

**AN OPEN CLINICAL STUDY OF SIDDHA DRUGS “ELATHY
CHOORANAM” (INTERNAL) AND “PATHIRASARA VIRANA
POOCHU THAILAM” (EXTERNAL) IN THE TREATMENT OF
“SILAIPUN” (VARICOSE ULCER)**

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Chennai-47

DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled “ An Open Clinical Study of Siddha Drug Elathy chooranam (Internal) and Pathirasara virana poochu thailam (External) in the treatment of Silipun (Varicose ulcer)” is a bonafide and genuine research work carried out by me under the guidance of **Dr.N.J.MUTHUKUMAR,M.D(S)**, Associate Professor, **Head of the Department (i/c)**, Department of **Sirappu Maruthuvam**, National Institute of Siddha, Chennai -47, and the dissertation has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title.

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BONAFIDE CERTIFICATE

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INTRODUCTION

INTRODUCTION

The Siddha system or the traditional tamil system of medicine is one of the ancient medical systems of the world contemporaneous with those of the Egyptian, Mesopotamian and Grecian medicines. The distinctiveness of Siddha system is evident by its continuous service to the humanity for more than 5000 years in combating diseases. More than a medical system, it encompasses a way of healthy life. It deals with whole subject of life in its various branches.

This system is built around the tenets of the moral wisdom, scientific knowledge, doctrine and philosophy, astrology, astronomy, alchemy, yoga, science of rejuvenation etc. This system is based on the eternal wisdom (*Siddhis*) practiced by the eighteen Siddhars who received this Siddha science, expressive of the perfect wholeness of cosmic consciousness through doctrine, introspection and meditation. The Siddhars are described as *Arivan* (the knowledgeable) in *Tholkappiam* the olden book of tamil grammer.

This noble Siddha system relies on the five natural elements (Earth, Water, Fire, Air and Space). The natural combination with each other forms the basis of three humours of the body namely Vatham (Air and Space), Pitham (Fire), Kabam (Earth and Water). The diagnosis in this system depends on Eight ways of examination (*Envagai thervu*) such as Naadi, Sparisam, Naa, Niram, Mozhi, Vizhi, Malam and Moothiram. Any derangement in this three humours results in disease.

Ulcer (*Pun*) is defined as discontinuity of skin tissue in any part of the body. According to Siddhar aruvai maruthuvam *Silai pun* is the ulcer mainly occurs in the blood vessels, nerves and in between the muscle fibres. Initially it occurs as small papulo-vesicular eruptions. There are five types of *Silaipun* (*Vali, Azhal, Iyam, Mukkutram and Enbu silaipun*).

Silaipun may be correlated with varicose ulcer in modern science. The varicose ulcer is one of the late manifestations of chronic venous insufficiency of the lower limbs, a disease of great importance to public health due to its high incidence, prevalence and the high socio-economic impact that it brings, since it is difficult to treat and requires prolonged work absenteeism. Chronic venous insufficiency may be classified as a syndrome that includes from telangiectasia to active ulcers, originating in chronic venous hypertension caused by venous obstruction or reflux, with or without muscle pump insufficiency.

The extrapolated prevalence rate of varicose vein in india providing warning is about 47,928,177 in statistics. According to another estimate 15 to 20% of population in india is suffering vein disease.

Patients who have asymptomatic varicose veins can simply be reassured. The treatment of Varicose ulcer varies from simple elevation of the affected limb to surgery, including grafts and various types of dressings. Though limb elevation is simple, it accelerates the healing process of the ulcer. But it can't be followed by patients

all the time when they are not bedridden. Skin grafts have strict indications and can only be performed in specialized centers. Varicose vein Surgery is only indicated in patients with a predominance of superficial venous system insufficiency.

“Elathy Chooranam” and *“Pathirasara Virana Puchu Thailam”* were one among the Siddha medicines.

“Elathy Chooranam” as Internal medicine (Reference: *Siddha Vaithiya Thirattu*) - and *“Pathirasara Virana Puchu Thailam”* as External medicine (Reference: *Theraiyar Thaila Varuka Churukam*) were selected for treating *Silaipun* patients as most of the ingredients of trial drug have wound healing property.

AIM AND OBJECTIVE

AIM AND OBJECTIVE:

AIM:

The purpose of this trial is to evaluate the therapeutic efficacy of Siddha herbal drug “*Elathy chooranam*” (Internal) and “*Pathirasara virana poochu thailam*” (External) in the treatment of *Silaipun* (Varicose ulcer).

OBJECTIVE:

PRIMARY OBJECTIVE:

- ❖ To evaluate the therapeutic efficacy of Siddha drugs “*Elathy chooranam*” (Internal) and “*Pathirasara virana poochu thailam*”(External) in reducing pain, itching, oozing and healing of Varicose ulcer (*silaipun*).

SECONDARY OBJECTIVE:

- ❖ To study the Siddha basic principles like Envagai thervu, Elu udal thathukal, Neerkuri Neikuri in varicose ulcer (*Silaipun*) patients.

REVIEW OF LITERATURE

SIDDHA ASPECT

SIDDHA ASPECT

Synonym:

Naadi viranam, Narambu kiranthi pun.

Definition:

Naadi or vein is a vessel which carries the blood from a system of minute tubes termed capillaries to the heart.

Naadi viranam is defined as inflammation of vein. Initially it appears as a small papular or papulo-vesicular eruption in the superficial skin surface.

Pun is defined as discontinuity or break in a bodily membrane that impedes the organ of which that membrane is a part from continuing its normal function.

The papular or papulo-vesicular eruption arise in the area congested with varicose vein and affects the surrounding structures which later penetrates deep into the bone and appears as spider web. Hence, named *Silaipun*.

Types of *Silaipun*:

There are five types of *Silaipun*. They are

1. *Vali Silaipun*
2. *Pitha Silaipun*
3. *Iyya Silaipun*
4. *Mukutra Silaipun*
5. *Enbu Silaipun*

Vali silaipun:

The symptoms of vali silaipun are frothy blackish red discharge from the ulcer which increased at night time and also have severe pain.

Pitha silaipun:

The symptoms of Pitha silaipun are burning ulcer, excessive thirst, foul smelling yellowish pus and bloody discharge occurs at day time.

Iyya silaipun:

There is a shiny indurated lesion which bursts and oozes the pus. They also have severe itching.

Mukkuutra silaipun:

It is an incurable type and have the symptoms of all vali, azhal and iyya silaipun.

Enbu silaipun:

The inflammation of the vein, supplies the bone results in papulovesicular eruption. It bursts and oozes the bloody pus oozes. It is an incurable type.

Aetiology of ulcer:

“பயில் மொழியீர் திரேகத்தில் கிருமிதானே
பரந்துதிரி குட்டம்போல் புள்ளி காணும்
மயலதுவும் கிருமியந்தான் நடந்து புக்கில்
மேனியது சரசரெனவெடித்து புண்ணாம்”.

