

Review Article

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A comprehensive review and documentation of Tharai Keezh Thandugal (underground stem) used as medicine in Varmam traditional literature

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Abstract

Background:

Varmam is the special branch of siddha system. Varmam maruthuvam is based on the energy flow that flows throughout our body. Energy flow can not only be rectified by the local stimulation of varmam points it can also be mended by the intake of internal and external medications. Hence varmam literature has stated various internal and external medications. Tharai keezh thandugal (underground stem) are modified plant parts that is derived from stem tissue but exist under the soil surface. They function as storage tissues for food and nutrients, propagation of new clones and perennation. Therefore, I have documented various Tharai keezh thandugal and their therapeutic usage.

Aim: To compile and document the therapeutic usage of Tharai keezh Thandugal in Varmam literature and authentication of those drugs used in the preparations.

Materials & methods: It is a descriptive study in which classical Varmam literatures of Tharai keezh thandugal are summarized, reviewed and documented from the collected data through various libraries.

Results: Tharai keezh Thandugal which are profoundly used in varmam medicines with their therapeutic usage is revealed.

Conclusion:

This review will be a basic source for future studies and will be evaluated by expert panels for Academic purpose in clinical research programs about the effectiveness of Tharai keezh Thandugal in the management of various diseases. It will be an initiative to disclose various medicines available in the Classical Varma literatures.

Keywords: Siddha, Varmam, Varmam literatures, Tharai keezh Thandugal

Introduction

Siddha system of medicine is a traditional system of medicine. Siddha is the mother medicine of ancient Tamils/Dravidians of peninsular South India. The word siddha means established truth. Varmam is the branch of siddha system of medicine. Varma maruthuvam is based on the energy flow that flows throughout the body. Tholkapiyam explains about the effectiveness of varmam therapy (5000 B.C). Varmam references were found in palm leaf manuscripts written by siddhars. Varmam is one among the ancient old commonly used external therapies. It is one among the south india martial arts. Classical literature explains about varma points and its therapeutic value medicines in texts like Agathiyar varma beerangi, Varma odivu murivu gnanam, etc .The concentration of pranic energy in a particular points is called as varmam points. The siddha varmam literature not only mentioned about the varmam points, also concentrated in medicines. Tharai keezh thandugal (underground stem) are modified plant parts that is derived from

stem tissue but exist under the soil surface. They function as storage tissues for food and nutrients, propagation of new clones and perennation. Tharai keezh thandugal are used as primary components in various internal and external medications stated in varmam literatures. Therefore I have decided to compile and document THARAI KEEZH THANDUGAL which is found in traditional varmam literature.

Materials and Methods

It is a descriptive study in which classical Varmam literatures were summarized, reviewed and documented from the collected data through various libraries including Dr.Ambedkar central library of Indian system of medicine -Chennai, Central council of Research in Siddha - Chennai, Government Siddha Medical College library - Palayamkottai, ATSVS Siddha medical college library- Kanyakumari, Palm manuscripts (G.O.M.L) Anna centenary library -Chennai, Literatures available from traditional varmam vaithiyars and siddha varmam practioners.

Reviewed varmam literatures:

S.no	Book name
1.	Varma Gnana Odivu Murivu Sarasoothiram -2200
2.	Varma Odivu murivu saari – 1500
3.	Odivu murivu saari – 1500
4.	Varma soodamani panchikarana pinnal – 1500
5.	Odivu murivu saari – 1200
6.	Varma Odivu Murivu Sarasoothiram – 1200
7.	Odivu murivu saari Nigandagarathi – 1200
8.	Urpaththi Narambarai – 1000
9.	Sathuramani soothiram – 600
10.	Varma kanadi 500
11.	Adivarma Sootcham – 500
12.	Laada soothiram -300
13.	Varma odivu murivu gnanam – 300

14.	Varma Nithanam -300
15.	Theraiyar Paanda vaipu nool – 300
16.	Varma Thiravukool – 225
17.	Varma Saari – 205
18.	Agasthiyar varma saari -205
19.	Varma guru nool – 130
20.	Varmani naalu mathirai – 120
21.	Varma Nithanam -115
22.	Varmani – 101
23.	Varma soothiram – 101
24.	Paduvarma nithanam – 101
25.	Varmani soothiram – 100
26.	Varma sootcham - 100
27.	Varma Beerangi – 100
28.	Varma villum visaiyum – 100
29.	Varma kandi – 60
30.	Varma Bheerangi vaithiya soothiram – 50
31.	Thattu varma thirattu
32.	Thodu varma Nithanam
33.	Varma alavai nool
34.	Sigichai murivu saari
35.	Villisai kaivaliyam
36.	Varma soothiram
37.	Narambarai soothiram
38.	Varma marunthu sei muraigal
39.	Varma oli – 1000
40.	Varma nooleni - 200
41.	Thoduvarma nithanam

