



RESEARCH PAPER

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## Traditional phytotherapy for inflammatory diseases in Jacobpuram Panchayat of Radhapuram Taluk in Tirunelveli District, Tamil Nadu, India

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### Abstract

Traditional medicine based on herbal remedies has always played a key role in the primary health care system of our country. In India the native people are exploiting a variety of herbals for effective curing of various diseases. In this study, we focused on scientific documentation of traditional knowledge on common medicinal plants used for the treatment of inflammatory diseases by local healers in Jacobpuram Panchayat of Radhapuram Taluk in Tirunelveli district. The present study documented totally 62 taxa distributed in 31 families. Of these 62 species, 36 species are herbs, 9 species are shrubs, 11 species are trees and 6 species are climbers. An analysis of floristic denotes that the family Solanaceae is most dominant family which includes 7 species. It is followed by Fabaceae with 6 species. The genus *Solanum* is the dominant genera which includes 5 species. The plant parts such as leaves, fruits, whole plant, bulb, root, seed, bark, flowers, leaves, bark and root, leaves and flowers were found to be the most frequently used morphological part of the medicinal plants collected from the study area. The findings of the study envisage that the herbal medicine have great potentiality to cure different inflammatory diseases. Hence conservation of medicinal plants is very much essential for our further generation.

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## Introduction

Medicinal plants have been source of wide variety of biologically active compounds for many centuries and used extensively as crude material or as pure compounds for treating various disease conditions (Arif *et al.*, 2009). The use of herbal medicines becomes the popular due to toxicity and side-effects of allopathic medicines. Medicinal plants play an important role in the development of potent therapeutic agents. There are over 1.5 million practitioners of traditional medicinal system using medicinal plants in preventive, promotional and curative applications (Dasilva, 1999). India with its biggest repository of medicinal plants in the world may maintain an important position in the production of raw materials either directly for crude drugs or as the bioactive compounds in the formulation of pharmaceuticals and cosmetics etc., (Tiwari, 2008).

Medicinal plants continue to be an interesting source of natural products for treating various health conditions. It is estimated that more than 150,000 plant species have been studied, many of which contain valuable therapeutic agents, and the applications of novel compounds from plants for pharmaceutical purposes have been gradually increasing in recent years (Shazhni *et al.*, 2018; Cao *et al.*, 2017).

According to World Health Organization (WHO) still about 80% of the world population rely mainly on plant-based drugs. In the medical fields such as Ayurveda, Siddha and Unani, are utilizing a large number of medicinal plants for the treatment of human diseases (Valsaraj *et al.*, 1997). Plants have the ability to synthesize a wide variety of phytochemical compounds as secondary metabolites. Most of the medicinal plant parts are used as raw drugs and they possess varied medicinal properties (Mahesh and Sathish, 2008). Plants have great potential for production of new drugs and used in traditional medicine to treat chronic and even infectious diseases (Panda *et al.*, 2019).

India is a mega rich biodiversity country with large number of species of herbal plants which are still to be undergone through various scientific approaches. The traditional knowledge from tribal to various complementary system of medicine has given root in scientific proving of the drugs towards developing the herbal plants in various forms for the dreadful diseases. The key effect carried out by the research and development field boosted up the herbal drugs in place of synthetic drug due to its less toxicity s a novel phyto-bioactive molecules obtained from potentials natural source of crude drugs.

Inflammation is provoked by pathogens, noxious mechanical and chemical agent and autoimmune responses and it is a complex process during which the body repairs tissue damage and defends itself against harmful stimuli. Inflammation is characterized by such symptoms as redness, swelling, itching, heat and pain (Ikeda *et al.*, 2008).

One of the earliest recorded approaches for treating inflammation and pain was the application of extracts from willow leaves by Celsius in 30 AD (Vane and Botting, 1987). This observation led to the discovery of Acetyl Salicylic Acid, the active components of Aspirin, a major anti-inflammatory drug widely used in clinical practice, along with many other non-steroidal anti-inflammatory drugs (NSAIDs) in current use (Yuan *et al.*, 2006). Herbal and herb-mineral preparations are popular in the traditional medical systems. The safety and efficacy of medicinal plant in the treatment of chronic inflammatory disease are indisputable (Kishore *et al.*, 2019).