– குருநாடி

According to text Siddhar aruvai maruthuvam, causes of ulcer are

- Derangement of three humours
- Abscess
- Trauma
- Burns
- Insect bite

According to text agathiyar rana vaithiyam, causes of ulcer are

- Derangement of three humours
- Trauma

According to T.V.Sambasivam pillai dictionary, causes of ulcer are

- Idiopathic
- Traumatic

Classification:

According to text Siddhar Aruvai maruthuvam,

- Dhusta viranam – 15
- Adhusta viranam – 45

Other classification:

- Based on the derangement of three humours, ulcer is classified into

Vali pun

Azhal pun

Iyya pun

Vali iyya pun

Pitha iyya pun

Mukkutra pun

Kuruthi pun

Kuruthi thee pun

Kuruthi vali pun

Kuruthi iyya pun

Kuruthi vali iyya pun

Kuruthi vali pitha pun

Kuruthi pitha iyya pun

Kuruthi Mukkutra pun

Velutha kuruthi pun

According to T.V.Sambasivam pillai dictionary, various types of ulcer are

- Neruppu pun (Burns)
- Mega pun (Venereal ulcer)
- Vellai pun (Gonorrheal ulcer)
- Aaraa pun (Chronic ulcer)
- Kiranthi pun (Syphilitic secondary rashes)
- Ottu pun (Contagious sore)
- Kuzhi pun (Deep sore or perforating ulcer)
- Rasa pun (Diabetic carbuncle)
- Karappan pun (Eczematous ulcer)
- Parangi pun (Syphilitic primary sore)
- Vettu pun (Incised wound)
- Kaya pun (Traumatic sore)
- Azhi pun (Sloughing sore)
- Koruku pun (Chancre)
- Veditha pun (Fissurel ulcer)
- Azhar pun (Inflamed ulcer)
- Rasa vekkadu pun (ulcer caused by mercurial poisoning)
- Vayitru pun (Gastric ulcer)

- Thulai pun / Purai pun (Sinus)
- Ari pun (Rodent ulcer)

According to T.V.Sambasivam pillai dictionary, Ulcer is also classified into

- Saruma pun (Dermatitis)
- Athirvu pun (Dermatitis traumatica)
- Thee pun (Dermatitis calorica)
- Kulirchi pun (Chill blains or frost bite)
- Azhugu pun (Dermatitis gangrenosa)
- Nanju pun (Dermatitis medicamentosa)
- Veppu noi pun (Exanthema)
- Thinavu pun (Pruritis and urticaria)
- Kirandhi (Venereal ulcer)
- Korukku pun (Chancroid)

Classification and symptoms of ulcer according to text Siddhar aruvai maruthuvam,

- **Vali pun ilakkanam:**

The characteristic features of vali pun are black, red or white in colour, purulent discharge and pricking pain.

- **Azhal pun ilakkanam:**

Azhal pun is characterized by acute onset, yellow, red, dark or pale red coloured ulcer, clear discharge, pain, burning sensation and redness.

- **Iyya pun ilakkanam:**

Iyya pun have the symptoms of prickly pain, pale coloured ulcer and discharge which is sticky in nature.

- **Vali pitha pun ilakkanam:**

It is characterized by pricking pain, redness, dryness, clear and scanty discharge with foul smell.

- **Vali iyya pun ilakkanam:**

It is characterized by rough, heavy and hard lesion, itching, pricking pain and scanty discharge which is sticky in nature.

- **Pitha iyya pun ilakkanam:**

It is characterized by hot, itching, burning sensation, pain, pale in colour and discharge which is sticky in nature.

- **Mukkuutra pun ilakkanam:**

It has the symptoms of vatha, pitha and kaba ulcer.

- **Kuruthi pun ilakkanam:**

It is characterized by red or coral like colour, very painful, bloody discharge. Symptoms of these ulcers is similar to dhusta viranam.

- **Kuruthi vali pun ilakkanam:**

It is characterized by roughness, pricking pain, blood stained discharge and red coloured ulcer.

- **Kuruthi pitha pun ilakkanam:**

The ulcer is red and yellow in colour. The discharge is clear and blood stained.

- **Kuruthi iyya pun ilakkanam:**

It is characterized by red colour ulcer, swelling, itching and bloody discharge.

- **Kuruthi vali pitha pun ilakkanam:**

It has the mixed features of both kuruthi vali pun and kuruthi pitha pun.

- **Kuruthi vali iyya pun ilakkanam:**

It has the mixed features of both kuruthi vali pun and kuruthi iyya pun.

- **Kuruthi pitha iyya pun ilakkanam:**

It has the mixed features of both kuruthi pitha pun and kuruthi iyya pun.

- **Kuruthi mukkutra pun ilakkanam:**

It has the mixed features of both kuruthi vali pun, kuruthi pitha pun and kuruthi iyya pun.

- **Velutha kuruthi pun ilakkanam:**

The ulcer is pale red in colour, centrally elevated, shiny and not have any discharge.

According to Agasthiyar rana vaidhyam, viranam is classified into Dhusta viranam, Adhusta viranam and Sutha ratha viranam.

1. **Dhusta viranam** is further classified into 4 subtypes,

- **Dhusta vaatha viranam:** The ulcer is black and white in colour. The ulcer may be deep seated and penetrating the bone. There is a purulent discharge and pricking pain present around the ulcer.
- **Dhusta pitha viranam:** It is characterized by reddish white or yellow coloured ulcer of acute onset, clear discharge, burning sensation and pain present around the ulcer.
- **Dhusta silethuma viranam:** It is characterized by raised ulcer, itching, pricking pain and discharge which is sticky in nature.
- **Rathavatha dhusta viranam:** It is characterized by bright red or coral like coloured ulcer and bloodstained discharge.

2. **Adhusta viranam:**

The ulcer having purulent pus and bloody discharge. It is easily curable.

3. Sutha ratha viranam:

It is characterized by centrally elevated papular lesion and reddish black in colour.

According to text Anubava vaidhya deva ragasiyam, the types of **Sathiya viranam** are

- I) Krishta viranam: It is a non-healing ulcer with bleeding caused by trauma.
- II) Avakartha viranam: It is a perforating and deep-seated ulcer.
- III) Vichinna viranam: It is a ulcer look like cut wound
- IV) Piravilambi viranam: The ulcer which looks like cut wound may be deep seated and penetrating the bone.
- V) Nibaathika viranam: In this type, bone exposed in centre of the ulcer is surrounded by necrotized tissue.
- VI) Vitha viranam: It is a traumatic ulcer caused by stones.
- VII) Pinna viranam: It is an ulcer caused by sword, knife like sharp instruments.
- VIII) Vithalitha viranam: It is an ulcer caused by pressure applied over bleeding area and also have joint pain.

According to text Virana karappan roga sigitchai,

- Nija viranam:

It occurs spontaneously due to derangement of three humours.

- Aaganthuga viranam

It is caused by violent trauma.

- Dhusta viranam:

The symptoms of Dhusta viranam are

- Open or closed ulcer,

- Extensive softness or hardness present,
- Surrounding skin may be very cold or hot and pigmented,
- Purulent discharge,
- Intolerable pain, swelling and itching.

- Sutha viranam

The features of Sutha viranam are

- Pale colour and soft ulcer.
- There is no evidence of hyperpigmentation, pain, pus discharge and warmth.

According to text Agasthiyar rana vaithiyam, Common sites of ulcer are

- Thol (skin)
- Iraichi (muscle)
- Peru narambu (arteries and veins)
- Siru narambu (capillaries)
- Keel (joints)
- Elumbu (bone)
- Vayiru (abdomen)
- Marmasthanam (genital organs)

According to text Virana karappan sigitchai, Common sites of ulcer are

- Thol (skin)
- Virai (blood vessels)
- Mamisam (muscle)
- Thasai naar (tendon)

- Santhigal (joints)
- Elumbu (bone)
- Kudalgal (GIT)
- Marmasthanagal (sirasu-head, hirudhayam-heart, siruneer pai - urinary bladder)

Curable and incurable conditions:

“புண்ணும் வெளுத்து நீர்மிகுந்து போதக்குத்துவலி மிகுந்தால்
 உண்மைப்படவே செங்கலங்கள் யிரத்தமாகிற் தீராது
 நன்னிக்கீழாய்ச் சீழ்விழுந்து பின்னைநனைக்குஞ் செம்புண்ணை”
 -அகத்தியர் 2000 (மூன்றாம் பாகம்)

According to text Agasthiyar 2000 (III part),

- The features of curable condition are having ulcer with pale coloured margin, oozing, pricking pain and formation of granulation tissue.
- The features of non-healing condition are having ulcer with pus discharges and no formation of granulation tissue.

According to text Siddhar Aruvai Maruthuvam, the Curable and incurable conditions depends on the

- Age of affected person
- Shape of the ulcer - oval, triangle and rectangular ulcers are easily curable
- Ulcer in eye, nostrils, gums, chest, nipple and joints are difficult to treat
- Ulcer in diabetes, TB, leprosy and syphilis are non-healing ulcer
- Improper medication may delay the healing process

- Ulcer with pus discharge, raised floor, fissure and deep wound are not curable
- Ulcer in vertex finger tip, vital points (varmam), deep seated wound which penetrate the bone and bone marrow are not curable

According to text Virana karappan sigitchai, the features of easily curable wound are

- Ulcer in healthy adults
- Shape of the ulcer is circular or oval
- The edges of the ulcer are clean
- Ulcer in male genitalia, lips, buccal cavity and cheeks.