Literature Review

Tharai keezh thandugal types include:

- I. Matta nila thandu (Rhizome)
- II. Thandu kizhangu (Stem tuber)

III. Thandadi kizhangu (Corm)

IV. Kumizh thandu (Bulb)

Rhizome: It is horizontally grown underground stem. It is fleshy due to the storage of food material and bears nodes and internodes. All

aerial stem characters are found in the rhizome. Eg: *Zingiber officinale* (ginger), *Curcuma longa* (turmeric)

Corm: This type of underground stem is massive, swollen and condensed vertical root stock with a big terminal bud. In the massive stem, the big terminal bud is surrounded by a numerous scale leaves. Axillary buds of the old corm develop into a new daughter corm. Eg : *Amorphophallus companulatus*.

Stem tuber: Commonly tuber is termed to any fleshy part of plant that stores food. This may be

stem or root. The stored food material contains starch. The stem tuber of *Helianthus tuberosus* develops from the short branches. It has fleshy scale leaves covering the tubers. The stored food material contains inulin. Eg : *Solanum tuberosum*

Bulb: The stem is reduced having a convex shape with much compressed internodes. Apices of the reduced stems have axillary bud covered by the fleshy leaves. 2 types of bulbs have been - Tunicated bulb – Eg: *Allium cepa*, Imbricate or naked bulb – Eg : *Scilla indica*.

According to my collection of data about 12 tharai keezh thandugal are found in siddha varmam literature. They are given as follows

S.no	Tamil name	Botanical name	Family
1.	Vasambu	<i>Acorus callamus</i>	Zingiberaceae
2.	Vengayam /Ulli/Neerulli/Erulli	<i>Allium cepa</i>	Liliaceae
3.	Chitharrathai/ Arathai	<i>Alpinia officinarum</i>	Zingiberaceae
4.	Perarathai	<i>Alpinia galangala</i>	Zingiberaceae
5.	Poondu /velluli/ lasunam(<i>Allium sativum</i>	Amaryllidaceae
6.	Kosttam / kottam	<i>Costus speciosus</i>	Zingiberaceae
7.	Kasturi manjal	<i>Curcuma aromatica</i>	Zingiberaceae
8.	Manjal	<i>Curcuma longa</i>	Zingiberaceae
9.	Kichili kizhangu/ poolangkizhangu/ kacholam	<i>Curcuma zedoaria</i>	Zingiberaceae
10.	Karunai kizhangu	<i>Typhonium trilobatum</i>	Araceae
11.	Inji	<i>Zingiber officinale</i>	Zingiberaceae
12.	Sukku	<i>Zingiber officinale</i>	Zingiberaceae

S.No	Tharai keezh thandugal	Activity (siddha aspect, modern aspect)	Phytochemicals
1.	Vasambu	Stimulant, Stomachic, Antiperiodic, Carminative, Nauseant, Emetic, Disinfectant, Germicide. Anti-bacterial, Hepatoprotective, Anti convulsant, Cytotoxic, Smooth muscle relaxant and stimulant	Phenylpropanoids Sesquiterpenoids Monoterpene Xanthone Glycosides Triterpenoid Saponins. Alkaloids Triterpene Glycoside Steroids/Sterols.
2.	Vengayam	Stimulant, Diuretic, Expectorant, Emmenagogue, Rubefacient, Demulcent, Aphrodisiac. Anticancer, Antidiabetic, Antioxidant, Antiplatelet, Antihypertensive, Antidepressant effects and neuroprotective, Anti-inflammatory and antiparasitic effect	Kaempferol, Ferulic Acid, Quercetin, Gallic Acid, Protocatechuic Acid
3.	Chitharrathai	Expectorant, Febrifuge, Stomachic Antioxidant, Antibacterial, Anti-inflammatory, Anticancer, Antiproliferative, Inhibition of enzymes Inhibition of nitric oxide production	Linear Diarylheptanoids, Flavonols,Diarylheptanoids.
4.	Perarathai	Expectorant, Febrifuge, Stomachic Anti Tumor, Anti Inflammatory, Anti Platelet, Anti Allergic, Anti HIV Immunomodulatory Activity	Diarylheptanoids, Flavonoids, Volatile Oil, Terpenes, Phenylpropanoids, Glycosides
5.	Poondu	Carminative, Stomachic, Tonic, Alterative, Stimulant, Expectorant. Diuretic, Anthelmintic Antiviral, Antioxidant, Anti-inflammatory, Antibacterial, Antifungal, Immunomodulatory, Cardioprotective, Anticancer, Hepatoprotective, Anti-Diabetic, Anti-Obesity, Neuroprotective	Allicin, E-ajoene, Z-ajoene
6.	Kosttam	Stomachic, Tonic, Stimulant, Expectorant, Diaphoretic. Antiinflammatory, Antidiabetic, Hypolipidemic, Hepatoprotective, Steroidogenic, Adaptogenic, Antimicrobial effect, Antioxidant, Anticancer	Diosgenin, Gracillin, Dioscin, prosapogenins A and B of dioscin, eremanthin, costunolide, β -sitosterol, β -D-glucoside, β -carotene. α -tocopherol quinine, Dihydrophytylplastoquinone, 5 α -