Plants have played an important role in human health care since ancient times. In an adaptation against attacking pathogen environmental stress, plants produce several substances that exert biological activities. These small organic molecules come from secondary metabolism and have several biological activities. Among the diverse functions, anti-inflammatory actions are highlighted (Locatelli *et al.*, 2016; Virshette *et al.*, 2019).

Therefore, the discovery of new generation of therapeutic agents to use in the resolution of inflammation is desirable. The treatment of inflammation involves some mechanisms that can be used as therapeutic targets. Due to the production of secondary metabolites with clinically effects, medicinal plants play an important role in the development of new and potent drugs. Natural products with anti-inflammatory activity have long been used as a folk remedy for inflammatory conditions such as fevers, pain, migraine and arthritis. Here, the medicinal plants used for inflammatory diseases, medicine preparation method, mode of administration and form of medicines were documented from Jacobpuram Panchayat of Radhapuram Taluk in Tirunelveli District, Tamil Nadu. Similar works were carried out by various authors. Some of them are (Gandhi *et al.*, 2022; Junejo *et al.*, 2022; Basha *et al.*, 2020; Asante-Kwatia *et al.*, 2019; Uma and Parthipan, 2019).

## Materials and methods

### *Description of the study area*

The present study was carried out in and around Jacobpuram Panchayat of Radhapuram Taluk in Tirunelveli District. The Tirunelveli district was formed in 1790 by the East India Company.

Later it came under the direct control of the British crown Queen Victoria. This has several distinct features of religious importance. The name Tirunelveli has been derived from three Tamil words “Thiru-Nel-Veli” meaning “Sacred paddy Hedge”. Tirunelveli district was formed in 1790 by the East India Company. Later it came under the direct control of the British crown Queen Victoria. This has several distinct features of religious importance. The name Tirunelveli has been derived from three Tamil words “Thiru-Nel-Veli” meaning “Sacred paddy Hedge”.

This district is irrigated by several rivers originating in the Western Ghats, such as the Pachaiyar River, which flows in the perennial Thamirabarani River.

The Thamirabarani and Manimuthar Rivers have many dams, with reservoirs providing water for irrigation and power generation.

The Thamirabarani River provides consistent irrigation to a large agricultural area. Jacobpuram is an ancient village located in Radhapuram Taluk of Tirunelveli District. The people of this village depend on the Kanyakumari District for agriculture. Since, it is very close to Kanyakumari District. This village has a 100 years old CSI Church built in the year 1905-1908.

### *Medicinal plant survey*

Ethno medicinal plant information was gathered by interview method. The present data is outcome of field research carried out as part of ethno medicinal studies during June 2023 to March 2023 and semi structured questionnaire method. More than 10 medicinal practitioners from the study area were interviewed to document the plants used to treat the inflammatory diseases. The medicinal plants were collected and identified for their local medicinal uses through ethno botanical interviews with local healers, medicinal plant collectors, medicinal plant practitioners, elderly people and farmers adjacent to the study area. All the collected medicinal plants were tabulated with legitimate binomial nomenclature, local name, family, habit, disease, useful part, mode of preparation and uses.

### *Preservation and identification of plant materials*

The voucher specimens collected from the field were made into herbarium by using the standard method. All the herbarium specimens were deposited in the P.G and Research Department of Botany, S. T. Hindu College, Nagercoil. The plants were identified by using different regional floras (Gamble and Fischer, 1915–1936; Nair and Henry, 1983). The valid nomenclature of the plant species was checked with Kew website, The Plant List 2010 on line ([www.theplantlist.org](http://www.theplantlist.org)). The plants species were also checked with the websites [www.flowersofindia.net](http://www.flowersofindia.net) and [indiabiodiversity.org](http://indiabiodiversity.org).