According to text Virana karappan sigitchai, causes of delayed wound healing are

- Inflammation of tendon with pus discharge
- Surgical removal of blood vessels
- Deep seated ulcers
- Secondary infection in ulcers
- Fracture of bones
- Improper removal of foreign particles
- Toxic bite induced ulcer
- Improper medication
- Irritation of wound by any other object
- Stress
- Alcoholism
- Abnormal sleeping pattern

Siddha Pathology

According to Siddha system of medicine five elements (Earth, Water, Fire, Air and Space) of nature combined with each other and forms the basis of three humours of the body, namely Vali (Vatham), Azhal (Pitham) and Iyyam (Kabam). Whenever there is derangement in this three humours, the resultant is the disease. Vatham is responsible for all physiological and biological activities of the body. The blood vessels which contain stagnant blood get dilated, coiled and become more prominent. After that inflammatory process occurs at the site due to derangement of Pitham. The deranged Pitham simultaneously leads to derangement of Vatham and Kabham which is responsible for the formation of ulcer in the affected part of the body.

Piniyari muraimai (Diagnostic methods)

Piniyari muraimai is the method of diagnosing disease. It is based on following principles

- Poriyal arithal
- Pulanal arithal
- Vinaathal

Poriyal arithal and Pulanal arithal means examining the patients Pori and Pulan with that of physicians Pori and Pulan.

Imporikal

- Mei (skin)
- Vai (tongue)
- Kan (eyes)
- Mooku (nose)
- Sevi(ear)

Impulan

- Osai (sound)

- Ooru (sensation)
- Oli (vision)
- Suvai (taste)
- Naatrum (smell)

Vinaathal

Vinaathal is a method of enquiring about the details of the patient's problem from his own words or from his parents or attenders who are taking care of the patients when the patient is not able to speak or if the patient is the child.

ENVAGAI THERVUGAL:

“தரணியிலுள்ள வியாதிதன்னை யட்டாங் கத்தால்
 தானறிய வேண்டுவது யேதோ வென்னில்
 திரணியதோர் நாடிகண்கள் சத்தத் தோடு
 தேகத்தினது பரிசம் வருணம் நாக்கு
 இரணமல மூத்திரமா மிவைக ளெட்டும்
 இதம்படவே தான்பார்த்துக் குறிப்புங் கண்டு
 பரணருளால் பெரியோர்கள் பாதம் போற்றிப்
 பண்புதவறாமல் பண்டிதஞ் செய்வீரே”.

– குணவாகட நாடி

Naadi (pulse)

In pun the following types of naadi could be felt. They are

- Iyya naadi
- Vadhakaba naadi

ஐய நாடி:

“தானமுள்ள சேத்துமந்தா னிளகில் வெப்பு
 சயமீளை இருமல்மந் தார காசம்

ஈளைமுறுஞ் சந்நிவிட தோடம் விக்கல்
இருத்ரோகங் கரப்பான் விரண தோடம்”.

– சதக நாடி

வாத மிகுதியுடன் சீதளம் சேர்ந்தால்:

“இருக்குமந்த வாதத்தில் சேத்துமஞ் சேர்ந்தால்
இளைப்பிருமல் விடசந்நி தோடம் வீச்சு
மருக்கின்ற குளிர்காய்ச்சல் விரண தோடம்”

-சதக நாடி

Sparisam	-	test sensation, temperature and nature of the skin
Naa	-	test the color of saliva, color of sputum and nature of speech
Niram	-	test the variation in pigmentation of skin
Mozhi	-	Vadham (normal pitch) Pitham (high pitch) Kabham (low pitched) Thontham (mixed all the above)
Vizhi	-	Vadham (black in color, increased lacrimation) Pitham (yellow or red in color) Kabham (white in colour)
Malam	-	Vadham (stools are in color and constipated) Pitham (yellowish white in color) Kabham (white in color) Thontham (mixed color)

Moothiram-

Collection of urine for the determination of Neerkuri and Neikuri is an important diagnostic method.

Neerkuri

“வந்தநீர்க் கரிஎடை மணம்நுரை எஞ்சலென்
றைந்திய லுளவவை யறைகுது முறையே”

-தேரர் நீர்க்குறி நெய்க்குறி நூல்

Prior to the day of urine examination, the patient is instructed to take a balanced diet the patient should have good sleep. After waking up in the morning, the first urine voided is collected in a clear wide mouthed glass container and is subjected to analysis of Neerkuri within one and half an hour.

Neikuri:

The collected specimen (urine) is kept open in a glass dish or china clay container. It is to be examined under direct sunlight without any shaking of the vessel.

Then add one drop of gingelly oil without disturbing the urinary specimen and the Neikuri was noted in direct sunlight and concluded the diagnosis as follows

Character of vadha neer:

“அரவென நீண்டினஃதே வாதம்”

When the oil drop lengthens like a snake, it is called vadha neer.

Character of pitha neer:

“ஆழி போற்பரவின் அஃதே பித்தம்”

When the oil drop spreads like a ring, it is called pitha neer.

Character of kabha neer:

“முத்தொத்து நிற்கின் மொழிவதென் கபமே”

When the oil drop appears like a pearl, it is called kabha neer.

Character of thontha neer:

“அரவிலாழியும் ஆழியில் அரவும்
அரவின் முத்தும் ஆழியில் முத்தும்
தோயிற்றில் தொந்த தோடங்க ளாமே”.

Snake in the ring, ring in the snake, snake in the pearl and ring in the pearl are the characters of thontha neer.

Line of treatment:

“நோய்நாடி நோய்முதனாடி யதுதணிக்கும்
வாய்நாடி வாய்ப்பச் செயல்”.

Thiruvalluvar says in thirukural about physician’s duty to study the disease, study the cause, seek subsiding ways and do what is proper and effective.

“உற்றவன் தீர்ப்பான் மருந்துழைச் செல்வானென்
றப்பானற் கூற்றே மருந்து”.

In Siddha system of medicine, the main aim of the treatment is to cure the udalpini and mana pini.

Treatment is not only for perfect healing but also for prevention and rejuvenation. In Siddha system of medicine line of treatment are as follows

- *Neekam* (Treatment)
- *Niraivu* (Rejuvenation)
- *Kaapu* (Prevention)

Neekam (Treatment)

- **Viresanam:**

“துகின்ற மலக்கட்டை யொழிய வைத்தால்
உடலிலுள்ள வாதையெலா மொடுங்கிப் போகும்”.

Siddha system of medicine is based on three humours and hence the treatment is mainly aimed to bring the three humours to equilibrium state and thereby restoring the physiological condition of the seven thathus.

- **Internal medicine:**

The medicine which are taken internally are called as internal medicines. These are classified into 32 types. E.g. Surasam, Chaaru, Pittu, Vadagam and Chooranam.

- **External medicine:**

The medicines which are applied externally are called as external medicines. These also classified into 32 types. Eg. kattu, pattru, otradam, vedhu, thokkanam.

According to text sinthamanni- Gandharuvathathai ilambagam-324 management of wound described as follows.

When there is a traumatic injury in the body the following treatments and therapies can be followed

“நெய்க்கிழி வைக்கப்பட்டார் நெய்ப்பத்தல் கிடத்தப்பட்டார்
புக்குழி எஃகம்நாடி இரும்பினால் போழப்பட்டார்
முதுமரப்பொந்துபோல முழுமெய்யும் புண்களுற்றார்க்கு
இது மருந்தென்ன நல்லார் இழுதுசேர் கவளம்வைத்து”.

-(சிந்தாமணி காந்தருவதத்தை இலம்பகம் 324)

1.Nei kizhi:

A cloth bundled with herbs, which is soaked with heated medicated oil and given fomentation.

