | *Ficusreligiosa* L. | Arasu | Tree | Bark | Paste | Topical |
| 56. | Malvaceae | *Thespesiapopulanea* Can. | Poovarasu | Tree | Bark | Decoction | Topical oral |
| 57. | Nyctaginaceae | *Boerhaviadiffusa* L. | Mukkuratai | Herb | Leaf | Paste | Oral |
| 58. | Orchidaceae | *Cymbidium aloifolium* (L.) Sw. | Uttuchedi | Herb | Tuber | Paste | Topical |
| 59. | Papavaraceae | *Argemonemexicana* L. | Brummathundu | Herb | Leaf | Paste | Topical |
| 60. | Polygalaceae | *Polygala avvensis* Willd. | Siriyarnangai | Herb | Leaf | Paste | Topical |
| 61. | | *Polygala javana* L. | Periyarnangai | Herb | Leaf | Paste | Topical |
| 62. | Rutaceae | *Citrus aurantifolia* (Christm.) Swingle | Ezhumitchai | Tree | Fruit | Juice | Oral /Topical |
| 63. | Santalaceae | *Santalum album* L. | Chanthanam | Tree | Wood | Powder /paste | Topical |
| 64. | Solanaceae | *Solanum xanthocarpum* Schard. | Kandankathiri | climber | Whole plant | paste | Oral/ topical |
| 65. | | *Solanumnigrum* L. | Manatthakkali | Herb | Leaf | paste | Oral/Topical |
| 66. | | *Solanumtorvum* L. | Chuntai | Shrub | Root | Paste | Oral /Topical |
| 67. | Verbenaceae | *Lantana whitiana* | Vellaiunichedi | Shrub | Leaf | Paste | Topical |
| 68. | | *Tactonagrandis* L. | Thekku | Tree | Bark | Decoction/Paste | Topical |
| 69. | Vitaceae | *Cissusquadrangularis* | Pirantai | Herb | Shoot | Paste | Oral /Topical |
| 70. | Zingiberaceae | *Curcuma aromatic* Salish | Kasthurimanjal | Herb | Rhizome | Paste | Topical |

For the preparation of drugs the healers mainly use two methods. In the first method, drug preparation was done by shade drying and then pounding of the plant to form powder. The infusion or decoction of this powder is prepared after boiling with water. In the second method, pellets were prepared after mixing with other lubricant like oil of plants.

**Table 2:** Used parts and number of species S. no Plant parts Number of species

| S. No | Parts Used | Number of Plants | % |
|---|---|---|---|
| 1 | Bark | 9 | 12.85 |
| 2 | Flower | 1 | 1.42 |
| 3 | Fruit | 2 | 2.85 |
| 4 | Leaf | 34 | 48.57 |
| 5 | Pods | 1 | 1.42 |
| 6 | Rhizome | 2 | 2.85 |
| 7 | Root | 4 | 5.71 |
| 8 | Seed | 3 | 4.28 |
| 9 | Shoot | 1 | 1.42 |
| 10 | Stem Bark | 2 | 2.85 |
| 11 | Tuber | 1 | 1.42 |
| 12 | Whole plant | 9 | 12.85 |
| 13 | Wood | 1 | 1.42 |

**Figure 2:** Represent in Bar Diagram

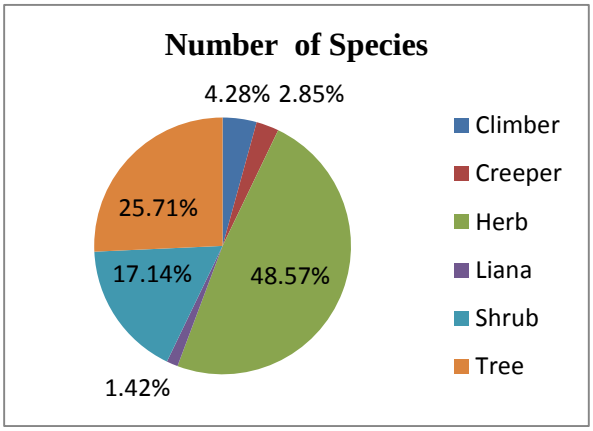



The plant selected for the present study also exhibited interesting folk medicinal uses. They are used to cure skin diseases. In the present investigations there are 70 medicinal plants belonging to 37 families are identified as traditional folklore medicinally used species. Fabaceae is found to be dominant family with 11 species. Astraceae and Moraceae are found to be next dominant family with 4 species. Followed by Boraginaceae,Euphorpiaceae, Malvaceae, olanaceae family with 3 species.Each 8 families represented by 2 species. 22 families represented by single species. Among habitwise distribution Herbs forms the dominant habit represented by about 49% with 70 species. Followed trees 25% with 18species.Shrub 17% with 12 species.Climber 4% with 3 species.Creeper 3% with 2 species. Liana 1 species respectively. (Table 3)

**Table 3:** Used parts and number of species

| S. No | Parts Used | Number of Species | % |
|---|---|---|---|
| 1 | Climber | 3 | 4.28 |
| 2 | Creeper | 2 | 2.85 |
| 3 | Herb | 34 | 48.57 |
| 4 | Liana | 1 | 1.42 |
| 5 | Shrub | 12 | 17.14 |
| 6 | Tree | 18 | 25.71 |

**Figure 3:** Represent in Pie Diagram




The observation made in the present study showed that traditional medicine plays a significant role among the local and native people in Thottiyam Taluk, Tiruchirappalli District, Tamil Nadu. Most of these species used in the preparation of herbal medicine are collected fresh very rarely dried and stored materials are used. Among the various plant parts used for the herbal formulations from Bark, Flower, Fruit, Leave, Rhizome, Root, Stem, Tuber, Whole Plant and wood. These medicinal plant parts are significantly used to treat the largest number of the skin remedies; such as wounds, cuts and burns.

## Conclusion

The present study reveals that glorious traditional background in the field of ethno

botanical medicinal practices in the ThottiyamTaluk, Tiruchrirapplai District, Tamil Nadu. The aboriginal knowledge of medicinal plants by the traditional healers on various plants used for skin diseases will pave way for new pharmacological studies for treating the skin ailments more effectively.However, in the process of modernisation,over exploitation of plant species in the name of medicinal usageultimately may lead disappearance in future. Hence, it is a high time to document the ethnobotanical knowledge on traditional medicines for the best interest between generations.Efforts should therefore be made to develop and promote these plants to reduce the loss of biodiversity in the country for improved nutritional status.

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