## Results and discussion

Traditional medicine based on herbal remedies has always played key role in the health system of many countries. In India the native people are exploiting a variety of herbals for effective curing of various ailments. The present exploration on medicinal plants used for various inflammatory diseases by rural people of Jacobpuram Panchayat of Radhapuram Taluk in Tirunelveli district has yielded an information on 62 plants belonging to 31 families. They include herbs, shrubs, trees and climbers. They are mostly found growing either in wastelands as weeds or in forest slopes and sometimes widely distributed in all places. Some of them are cultivated near the houses particularly of medicine men.

Herbs form the major source of medicine consisting of about 58% followed by shrubs, trees and climbers consists of 14%, 17% and 9% respectively. Solanaceae is the most dominant family which includes 7 species. This is followed by Fabaceae, it includes 6 members. Euphorbiaceae and Asteraceae are the families which include 4 members each. Malvaceae, Amaranthaceae, Lamiaceae and Cucurbitaceae are the families which have 3 members each. Acanthaceae, Amaryllidaceae, Aristolochiaceae, Poaceae, Caesalpiniaceae and Apiaceae are the families which includes 2 members each. Rutaceae, Asphodelaceae, Papaveraceae, Meliaceae, Asclepiadaceae, Sapindaceae, Caricaceae, Apocynaceae, Capparaceae, Oleaceae, Crassulaceae, Lythraceae, Mimosaceae, Moringaceae, Myrtaceae, piperaceae and Annonaceae are represented by only one member each.

The most dominant genus of study area is *Solanum* it includes 5 species and it is followed by *Allium*, *Aristolochia* and *Cucumis* include 2 species each. The remaining 51 genera are having single species each. Several plants are used by the people directly, because most of the people in the rural area know about the uses of common medicinal plants for poisonous bites, simple wounds, allergies, psoriasis, eczema, impetigo, etc., so, the people never go to hospitals or to herbal doctors. For example the people squash the leaves of *Tridax*

*procumbens* and apply the juice over the wound directly and get cured.

Different plant parts like leaves, roots, stem, bark, flowers, fruit, rhizome, seeds and sometimes the whole plant are used as medicines for inflammatory diseases. Among the different parts of the plant body, Leaves from 38 plants are invariable used alone as a cure for inflammatory diseases. From this observation, it is noted that the inflammatory diseases such as ulcers, eye diseases, wounds, wounds in the head, itching, lung diseases, etc. can be cured by the leaves.

This is followed by Seeds from 7 plants are used to treat piles, wounds, mouth ulcer, skin allergy and rashes, ring worm, pimples on the face, inflammation on the gums and joint pain, whole plants from 6 species are used to cure skin rashes, ulcer, boils and eczema, psoriasis and eye diseases, fruits from 3 plants are used for the treatment of urinary inflammation in the legs, wounds and boils and wounds, bulb from 2 plants are used as a medicine for the treatment of throat ulcer and wounds, Roots of 2 plants used as a medicine for itching in the head, boils and swellings, Bark, Flowers, Leaves and Flower of one plant each can be treated for various inflammatory diseases such as wounds, eye pain and reddening of eye and diabetes etc.

Present observation revealed that different types of inflammatory diseases such as ulcer, body irritation, skin rashes, throat ulcer, wounds, skin diseases, eye diseases, wounds in the head, itching in the head, itching, boils, swellings, joint pain, skin allergy and itching, inflammation, Urinary inflammation, eczema, Liver inflammation, erysipelas, mouth ulcer, psoriasis, intestinal ulcer, Diabetes, ring worm, tumour, piles, inflammation on the gums, lung diseases etc., are cured by 62 plants.

The medicines were prepared from plants by various forms such as decoction, paste, juice, oil, etc. to treat inflammatory diseases. The mode of administration, it depends upon the disease type of medicine may be

external application or internal consumption (oral). Among the 62 plants used to treat inflammatory diseases, 36 plants were applied externally in various forms and 26 plants are consumed internally to cure diseases. Most of the herbal remedies were taken externally in the form of paste from 34 species followed by decoction from 10 species, fresh extract from 9 species, juice from 5 species, raw leaf from 3 species and oil from 1 species are used to treat various inflammatory diseases.