2.Ennai patharil kidathal:

The affected person is made to lie down into a tub filled with medicated oil.

3.Removal of foreign particles:

When there is a foreign particle at the site of wound like iron or any other metallic object, it is cut and cleaned as per procedure.

4.Application of medicines

5. Covering the wound:

The wound is covered with a small carpet made out of rat hair.

- **Anubanam**

“அனுபானத்தாலே யவிழ்தம் பலிக்கும்
இனிதான சுக்குஇஞ்சி – பிணிமுதுகால்
கோமயம்பால் முலைப்பால் கோநெய்தேன் வெற்றிலைநீர்
ஆமிதையா ராய்ந்து செய்யலாம்”.

- **Pathiyam (Dietary regimen):**

“பத்தியத்தினாலே பலனுணண்டாகும் மருந்து
பத்தியங்கள் போனால்பலன் போகும் பத்தியத்தில்
பத்தியமே வெற்றி தரும் பண்டிதர்க்கு ஆதலினால்
பத்தியமே உத்தியென்று பால்”.

- தேரையர் வெண்பா

In mild conditions of the disease, salt and tamarind can be taken in little quantities. When the condition is severe, tamarind should be avoided and salt must be consumed after frying.

Niraivu (Rejuvenation):

Substance used for neutralizing the three humours are

“ஒன்றிய வாதபித்த கபமிவை யுயராவண்ணம்
நன்றது கறிகளெல்லாம் நாளுமே சமைப்பராய்ந்தோர்
தின்றிடு மிளகு மஞ்சள் சீரகமுயர்ந்த காயம்
வென்றிகொள் சுக்கோடேலம் வெந்தயமுள்ளி சேர்த்தே”.

- பதார்த்த குணசிந்தாமணி

The patients are well motivated. The nature and course of the disease is explained to them. Lifestyle modification advised.

Kaapu (Prevention):

Ideal measures mentioned in the Siddha classical text Pathartha guna cinthamani for healthy living as below,

“திண்ணமிரண்டுள்ளே சிக்க வடக்காமற்
பெண்ணின்பா லொன்றைப் பெருக்காமல் உண்ணுங்கால்
நீர்சுருக்கி மோர்பெருக்கி நெய்யுருக்கி யுண்பவர்தம்
பேருரைக்கிற் போமே பிணி”.

“ஆறுதிங்கட் கொருதடவை வமனமருந் தயில்வோம்
அடர்நான்கு மதிக்கொருகாற் பேதியுறை நுகர்வோம்
தேறுமதி யொன்றரைக்கோர் தரநசியம் பெறுவோம்
திங்களரைக் கிரண்டுதரஞ் சவரவிருப் புருவோம்
வீறுசதுர் நாட்கொருகால் நெய்முழுக்கைத் தவிரோம்
விழிகளுக்குஞ் சனமூன்று நாட்கொருகா லிடுவோம்
நாறுகந்தம் புட்பமிவை நடுநிசியில் முகரோம்
நமனார்க்கிங் கேதுகவை நாமிருக்கு மிடத்தே”.

MODERN ASPECT

MODERN ASPECT

STRUCTURE OF SKIN

The skin is a protective covering of the body. It, with all its specialized derivatives, makes up what is called the integument (Latin: a covering) which covers the entire surface of the human body.

The human skin shows wide regional variations in structure like scalp, face, ear lobes, back, palms and soles etc. Thickness varies; the number of sebaceous glands, collagen fibre and vasculature differ in different parts of the integument.

The skin consists of three layers

- ❖ EPIDERMIS (superficial epithelial layer)
- ❖ DERMIS or CORIUM (connective tissue layer)
- ❖ HYPODERMIS or subcutaneous layer.

Structure of Epidermis

The epidermis is formed of non-vascular stratified epithelium. Its usual thickness is between 0.07mm and 0.12mm. But in certain parts, like the soles of the feet and the palms of the hand, it is very thick, ranging from 0.8mm to 1.4mm.

The following are the main layers of the epidermis which can be made out microscopically in a section perpendicular to the skin surface.

1.Stratum germinativum.

This is the deepest portion of the epidermis and is composed of columnar cells placed perpendicular to the skin surface. The whole of the epidermis germinates from this stratum hence the name “stratum germinativum”.

2.Stratum malpighii or the prickle cell layer.

It is superficial to the basal cell layer and is composed of several layers of polyhedral cells, connected to each other by intercellular bridges.

3.Stratum granulosum.

It is superficial to the stratum malpighii. It is composed of flat, fusiform cells which are one to three layers thick. These cells contain irregular granules of keratohyalin and lysosomal enzymes and cystine rich proteins.

4.Stratum lucidum.

Superficial to the stratum granulosum is the pale, wavy-looking layer known as stratum lucidum.

5.Stratum corneum.

This is the most superficial layer, the outer surface of which is exposed to the atmosphere. It consists many layers of non-nucleated, flattened, cornified cells.

6.Dendritic cells of epidermis.

These are melanocytes, langerhans cells and indeterminate cells.

Structure of dermis (cutis vera or corium)

Dermis is profusely supplied with blood vessels. Dermis is divided into papillary and dermis. It contains connective tissue fibres, cells and all dermal appendages. Connective tissue is formed by three main components

- 1.Collagen fibres
- 2.Elastic fibres
- 3.Ground substance.

Epidermal appendages:

1. Sebaceous glands
2. Sweat glands: There are of two types
 - ❖ Eccrine glands
 - ❖ Apocrine glands
3. Hair
4. Nails

Physiology

The skin performs a multitude of functions. These are

1.Protective function:

- ❖ It protects against sunlight by synthesis of melanin pigment.
- ❖ The stratum corneum has been held as barrier to penetration.

2.Sense organ:

The skin is richly supplied with nerves and various types of specialized sensory end organs, which provide information regarding environmental changes.

3. Secretion and excretion:

The skin possesses various types of glands which pour secretions on the surface. The more important ones are the sweat and the sebaceous glands. The important substances excreted in it are sodium chloride, sodium phosphate, sodium bicarbonate, keratin and a small amount of urea.

4. Body Heat Regulation:

The skin plays the most important role in the regulation of heat loss. It loses heat to the external environment in three ways by conduction by radiation and by evaporation.

5. Storage functions of skin:

- ❖ Fat is laid down in fat cells as a permanent store of subcutaneous adipose tissue. This provides the reserve stores of body energy.
- ❖ Blood is stored in the rich subpapillary plexuses of the dermis.
- ❖ The skin is also a good storehouse of ergosterol

6. Absorption:

Skin can absorb substances dissolved in fatty solvents like vitamins and hormones. This is the principle behind the local application and massaging of various ointments, salves and creams dissolved in animal fats.

7. Gaseous exchange through skin:

A small amount of gaseous exchange occurs through the skin.

VARICOSE ULCER

Synonyms – Post thrombotic ulcer, Gravitational ulcer

Definition;

Venous ulcer also known as stasis ulcer is the most common aetiology of lower extremity ulceration. Venous ulceration results from increased pressure in the venous system of the lower limb. Most common cause is insufficiency of the valves in the deep

venous system and lower perforating veins of the lower leg. This mostly occurs in the age of 40 to 60 years.

Epidemiology;

The extrapolated prevalence rate of varicose vein in india providing warning is about 47,928,177in statistics. According to another estimate 15 to 20% of population in india is suffering vein diseases.

Despite being more common in elderly persons, with a peak of prevalence in individuals aged between 60 and 80 years, 22% of those affected are approximately 40 years of age ,while 13% develop VU before they reach 30 years of age, evidencing the losses that this disease causes in work production. Of all lowerlimb ulcers approximately 70 to 80 % are caused by CVI.

The first venous stasis ulcer episode occurs in average, five years after the diagnosis of CVI and in patients with VU, 47% have already had two or more ulceration episodes, whereas 21% of them have already had six or more episodes.The annual recurrence rate varies from 33 to 42%.In general , 60% of the ulcers remain for a period of 6 months or longer, and over 40% of them persist for more than one The mean duration is 6 to 7 months, varying from 4 weeks to 72 years.