			stigmast-9(11) en 3β -ol,tetracosanyl octadecenoate,methyl hexadecanoate,methyl octadecenoate,cycloartenol.
7.	Kasturi manjal	Tonic, Stimulant, Carminative. Anticancer, Antidiabetic, Antioxidant, Anti-Inflammatory, Antimicrobial, Antitussive, Antiepileptic, Analgesic, Wound Healing, Insect Repellent Activities	Curcumin, Demethoxycurcumin, β -sitosterol-3-O- β -d, Glucopyranoside
8.	Manjal	Hepatic tonic, Stimulant, Carminative, Aromatic. Anti-Inflammatory, Anticancer, Antibacterial, Antiviral, Antioxidant, Antiseptic, Cardio protective, Hepatoprotective, Digestive Activities	Digalloyl-hexoside, Caffeic acid hexoside, Curdione, Coumaric, Caffeic acid, Sinapic acid, Qurecetin-3-D-galactoside, Casuarinin, Bisdemethoxycurcumin, Curcuminol, Demethoxycurcumin, Isorhamnetin, Valoneic acid bilactone, Curcumin, Curcumin-O-glucuronide
9.	Kichili kizhangu	Stimulant, Carminative, Expectorant, Diuretic, Aromatic. Anti-microbial,Anti fungal,Antiamebic,Larvicidal Analgesic,Analgesic,Anti ulcer,Hepatoprotective, Anti inflammatory	Curcumin,ethyl p-methoxycinnamate β -turmerone, β -eudesmol, zingiberene,Dihydrocurcumin Furanodiene α -phellandrene
10.	Karunai kizhangu	Stimulant, Astringent Anti-inflammatory, Analgesic, Hepatoprotective, Anti-microbial	1,1-diphenyl-2-picrylhydrazyl-2-radical (DPPH) assay, 2,2-azinobis-(-3-ethyl) benzo-thiozoline-6-sulfonate (ABTS+)
11.	Inji	Carminative, Stomachic, Sialogogue. Digestive, Stimulant, Rubefacient Anti-Inflammatory Qualities, Anti-Thrombotic Properties, Cholesterol-Lowering Characteristics, Blood Pressure-Lowering Properties, Anti-Microbial Properties, Anti-Oxidant Properties, Anti-Tumor Properties, Hypoglycemic	Gingerenone-A, Shogaol
12.	Sukku	Stimulant, Stomachic, Carminative Expectorant, Anti – emetic, Anti – spasmodic	Gingerenone-A, Shogaol, Gingerine, Gingeberol