In some cases the same plant is used for treating different diseases in different form. In many cases only one plant part is used to prepare the medicine

for a particular type of inflammatory diseases. In some other cases more than one plant part of the same plant is used to prepare medicine and treat one particular type of disease. For example leaves and flower of *Senna auriculata* are boiled with water, made into decoction and drink orally for curing diabetes. In some cases, different combinations of plants are used to prepare medicine and help to treat particular diseases.

Therapeutically useful plants to treat inflammatory diseases, their botanical name, local name, family, habit, useful part, uses, mode of preparation and mode of administration are tabulated in Table 1.

**Table 1.** List of plants, their binomial, family, habit, useful part and uses of medicinal plants used for curing inflammatory diseases

SL	Botanical name	Local name	Family/ Habit	Uses
1.	<i>Abutilon indicum</i> (L.) sweet ssp.	Thuthi	Malvaceae/ Shrub	Handful of leaves boiled with a cup of water. The decoction is taken orally for curing ulcer
2.	<i>Acalypha indica</i> L.	Kuppaimeni	Euphorbiaceae/ Herb	Leaves grind with 7 pepper seeds and consume small goose berry size of paste in an empty stomach helps to get relief from body irritation
3.	<i>Achyranthes aspera</i> L.	Nayuruvi	Amaranthaceae/ Herb	Whole plant is grind into paste with turmeric and apply it over the skin rashes Handful of rhizomes of <i>Curcuma domestica</i> boiled and ground with leaves of <i>Achyranthes aspera</i> and the paste is applied on the wounds formed by cuts.
4.	<i>Adhatoda vasica</i> Nees.	Adatoda	Acanthaceae/ Shrub	Leaves boiled in water and the decoctions is taken orally for curing ulcer and the other stomach diseases
5.	<i>Aegle marmelos</i> (L.) Correa	Vilvam	Rutaceae/ Tree	Leaves ground well and mixed with cow's milk and taken orally for curing ulcer.
6.	<i>Allium cepa</i> L.	Vengayam	Amaryllidaceae/ Herb	Bulb is ground into paste along with salt and curd; consume it orally for curing throat ulcer.
7.	<i>Allium sativum</i> L.	Poondu	Amaryllidaceae/ Herb	Grind the bulb along with <i>Glycyrrhiza glabra</i> root powder, <i>Lawsonia inermis</i> leaves, <i>Eclipta prostratae</i> leaves into paste form and apply it over wounds caused by deep cuts.
8.	<i>Aloe vera</i> (L.) Burm. f.	Sothukathalai	Asphodelaceae/ Herb	The succulent gel of the Aloe vera is washed with water for 7 times, mix the gel with butter milk and consume orally for 10-12 days as a cure of skin disease. The inner part of the succulent leaves heated and applied as a cure for wounds
9.	<i>Alternanthera sessilis</i> (L.) R.Br.	Ponnankannikk eera	Amaranthaceae/ Herb	Leaves roasted with ghee, mixed with little salt and eaten orally for curing eye diseases
10.	<i>Argemone Mexicana</i> L.	Ponnummattai	Papaveraceae/ Herb	Leaves ground well and the paste is applied over the wounds.
11.	<i>Aristolochia breacteolata</i> L.	Aadu Theendapalai	Aristolochiaceae/ Herb	Apply the leaves paste with curd on the head then take bath after half an hour for curing wounds in the head
12.	<i>Aristolochia indica</i> L.	Garudakodi	Aristolochiaceae/ Climber	Leaf paste is applied as a cure for the wounds.
13.	<i>Azadirachta indica</i> Juss.	Adr.Veppilai	Meliaceae/ Tree	Grind the leaves with 1 onion bulb and apply it over the body to cure itching.