Varicose vein;

- | | |
|-----------------------------|---|
| Incompetence of valves | – Sapheno – femoral junction (SFJ)
-Sapheno – popliteal junct
-Perforator |
| Reflux in superficial veins | - long sphenous vein (LSV)
-Short saphenous vein (SSV) |
| Reflux in deep vein | - Femoral vein
-Popliteal vein |

Classification of causes;

- | | |
|---------|--------------|
| Primary | - congenital |
|---------|--------------|

Secondary

- pregnancy
- Ascites
- Obesity
- Constipation
- Thrombosis of leg veins
- Spend long period of time standing

Predisposing factors;

Old age
Obesity
Female
Pregnancy
Hypertension
Lower socio – economic status
Previous injury
H / O Deep vein thrombosis
Congestive heart failure
Anaemia
Zinc deficiency
Defective fibrinolytic system

Classification;

- A) Clinical
- C0 : No visible or palpable signs of venous disease
 - C1 : Telangiectasies or reticular vein
 - C2 : Varicose veins
 - C3 : Oedema

C4 : Pigmentation or oedema, lipodermatosclerosis

C5 : Healed venous ulcer

C6 : Active venous ulcer

-primary

-Secondary

B) Anatomic

- Superficial veins

-Perforator veins

-Deep veins

Pathophysiology:

Venous blood from lower limb are pumped into heart through various factors, one of the main factor is calf muscle pumping. With each contraction of the calf, blood should be pumped to the heart (muscle pump). Intact valves in the lower leg are required to prevent this pumped blood from reflexing out through the perforators in to the superficial system. The hypertrophy of these superficial veins is marked by the development of varicose veins. Increased pressure on the iliac veins from pregnancy or obesity or simple inactivity may also result in the appearance of venous insufficiency as well. The valvular insufficiency results in disorder in the venous and capillary circulation in the leg. Valvular insufficiency may occur from prior thrombophlebitis or congenital weakness.

On physical examination:

- Varicose vein can be of any shape and size.
- The edges are slopping and pale purple - blue in colour.
- The margin is thin and blue of growing epithelium.
- The floor is formed by pale granulation tissue.
- The ulcer is usually shallow and flat never penetrates the deep fascia.
- The discharge is seropurulent with occasional trace of blood.
- The base of the ulcer is fixed to the deeper structures. Granulation tissue and fibrin present in base of the ulcer.

- The surrounding skin is shows signs of chronic venous hypertension (pigmentation, induration and tenderness).
- Venous dermatitis with hyperpigmentation and hemosiderosis or haemoglobin deposition in the skin.
- There may be scare of previous ulcer.
- Regional lymph nodes (inguinal nodes) are only enlarged if the ulcer infected.
- Lower extremities varicosities present.
- Swelling of lower limb
- Lipodermatosclerosis with thickening and fibrosis of normal adepose tissue under skin.

Complications:

- Cellulitis
- Osteomyelitis
- Malignant changes
- Hemorrhage
- Perioseitis

DIFFERENTIAL DIAGNOSIS:

Traumatic ulcer – this ulcer can be caused by either mechanical, physical or chemical injury. This ulcer heels quickly unless supervened by infection or ischaemia. Which may turn this ulcer to chronicity.

Ischaemia or arterial ulcer – thus ulcer due to peripheral arterial diseases and poor peripheral circulation. This is more often seen in older people and younger men between 20 to 40 yrs. In this ulcer patches of dry gangrene may be present along with ulcer. These ulcers are occurs on the anterior and outer aspect of the leg, dorsum of hand, on the toes or the heel. Pain is main complaint of this disease. An arterial ulcer occurs below the medial malleolus. There is history of intermittent claudication and resting pain in majority of cases. If the leg is kept elevated above the heart level the ulcer shows no sign of healing and patient will complaint of pain in this position. On examination these ulcers are punched out with destruction of deep fascia. Tendons, bones, and underlying joints may be exposed on the floor of the ulcer. Which covered by minimal granulation tissue. Presence of ischaemic changes can be detected on the

foot (pallor, dry skin, loss of hair, fissuring of nails). Pulse of dorsalis pedis artery is always either feeble or absent.

Trophic ulcer (neurogenic)- these ulcers have punched out edge with slough in the floor thus resembling a gummatous ulcer. Eg bed sore and perforating ulcers. These ulcers develop as the result of repeated trauma to the insensitive part of the body. These ulcers are commonly seen on the heel and the ball of the foot. When the patient is ambulatory, on the buttock and on the back on the heel the patient is non-ambulatory. The ulcer starts with callosity under which suppuration takes place, the pus comes out and the central hole forms the ulcer which gradually burrows through the muscles and tendons to the bone. Floor is covered with offensive slough and tendons and even bones can be seen here. The surrounding skin has no sensation. The cause may be spinal or leprosy or peripheral nerve injury, diabetic neuropathy, tabes dorsalis, transverse myelitis or meningomyelocele.

Tuberculous ulcer – this mostly results from bursting of caseous lymph nodes arising from abscesses from bone and joint tuberculosis and breaks out on the surface. Ulcer is slightly painful usually seen in the neck and groin. The features of ulcer is its edge which is thin, reddish blue and undermined, pale granulation tissue with scanty serosanguineous discharge in the floor and slight induration at the base. The regional lymph nodes are enlarged, nontender and matted.

Syphilitic ulcer – hard chancre appears on the external genitalia 3 to 4 weeks after infection in the first stage of this disease. It is painless and possesses a characteristic indurated base which feels like a button. Lymph nodes are enlarged. Extra genitalia chancres which are seen in the nipple, lip, tongue and anal canal are not often indurated.

Meleny's ulcer- these ulcers are seen in the postoperative wounds either after the operation for perforated viscus or for drainage of emphysema thoracis. This type of ulcer is due to synergistic action of microaerophilic non haemolytic streptococci and haemolytic staphylococcus aureus. It is a gangrenous wound following any operation. Rarely is it seen on the leg or on the dorsum of the hand. It is spreading ulcer which is painful with signs of toxæmia. The floor contains abundant foul smelling granulation tissues with copious seropurulent discharge. It is surrounded by deep purple zone,

which in turn is surrounded by an outer zone of erythema. This particular condition is painful, toxæmic and the general condition deteriorates without treatment. If it is not treated the patient's general condition deteriorates and he will die ultimately.

Examination:

- Abdomen mass
- Peripheral pulses
- Pattern of varicosities – LSV/SSV
- Trendelenburg test

Investigation:

- Doppler
- Air plethysmography – venous refiling time
- Venogram
- Duplex scan
- USG abdomen /pelvis
- Ulcer- swab culture, TWDC

Treatment:

- | | |
|------------------|--|
| A) Non-surgical. | compression stockings
wound dressing

Weight reduction

Leg elevation at rest |
| B) Surgical | High saphenous ligation
Endovenous laser ablation

Sclerotherapy |

Prevention:

- Be active moving the leg muscles keeps the blood flowing
- Keep your blood pressure under control. Work with your doctor

- To temporarily relieve symptoms, lie down and raise your legs at least six inches above the level of your heart. Do this for ten minutes a few times each day
- Maintain a normal body weight
- Wear prescription compression stockings as specified by your doctor

DRUG REVIEW

DRUG REVIEW

INTERNAL MEDICINE - ELATHY CHOORANAM

ELAM

Botanical name : Elettaria cardamomum

English name : Cardamom seeds

Family : Zingiberaceae

Organoleptic character

Taste : Acrid

Potency : Hot

Division : Acrid

General properties:

“தொண்டை கால்கவுள் தாலுகுங்ளில்

தோன்றும் நோதிசாம்பன் -மேகத்தால்

உண்டை போல்எழுங் கட்டிகிரிச்சாரம்

உழலை வாந்திசிலந்தி விஷஞ்சுரம்

பண்டை வெக்கைவிதாகநோய் காசமும்

பாழுஞ் சோமப் பிணி விந்துநட்டமும்

ஆண்டை யீளைவன் பித்தம் இவைக்கெல்லாம்

ஆல மாங்கமழ் ஏலமருந்ததே”.