Medicines which consists of Tharai keezh thandugal as ingredient

Internal medicine	External medicine
I. KASAYAM/KIYAZHAM -101	I. POOCHU - 12
☞ Anda varma kasayam	☞ Aaliya poochu –I,II
☞ Amirthavalli kiyazham	☞ Odivu, murivu, sithaivuku poochu
☞ Adathodai kasayam	☞ Koombu varma poochu
☞ Uchi murivu kasayam	☞ Sathai murivuku poochu
☞ Aanandha vaayu kasayam	☞ Siruneer pidipuku poochu
☞ Kandankathiri kasayam	☞ Thalaivali poochu
☞ Kudal varma kasayam	☞ Narambu pidipuku poochu
☞ Sitramutti kiyazham- I	☞ Puliyanvithai thoodu poochu
☞ Milagu kasayam	☞ Maramanjai poochu
☞ Thilartha varma kasayam	☞ Thol poruthu iruga patru
II. CHOORANAM - 27	II. OTRADAM - 36
☞ Narunanri chooranam	☞ Kombaraku otradam
☞ Arukonavarma chooranam'	☞ Sambirani otradam
☞ Venkunri chooranam	☞ Senkashuneer kizhangu otradam
☞ Vilvaver chooranam	☞ Thumbai poo otradam
☞ Thoothuvalai chooranam	☞ Linga varma otradam
☞ Naarkona varma podi – II	☞ Vasavuku otradam
☞ Urai marunthu kavalam	☞ Velluli otradam
☞ Mathurathi chooranam	☞ Nei kizhi
☞ Maavilangu chooranam	☞ Dhasamaamisa kizhi
☞ Thirisaathi podi	☞ Thirukukalli kizhi
III. LEGIYUM - 14	III. THALAM - 8
☞ Arimaethai legiyum	☞ Atralai porunthi thaal
☞ Karisalai legiyum	☞ Inji thalam
Thazhampoo legiyum	☞ Kandankathiri thalam
☞ Nannari legiyum	☞ Karuncheeraga thalam
☞ Vellaragu legiyum	☞ Savukaara thapalam
☞ Vellaatu legiyum	☞ Devathaara thalam
☞ Karungkozhi legiyum	☞ Aakinai varma thapalam
☞ Koozhpaanda legiyum	☞ Thuthikai varmathirku thalam
☞ Sitramutti legiyum	
☞ Varma vaasathi legiyum	

IV. NEI/GRITHAM -50

- ☞ Anil gritham
- ☞ Rasanga gritham- I,II,III
- ☞ Uthamathaali gritham
- ☞ Karungkurinji gritham
- ☞ Kukuda nei – I,II,IV
- ☞ Kumara nei
- ☞ Chippi nei
- ☞ Veliparuthi nei –I, II
- ☞ Kombaraku nei
- ☞ Vellaragu gritham

V. THAILAM/ENNAI - 170

- ☞ Achurathi ennai
- ☞ Anjennai thailam – I,II,III,V
- ☞ Amirtha mukkootu ennai
- ☞ Kabaraajanga thailam
- ☞ Karunenthira thailam
- ☞ Kaayaraajanga ennai I,II,III
- ☞ Santhanaathi ennai – II,III
- ☞ Chithiramooli ennai – I,II,III
- ☞ Thalaikaaya ennai – I,II
- ☞ Mukkootennai – III,IV,VII,VIII,X

VI. OTHERS - 40

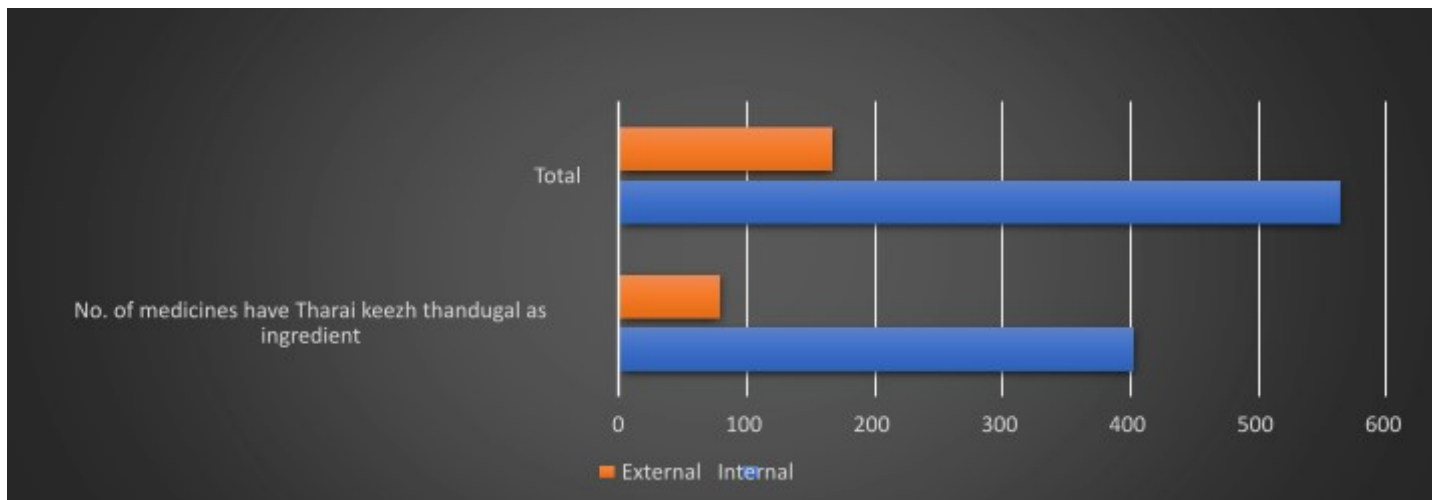
- ☞ Vilvaver rasayanam
- ☞ Varma kandi vaatru
- ☞ Rasakarpoora kuligai
- ☞ Panja moola kanji
- ☞ Varma kanji – II,III,IV
- ☞ Saya kuzhambu
- ☞ Kukuda parpam
- ☞ Naalpaamara kuzhambu
- ☞ Varma kuligai – I,V,VI,VII