14. <i>Bambusa arundinacea</i> (Retz.) Roxb,	Mulmunkil	Poaceae/ Giant Herb	Dried leaves are burned and the ash is applied over the wounds.
15. <i>Beta vulgaris</i> L.	Beet root	Amaranthaceae/ Herb	Grind the root tuber, squeeze the extract, mix with gingelly and turmeric powder and apply it over the scalp of the head for curing itching in the head
16. <i>Blepharis maderaspatensis</i> (L.) Heyne	Murivuporunthi	Acanthaceae/ Herb	Leaves are crushed and the extract is applied over the fresh wounds to stop the bleeding immediately.
17. <i>Butea monosperma</i> (Lam.) Tauh.	Camata	Fabaceae/ Tree	Leaves ground into paste, slightly heated and applied over the boils, swellings and wounds for quick healing.
18. <i>Calotropis gigantea</i> (L.) R.Br.	Erukku	Asclepiadaceae/ Shrub	Application of leaves paste is a remedy for wounds caused by fire. Leaves slightly heated, pounded, the juice extracted is applied over the swellings.
19. <i>Cardiospermum helicacabum</i> L.	Mudakkathan keerai	Sapindaceae/ Climber	Eating the raw leaves in the empty stomach helps to reduce joint pain.
20. <i>Carica papaya</i> L.	Pappali	Caricaceae/ Tree	Leaves, oil and garlic are boiled with water, and apply the decoction over the infected area to cure skin allergy and itching.
21. <i>Cassia occidentalis</i> L.	Thavarai	Caesalpiaceae/ Shrub	Leaf extract is boiled with ghee and taken orally for curing inflammation.
22. <i>Catharanthus roseus</i> (L.) G. Don	Nithyakalyani	Apocynaceae/ Herb	Grind the leaves into fine paste, mix it with coconut oil and apply the wounds for quick healing.
23. <i>Centella asiatica</i> Urban.	Vallarai	Apiaceae/ Herb	Leaf paste is mix with little milk and taken orally to cure ulcer. Plants are powdered extract is prepared with coconut milk and taken orally as a cure for ulcer.
24. <i>Cleome gynandra</i> L.	Naivelai	Capparaceae/ Herb	Leaf paste is applied over the swelling to reduce the swelling.
25. <i>Clitoria ternatea</i> L.	Sankupushpam	Fabaceae/ Herb	Leaf paste is used to cure wounds. It is also used to cure swellings and pain caused by poisonous spines and thorn pricks.
26. <i>Cucumis maderaspatanus</i> L.	Musumusukkai	Cucurbitaceae/ Climber	Grind the leaves into paste along with leaves of <i>Coriandrum sativum</i> , <i>Solanum trilobatum</i> and <i>Zingiber officinale</i> rhizome, sauté it in apan with ghee and consume it with rice as a cure for lung disease.
27. <i>Cucumis sativus</i> L.	Vellarikkai	Cucurbitaceae/ Climber	Grind 50 gram of cucumber fruit, 10 gram <i>Cardiospermum helicacabum</i> leaves, one <i>Solanum tuberosum</i> , 10 powdered <i>Piper nigrum</i> seeds, boil these in 50 ml of Vettiver Soaked water, add necessary amount of palm sugar and consume orally for curing inflammation in the legs.
28. <i>Cucurbita maxima</i> Duchesne	Pusanikkai	Cucurbitaceae/ Climber	Fruit paste is used to cure wounds and boils.
29. <i>Cynodon dactylon</i> (L.)pers.	Arukampullu	Poaceae/ Herb	Leaves boiled with water and the decoction is taken orally for curing boils. Dried, powdered leaves mixed with honey and taken orally for curing eczema.
30. <i>Datura metal</i> L.	Umathai	Solanaceae/ Herb	Mix leaves paste with gingelly oil and applies over the dog bitten area to cure wounds caused by dog bite.
31. <i>Desmodium triflorum</i> (L.) DC.	Sirupulladi	Fabaceae/ Herb	Leaves ground into paste and the juice is extracted, filtered and dropped into the eyes as a cure for reddening of eye or other eye diseases.
32. <i>Eclipta prostrata</i> L.	Karisalankanni keerai	Asteraceae/ Herb	Grind handful of leaves of <i>Eclipta prostrata</i> and <i>Phyllanthus niruri</i> leaves, squeeze the extract, mix it with cow milk and consume it orally for curing liver inflammation
33. <i>Hyptis suaveolens</i> (L.) Poit	Naricha Pachilai	Lamiaceae/ Herb	Fresh leaf extract is applied as a cure for the fresh wounds caused by cuts.