Action:

- Stimulant
- Carminative
- Stomachic
- Antispasmodic
- Tonic

Chemical constituents:

Alpha terpinyl acetate, Linalyl acetate, Limonen, Linalol, Cineole, Citrinellol, Nerol, Transnerolidol

CHUKKU

Botanical name : Zingiber officinale

English name : Dried ginger

Family : Zingiberaceae

Organoleptic character

Taste : Acrid

Potency : Hot

Division : Acrid

General properties:

“தூலைமந்தம் நெஞ்செரிப்பு தோடமேப் பம்மழலை
மூலம் இரைப்பிருமல் மூக்குநீர் - வாதகப
தோடமதி சாரந் தொடர்வாத குன்மநீர்த்
தோடம்ஆ மம்போக்குஞ் சுக்கு”.

-அகத்தியர் குணவாகடம்

Action:

- Stimulant
- Stomachic
- Carminative

Chemical constituents:

Gingerin, Phellandrene, High flavonoid contents, polyphenols, tannin, isovanilin, adenine

KOOGAINEERU

Botanical name	:	Maranta arunsinace
English name	:	Arrow root
Family	:	Marantaceae

Organoleptic character

Taste	:	Sweet
Potency	:	Hot
Division	:	Sweet

General properties:

“மேனியிடும் வாய்க்கு மிருதுவாம் ஆக்கியண்ணத்
தானிருமல் வெப்பதிக தாகமிவை – ஏனிருக்கும்
அம்பே றிளங்கிழங்கி தியாவர்க்கு மாமணப்பூங்
கொம்பே கூகைக்கிழங்கைக் கூறு”.

- அகத்தியர் குணவாகடம்

Action:

- Refrigerant
- Demulcent
- Nutrient

THALISAPATHIRI

Botanical name	:	Taxus buccata
English name	:	English yew
Family	:	Taxaceae

Organoleptic character

Taste	:	Acrid
Potency	:	Hot

Division : Acrid

General properties:

“நாசி களப்பிணிகள் நாட்பட்ட – காசஞ்சு
வாசம் அருசி வனமங்கால் – வீசீவரு
மேகமந்தம் அத்திசுரம் விட்டேகுந் தாளிசத்தால்
ஆகுஞ் சுகப்பிரச வம்”.

-அகத்தியர் குணவாகடம்

Action:

- Carminative
- Stomachic
- Expectorant
- Tonic

SIRUNAAGAPOO

Botanical name : Mesua nagassarium
English name : Ceylon lorn wood
Family : Calophyllaceae

Organoleptic character

Taste : Bitter, astringent
Potency : Coolent
Division : Acrid

General characters:

“சிறுநாகப் பூவினதுசெய் கைதனைச் சொல்வோம்
குறியாகும் மேகத்தைக் கொல்லும் – நெறிவிட்டுத்
தீதாய்ச் செல்வாயுவைந் தீர்க்குமிகு மற்போக்கும
கோதாய்! இதையறிந்து கொள்”.

Action:

- Astringent
- Carminative
- Anti – inflammatory
- Anti pyretic

MILAGU

Botanical name : Piper nigrum

English name : Black pepper

Family : Piperaceae

Organoleptic character

Taste : Bitter, Acrid

Potency : Hot

Division : Acrid

பொதுகுணம்:

“தீயாகி யெங்கும் திரியுமதை யாவத்து
மோயாம லெப்படியு முண்டாக்காற் – பாயாது
போந்திமிர்வா தங்கிரந்தி புண்ணீரும் மண்ணவர்க்கும்
காந்திமெய்வா தச்சலுப்பைக் காய்”.

Action:

- Carminative
- Pungent
- Anti periodic
- Analgesic
- Anti inflammatory
- Anti oxidant
- Cyclo oxygenase inhibitory activity

Chemical constituents:

A volatile alkaloid piperine or pipirine 5-9%, piperidine or piperidin 5%, balsamic volatile essential 1-2%, fat 7%. Mesocarp contains chavicin, a balsamic volatile oil, starch, gum, piperettine, pipericide, sarmentine, eugenol.

Ref: Indian Herbal Pharmacopoeia,0-321.

KIRAMBU

Botanical name	:	Syzygium aromaticum
English name	:	Cloves, Clove tree
Family	:	Myrtaceae

Organoleptic character

Taste	:	Acrid
Potency	:	Hot
Division	:	Acrid

பொது குணம்:

“பித்த மயக்கம் பேதியொடு வாந்தியும்போம்
சுத்தவிரத்தக் கடுப்புந் தோன்றுமோ - மெத்த
இலவங்கங் கொண்டவ ருக்கேற் சுகமாகும்
மலமங்கே சுட்டுமென வாழ்த்து”.

- அகத்தியர் குணவாகடம்

Action:

- Anti spasmodic
- Carminative
- Stomachic

Chemical constituents:

Essential oils mainly contain euginol, euginyl acetate, beta – caryophiline.

SUGAR

Botanical name	:	Saccharum officinarum
English name	:	Sugar cane
Family	:	Poaceae

Organoleptic character

Taste	:	Sweet
Potency	:	Coolent
Division	:	Sweet

பொது குணம்:

“சீனிச் சர்க்கரைத் தீராத வன்சுரமுங்
கூனிக்கும் வாதத்தின் கூட்டுறவும் – ஏனிருக்கும்
வாந்தி யொடுகிருமி மாறாத விக்கலுமே
போந்திசையை விட்டுப் புரண்டு”.

-அகத்தியர் குணவாகடம்

Action:

- Antiseptic
- Demulcent

EXTERNAL MEDICINE - PATHIRASARA VIRANA POOCHU THAILAM

AVARAI

Botanical name	:	Cassia auriculata
English name	:	Tanners - cassia
Family	:	Caesalpinaceae

Organoleptic character

Taste	:	Astringent
Potency	:	Coolent
Division	:	Sweet

General properties:

“மோகத்தி னாலே விளைந்தசலம் வெட்டையனல்
ஆகத்தின் புண்ணோ டருங்கிராணி – போகத்தான்
ஆவாரைப் பஞ்சகங்கொள் அத்திசுரம் தாகமும்போம்
ஏவாரைக் கண்மட மாதே!”

Action:

- Astringent
- Tonic

Chemical constituents

Bark contains tannin 25p.c and ash 5p.c

VEMBU

Botanical name	:	Azadiracta indica
English name	:	Neem
Family	:	Meliaceae

Organoleptic character

Taste	:	Bitter
Potency	:	Hot
Division	:	Acrid

General properties:

“கிருமிகுட்ட மாந்தங் கெடுவிடஞ்சு ரங்கள்
பொருமிய சூரிகையின் புண்கள் – ஒருமிக்க
நிம்பத் திலையிருக்க நீடுலகில் நீங்காமல்
கம்பத் திலையிருக்கக் காண்”.

Action:

- Stimulant
- Anthelmintic
- Discutient

Chemical constituents:

Active principle is a light yellow non-crystalline, better, resinous substance without alkaloidal properties. Sugar is present and tannin occurs in the outer portion of bark. Activity resides in the liber or inner bark.

NAAYURUVI

Botanical name	:	Achyranthus aspera
English name	:	Prickly chaff
Family	:	Amaranthaceae

Organoleptic character

Taste	:	Bitter, Astringent, Pungent
Potency	:	Hot
Division	:	Acrid

General properties:

“மலிகாரங் கைப்புள்ள அபமார்க்கி யின்வேரால்
வசியமுண்டாம்
இலைமூல உதிரமந்தம் பேதிகபம்வியர்வுதந்தி
யிறங்குமேகம்

மலையேறும் படிபுரிய முள்ளரிசி பசிமாற்றும்
வசைமூலம்
பலமாதர்க் குள்ளமுக்கை நீக்குவங்கஞ் சிந்தூரம்
பண்ணுமாதோ”.

Action:

- Astringent
- Diuretic
- Alterative
- Anti periodic

Chemical constituents:

Fruits contains a large percentage of alkaline ash containing potash.