IV. OTHERS - 23

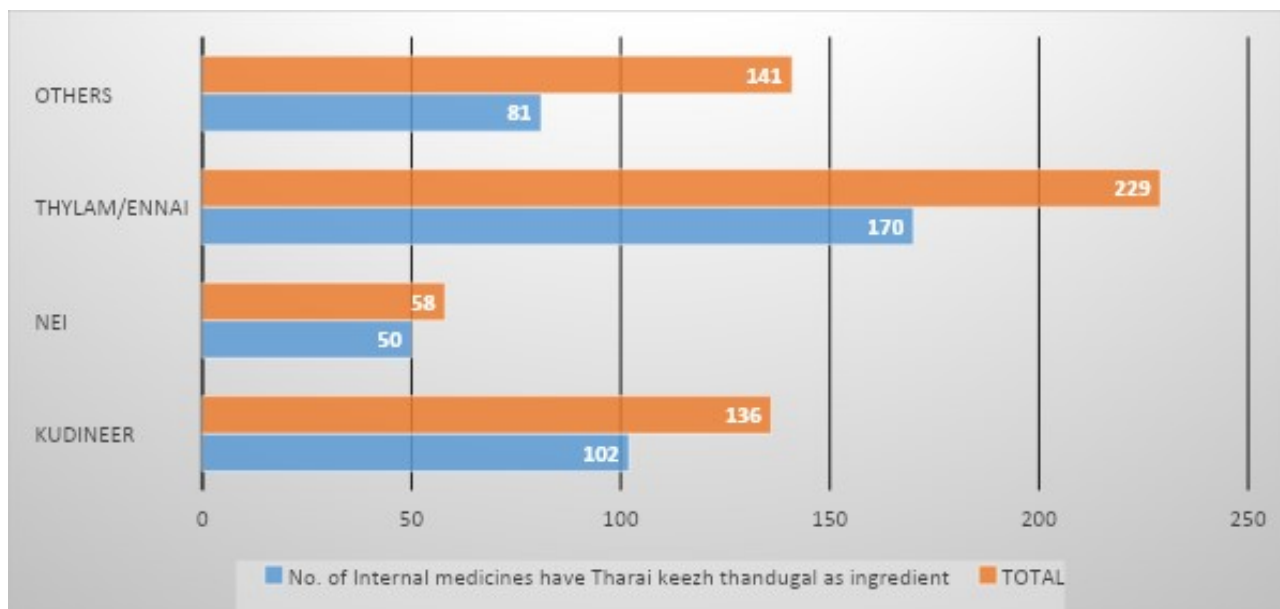
- ☞ Thaila tharai – III, IV, V.
- ☞ Paal tharai – II,V
- ☞ Varma sannu pugai
- ☞ Oothal – II,III
- ☞ Naasi thool – I to VIII
- ☞ Narsurapu varma nasiyam
- ☞ Mozhi poruthu kattum pasai