34. <i>Jasminum sambac</i> (L.) Ait.	Malligai	Oleaceae/Shrub	Leaves slightly heated and placed over the wounds and tied with a cloth for curing the wounds.
35. <i>Jatropha curcas</i> L.	Kattamanakku	Euphorbiaceae/Shrub	Leaves cut into small pieces, boiled with water and the decoction is taken orally for curing wounds. It is mainly used for curing erysipelas.
36. <i>Kalanchoe pinnata</i> (Lam.) Pers.	Runakkalli	Crasulaceae/Herb	Leaf paste is applied over the swelling and tied up with a cloth to reduce the swelling.
37. <i>Lawsonia inermis</i> L.	Maruthani	Lythraceae/Tree	Leaf paste is mixed with little water and used for washing wounds.
38. <i>Leucas aspera</i> (Willd.) Link	Thumbai	Lamiaceae/Herb	Leaves grind with betel leaves, pepper and curd and consume it with palm sugar to cure wounds caused by insect bites.
39. <i>Mentha spicata</i> L.	Puthina	Lamiaceae/Herb	Eating raw leaves is a remedy for curing urinary problems.
40. <i>Mimosa pudica</i> L.	Thottal Surungi	Mimosaceae/Herb	Consume the leaf paste for 15 days to cure stomach ulcer.
41. <i>Morinag oleifera</i> Lam.	Murunkai	Moringaceae/Tree	Leaf extract is dropped into the eye and tied up with a cloth. It is used to cure eye diseases.
42. <i>Myristica fragrans</i> Houtt.	Jathikkai	Myrtaceae/Tree	Dried, powdered seed is boiled with water, made into decoction, mix palm jiggery and consume it for curing mouth ulcer.
43. <i>Phyllanthus niruri</i> L.	Keelanelli	Euphorbiaceae/Herb	Whole plant is grind into paste along with turmeric and salt, and apply this paste externally as a cure for psoriasis
44. <i>Physalis minima</i> L.	Kuttithakkali	Solanaceae/Herb	Decoction of the whole plant is taken orally for curing ulcer.
45. <i>Piper nigrum</i> L.	Nalla milagu	Piperaceae/Climber	Eating <i>Piper nigrum</i> seeds along with tender leaves of <i>Azadirachta indica</i> is remedy for skin allergy and rashes.
46. <i>Polyalthia longifolia</i> (Sonner.) Thw.	Ashoka Maram	Annonaceae/Tree	Bark soaked in water for one day and filter. The filtrate is used to wash the wounds.
47. <i>Ricinus communis</i> L.	Amanakku	Euphorbiaceae/Shrub	Boil leaves, bark and root with water, made into decoction and mix it with <i>Terminalia chebula</i> fruit powder and consume it orally for curing intestinal ulcer.
48. <i>Senna auriculata</i> (L.) Roxb.	Avaram	Fabaceae/Herb	Leaves and flower of <i>Senna auriculata</i> are boiled with water, made into decoction and drink orally for curing diabetes.
49. <i>Sesbania grandiflora</i> (L.) Poir.	Agathi Keerai	Fabaceae/Tree	Boil 5 gram leaves of <i>Sesbania grandiflora</i> , handful of <i>Lawsonia inermis</i> leaves, 10 Pepper seeds, 10 Cloves (crush the pepper and cloves separately) in 100 ml. of water, made into decoction and apply it over the thigh angles to reduce the swellings and blackening.
50. <i>Sida cordata</i> (Burm.f.) Borssum	Pazhampasi	Malvaceae/Herb	Leaves along with rice ground into a paste and apply as a cure for swellings.
51. <i>Solanum lycopersicum</i> L.	Thakkali	Solanaceae/Herb	Grind one fruit of <i>Solanum lycopersicum</i> , one potato, and little amount of poppy seeds with curd into fine paste and apply it over the wound in the thigh region for quick healing.
52. <i>Solanum nigrum</i> L.	Manathakkali	Solanaceae/Herb	Grind the leaves, squeeze the extract and filter it. Consume the extract for 10 days to cure tumours and ring worm.
53. <i>Solanum torvum</i> Sw.	Sundaikkai	Solanaceae/Herb	Grind the seeds with palm sugar, garlic, ghee and rose flower and consume it orally for curing piles.
54. <i>Solanum trilobatum</i> L.	Thoothuvalai	Solanaceae/Herb	Grind the leaves with turmeric, Chilli, Coconut and salt and eat with rice to cure Asthma.
55. <i>Solanum virginianum</i> L.	Kandankathiri	Solanaceae/Shrub	Boil the seeds with 100 ml of gingelly oil and apply it over the face as a remedy for pimples on the face.
56. <i>Tamarindus indica</i> L.	Puli	Caesalpiniaceae/Tree	Grind the flowers and the paste is applied over the eyelid as a cure for eye pain and reddening of eye.
57. <i>Thespesia populnea</i> (L.) Sol. ex Correa	Poovarasu	Malvaceae/Tree	Apply the yellow liquid present within the seed over the infected area to cure ringworm.