VETPALAI

Botanical name	:	Wrightia tinctoria
English name	:	Sweet indrajoo
Family	:	Apocynaceae

Organoleptic character

Taste	:	Astringent, sweet, slightly bitter
Potency	:	Hot
Division	:	Acrid

General properties:

“அக்கினியை வைத்திருக்கு மாந்தவாதம் போக்குந்
திக்குழரி தோடத்தைத் தீர்த்துவிடும் - சொர்க்கவிரு
கட்பாலைக் கூற்றைவைத்த கானமட மயிலே!
வெட்பாலை நன்மருந்தாம் விள்”.

Action:

➤ **Astringent**

Chemical constituents:

The bark contains triterpenes as the major components and B sitosterol as a minor component. The former included B-amyrin, lupeol and another triterpene alcohol.

PARUTHI

Botanical name : Gossypium herbaceum

English name : Indian cotton plant

Family : Malvaceae

Organoleptic character

Taste : Astringent, sweet

Potency : Hot

Division : Acrid

General properties:

“பருத்தியிலை மொக்கிரண்டைப் பாலிலரைத் துண்ண
வருந்துகின்ற மேகமெல்லாம் மாறும் – பருத்த
விரத்தபித்தத் தோடு விரணவீக் கம்போம்
அரத்தவிதழ் மாதே! யறை”.

Action:

➤ Astringent

➤ Tonic

Chemical constituents:

Querdetin, betaine, choline, salicylic acid etc. oil determinations made on the whole seeds of G. herbaceum varieties found in the following places, were as follows:-

a) Surat moisture 5.10 to 9.90; oil 16.70 to 18.80

b) Surti broach moisture 5.10 to 9.90; oil 21.65

- c) Goghari E.5 moisture 5.10 to 9.90; oil 16.25
d) Dharwar moisture 5.10 to 9.90; oil 18.15.

PULI

Botanical name	:	Tamarindus indica
English name	:	Tamarind
Family	:	Caesalpinaceae

Organoleptic character

Taste	:	Sour
Potency	:	Hot
Division	:	Acrid

General properties:

“அழுபண்ணை நீக்கும் அடல் சோபை மாற்றும்
எழுபாண்டு வைப்போக்கும் இப்பால் - முழுதும்
அனியச் சிவந்தகண்ணோ யாற்றுங் கனலாம்
புளியிலையை நன்றாய்ப் புகல்”.

Action:

- Stimulant

Chemical constituents:

Pulp contains tartaric acid 5p.c., citric acid 4 p.c., malic and acetic acids, tartaric of potassium 8p.c., invert sugar 25 to 40p.c., gum and pectin. Seeds testa contain a fixed oil and insoluble matter. Seeds contain albuminoids, fats, carbohydrates 63.22 p.c., fibre and ash containing phosphorus and nitrogen. Fruit contains trace of oxalic acid.

THUTHUVALAI

Botanical name	:	Solanum trilobatum
English name	:	Purple fruited pea egg plant

Family : Solanaceae

Organoleptic character

Taste : Slightly bitter, pungent

Potency : Hot

Division : Acrid

General properties:

“காதுமந்தம் காதெழுச்சி காசந் தினவுமதம்
ஓதுமந்தம் முத்தோடம் உட்துலை – தாதுநட்டம்
மீதுளைப் பத்திரியை மேவச்செய் வாராய்ந்தோர்
துதுளைப் பத்திரியைத் துய்த்து”.

Action:

- Stimulant
- Expectorant
- Tonic

Chemical properties:

The leaf and stem contain sobatum, B-solamarine, solasodine, solaine glycoalkaloid and diosogenin.

OONAAN

Botanical name : Convolvulus racemosus

English name : Bindweed / Morning glory

Family : Convolvulaceae

Organoleptic character

Taste : bitter, astringent

Potency : Hot

Division : Acrid

ENNAI

Botanical name	:	Sesamum indicum
English name	:	Sesame oil
Family	:	Pedaliaceae

Organoleptic character

Taste	:	Sweet
Potency	:	Hot
Division	:	Sweet

General properties:

“புத்தியெனக் குளிர்ச்சி பூரிப்பு மெய்ப்புளகச்
சத்துவங் கந்ததனி யிளமை – மெத்தவுண்டாங்
கண்ணோய் செவிநோய் கபாலழல் காசநோய்
புண்ணோய்போ மெண்ணெய்யாற் போற்று”.

Action:

- Demulcent
- Laxative
- Nutrient
- Emollient

Chemical constituents:

Seeds contain fixed oil 50 to 60 o.c., (white variety 48p.c., black and red varieties about 46p.c). seeds also contain proteids 22p.c. carbohydrates 18p.c. mucilage 4p.c woody fibre 4p.c., and ash 4.8 p.c. oil contains 70p.c of liquid fats consisting of the glycerides of oleic and linoleic acids and 12 to 14 p.c. of solid fats, stearin, palmitin and myristin; a crystalline substance sesamin and a phenol compound sesamol.

MATERIALS AND METHODS

MATERIALS AND METHODS

1.A. STANDARD OPERATING PROCEDURE FOR ELATHY CHOORANAM:

SOURCE OF RAW DRUGS:

The required raw drugs for the trial medicine were purchased from a well reputed country raw drug shop and drugs were authenticated by the competent authority Medicinal Botany and Gunapadam dept. After that the raw drugs were purified as per Siddha literatures then the trial drugs prepared in Gunapadam laboratory of National Institute of Siddha.

INGREDIENTS OF ELATHY CHOORANAM:

Lavangam (<i>Syzygium aromaticum</i>)	-	1 part
Milagu (<i>Piper nigrum</i>)	-	2 part
Chiru nagapoo (<i>Mesua nagassarium</i>)	-	4 part
Thalisapatri (<i>Abies spectabilis</i>)	-	8 part
Kugai neer (<i>Maranta arundinacea</i>)	-	16 part
Chukku (<i>Zingiber officinale</i>)	-	32 part
Elam (<i>Elettaria cardamomum</i>)	-	64 part
Sugar (<i>Saccharum officinarum</i>)	-	128 part

METHOD OF PURIFICATION OF RAW DRUGS:

Purification of Lavangam:

Remove the contaminated debris and dried in sunlight.

[Ref: Sikicha Rathina Deepam Ennum Vaithiya Nool page 29]

Purification of Milagu:

Soak in butter milk for a period of one saamam (3 hours) then allow it to dry.

[Ref: Sikicha Rathina Deepam Ennum Vaithiya Nool page 28]

Purification of Chiru nagapoo:

Remove the contaminated debris and dried in sunlight.

[Ref: Sikicha Rathina Deepam Ennum Vaithiya Nool page 29]

Purification of Thalispatri:

Remove the contaminated debris and dried in sunlight.

[Ref: Sikicha Rathina Deepam Ennum Vaithiya Nool page 29]

Purification of Kugai neer:

Mix with water and filtered for seven times. Then dried in sunlight.

[Ref: Sikicha Rathina Deepam Ennum Vaithiya Nool page 31]

Purification of Chukku:

Dip one part of chukku in twice the part of limestone water for one samam (3 hours). Then dried and remove the outer layer of it.

[Ref: Sighitcha Rathan Deepam Ennum Vaithiya Nool, Page: 29]

Purification of Elam:

Remove the contaminated debris and dried in sunlight.

[Ref: Sikicha Rathina Deepam Ennum Vaithiya Nool page 29]

Purification of sugar:

Grind the solid sugar and remove the debris using muram.

[Ref: Sikicha Rathina Deepam Ennum Vaithiya Nool page 34]

METHOD OF PREPARATION:

Purified raw drugs were dried, pulverized in ural and filtered with cotton cloth. The powdered raw drugs were mixed with the sugar and stored in a container.