Results

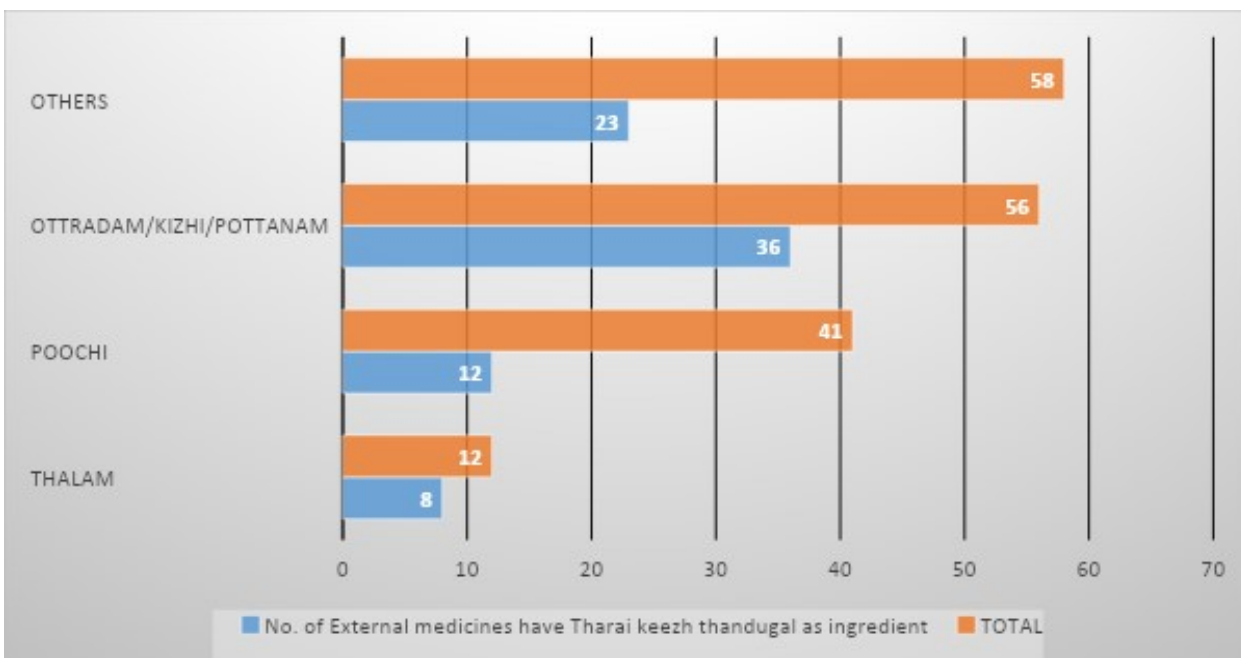
	No. of medicines have Tharai keezh thandugal as ingredient	Total reviewed med	%
Internal	403	564	69.53%
External	79	167	48.50%



	No. of internal medicines have Tharai keezh thandugal as ingredient	Total reviewed med
Kudineer	102	136
Nei	50	58
Thylam/Ennai	170	229
Others	81	141



	No. of external medicines have Tharai keezh thandugal as ingredient	Total reviewed med
Thalam	8	12
Poochi	12	41
Ottradam/Kizhi/ Pottanam	36	56
Others	23	58



Discussion

☞ This is a comprehensive review, compile and documentation of THARAI KEEZH THANDUGAL in varmam literature. **41 Varmam literature** books were identified and collected for this study.

☞ Out of 14 Tharai keezh thandugal 12 were found in siddha varmam literature.

☞ Nari vengayam (*Urginea indica*) & Siru nari vengayam (*Scilla hyacinthina*) were not found in any of internal and external medicines given in siddha varmam literature.

☞ **A total of 731 medicines (Internal and External medicines) were reviewed in which 482 medicines consists of tharai keezh thandugal as components.**

☞ As of Internal medicine that were reviewed
 42% of Thylam/ Ennai
 25% of Kudineer
 13% of Nei Consists of Tharai keezh thandugal as ingredients.

☞ As of External medicine that were reviewed
 46% of Ottradam/ Kizhi/ Pottanam
 15% of Poochu
 10% of Thalam Consists of Tharai keezh thandugal as ingredients.

The above collected Tharai keezh thandugal data has been recorded in the single study which will be helpful for future reference.

Conclusion


Tharai keezh than dugal (Underground stem) which are profoundly found in varmam literatures revealed. This review will be a basic source for future studies about the effectiveness of Tharai keezh than dugal. There are several varma literatures that are yet to be disclosed and published. It will be an initiative to disclose various medicines available in the classic varmam literatures

The study report is prepared and submitted as a booklet. This review will be a basic source for future studies and will be evaluated by expert panels for academic purpose in clinical research.

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