58. <i>Trachyspermum roxburghianum</i> (DC.) Craib.	Omam	Apiaceae/Herb	Seeds along with rhizome of <i>Acorus calamus</i> ground into paste and taken orally for curing inflammation of the gums.
59. <i>Tridax procumbens</i> L.	Vettukayampoo ndu	Asteraceae/Herb	Crush the leaves and the extract squeezed is applied over the cuts to heal the wounds due to cuts.
60. <i>Vernonia cinerea</i> (L.) Less.	Puvamkurunthal	Asteraceae/Herb	Whole plant ground well and the extract is filtered. The filtrate is dropped into the eyes as a cure for eye diseases
61. <i>Vigna mungo</i> (L.) Hepper.	Ulunthu	Fabaceae/Shrub	Grind the seeds with leaves and flower of <i>Senna auriculata</i> , jaggery and egg, apply this paste over knee to cure joint pain.
62. <i>Xanthium strumarium</i> L.	Marulmullu	Asteraceae/Herb	Powdered dry root is made into a paste and applied as a cure for boils and swellings.

A significant advance in the study of drugs with anti-inflammatory activity came in the early 1970s, since then, numerous investigators have addressed their research in developing drugs with the capacity to specifically inhibit inflammatory mediators. Steroidal and non-steroidal anti-inflammatory drugs (SAIDs and NASIDs, respectively) are currently the most widely used drugs in the treatment of acute inflammatory disorders, despite their renal and gastric negative secondary effects (Mukherjee and Houghton, 2009).

Long term administration is required for the treatment of chronic disease. Furthermore, these drugs have various and severe adverse effects. Therefore, naturally occurring agents, with high effectiveness and very few side effects are desirable as substitutes for chemical therapeutic. Many new drugs derived from plant secondary metabolites have been applied for the treatment and/or prevention of various diseases. Investigations about natural products have recently regained prominence with the increasing understanding of their biological significance and increasing recognition of their origin and structural diversity (Jeong *et al.*, 2013).

Thus numerous research groups are focusing on the search for new and safe anti-inflammatory agents and medicinal plants may represent a useful source of molecules for the development of drugs especially designed for the chronic inflammatory states. Thus, evaluation of herbal substances that can either reduce levels/activity of pro-inflammatory mediators may be a useful strategy for studying their efficacy for the treatment of inflammatory disease.

### Conclusion

Plants appear to be an important source of medicine till date because of easy availability, feasibility, accessibility, less harm etc. Further research on use of medicinal plants for anti-inflammatory property should be encouraged. The findings of the study envisage that the herbal medicine have great potentiality to cure different kinds of diseases. The indigenous rural community depends on traditional healthcare system. About 80% of human population in India is using herbal medicine to cure different kinds of diseases. The medicinal wealth of the region is not yet explored desirable. There is an ample scope of such kind of studies to gather the information on medicinal plants of Radhapuram Taluk. In addition to this, the ecologist should also pay much attention towards research studies on conservation status and population behavior of such species. Undoubtedly this will help in developing an appropriate strategy for conservation of important plant species of the region and also preserve genetic diversity.

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