1.B. STANDARD OPERATING PROCEDURE FOR PATHIRASARA VIRANA POOCHU THAILAM:

Ingredients:

Gingelly oil	- 1/2 padi(0.7 lit)
Aavarai leaf juice (Cassia auriculata)	- 1 uri (0.7 lit)
Vembu leaf juice (Azadirachta indica)	- 1 uri (0.7 lit)

Oonaan leaf juice (<i>Convolvulus racemosus</i>)	- 1 uri (0.7 lit)
Naayurivi leaf juice (<i>Achyranthes aspera</i>)	- 1 uri (0.7 lit)
Vetpalai leaf juice (<i>Wrightia tinctoria</i>)	- 1 uri (0.7 lit)
Paruthi leaf juice (<i>Gossypium herbaceum</i>)	- 1 uri (0.7 lit)
Puli leaf juice (<i>Tamarindus indica</i>)	- 1 uri (0.7 lit)
Thuthuvalai leaf juice (<i>Solanum trilobatum</i>)	- 1 uri (0.7 lit)

METHOD OF PREPARATION:

All the leaf juices are mixed together with oil and then boiled till it attained the consistency.

EXTERNAL WASH:

Arasampattai bark (*Ficus religiosa*) decoction is prepared and used for external wash on next day of oil application.

DRUG STORAGE:

The trial drug **Elathy chooranam** was stored in clean and dry glass bottles and **Pathirasara virana poochu thailam** was stored in clean and dry narrow mouthed bottles.

DISPENSING:

The Powder was given in packet. Oil was given in pet bottles.

INTERNAL MEDICINE - INGREDIENTS

Elam (*Elettaria cardamomum*)



Chukku (*Zingiber officinale*)



Milagu (*Piper nigrum*)



Kirambu (*Syzygium aromaticum*)



Koogaineeru (*Maranta arunsinacea*)



Sirunagapoo (*Mesua nagassarium*)



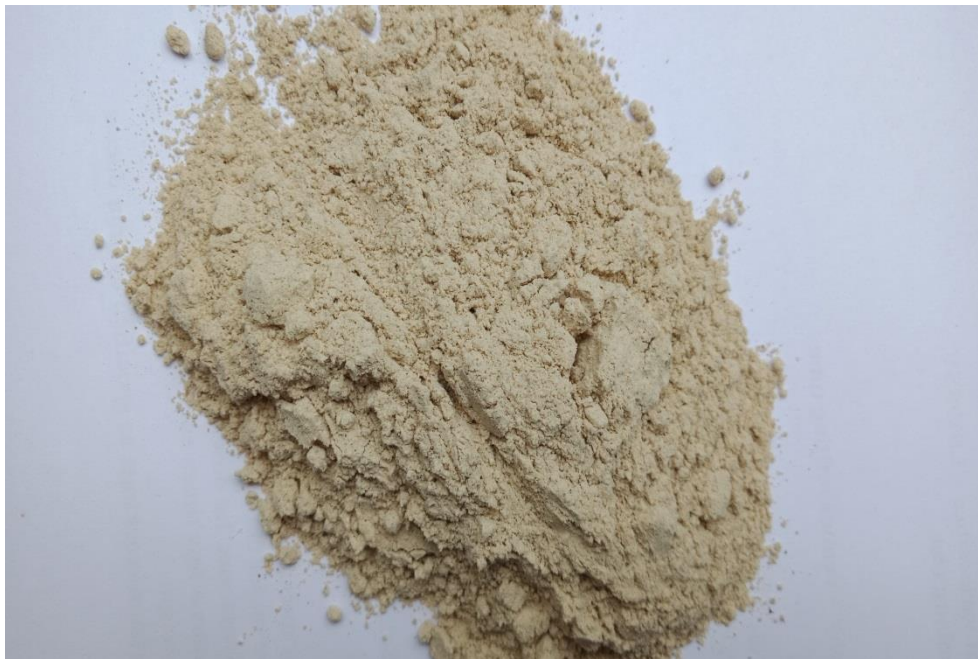
Thalisapathri (*Taxus buccata*)



Chakkarai (*Saccharum officinarum*)



ELATHY CHOORANAM



EXTERNAL MEDICINES – INGREDIENTS

Aavarai (*Cassia auriculata*)



Vembu (*Azadirachta indica*)



Paruthi (*Gossypium herbaceum*)



Oonaan (*Convolvulus racemosus*)



Puli (*Tamarindus indica*)



Naayuruvi (*Achyranthes aspera*)



Thuthuvalai (*Solanum trilobatum*)



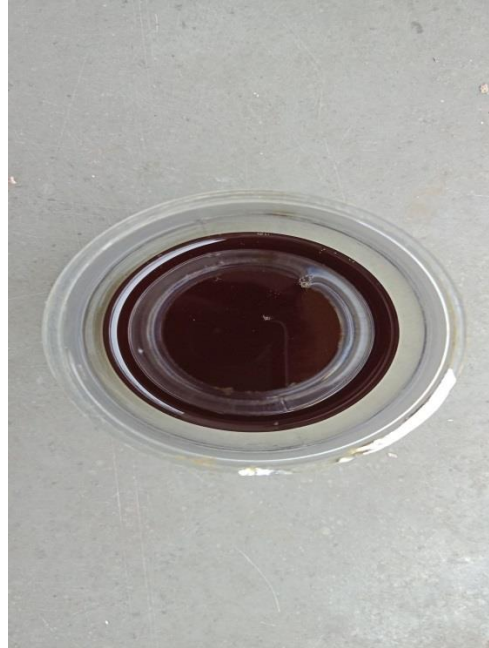
Vetpalai (*Wrightia tinctoria*)



GINGELLY OIL



PATHIRASARA VIRANA POOCHU THAILAM



2.BIO-CHEMICAL EVALUATION

Experimental procedure:

5 g *Elathy chooranam* was taken in a 250 ml of clean beaker and 50ml of distilled water was added to it. Then it was boiled well for about 10 min. Then it is allowed to cool and filtered in a 100 ml volumetric flask and made up to 100 ml with distilled water. This preparation is used for the qualitative analysis of acidic/ basic radicals and biochemical constituents in it.

Preparation of extract:

5gm of *Elathy chooranam* is weighed accurately and placed in a 250ml clean beaker and 50ml of distilled water was added with it. Then it was boiled well for about 10 minutes. Then it was allowed to cool and filtered in a 100ml volumetric flask and made up to 100ml with distilled water. The bio-chemical analysis of *Elathy chooranam* was done at Biochemistry lab, National Institute of Siddha, Chennai-47.

Preliminary test for Copper, Sodium, Silicate and Carbonate:

➤ Test for Silicate:

- a. A little (500mg) of the sample is shaken well with distilled water.
- b. A little (500mg) of the sample is shaken well with con. HCl/Con. H₂SO₄.

➤ **Action of Heat:** A small amount (500mg) of the sample is taken in a dry test tube and heated gently at first and then strong.

➤ **Action of Heat:** A small amount (500mg) of the sample is taken in a dry test tube and heated gently at first and then strong.

➤ **Flame Test:** A small amount (500mg) of the sample is made into a paste with con. HCl in a watch glass and introduced into non-luminous part of the Bunsen

flame.

- **Ash Test:** A filter paper is soaked into a mixture of sample and dil. cobalt nitrate solution and introduced into the Bunsen flame and ignited.

Test for Acid Radicals

- **Test for Sulphate:** 2ml of the above prepared extract was taken in a test tube and 2ml of 4% dil. ammonium oxalate solution was added.
- **Test for Chloride:** 2ml of the above prepared extracts was added with 2ml of dil-HNO₃ until the effervescence ceases off. Then 2 ml of silver nitrate solution was added.
- **Test for Phosphate:** 2ml of the extract was treated with 2ml of con. HNO₃ and 2ml of dil. ammonium molybdate solution.
- **Test for Carbonate:** 2ml of the extract was treated with 2ml dil. magnesium sulphate solution
- **Test for Nitrate:** 1gm of the substance was heated with copper turning and concentrated H₂SO₄ and viewed the test tube vertically down.
- **Test for Sulphide:** 1gm of the substance was treated with 2ml of con. HCL
- **Test for Fluoride & Oxalate:** 2ml of extract was added with 2ml of dil. Acetic acid and 2ml dil. calcium chloride solution and heated.
- **Test for Nitrite:** 3drops of the extract was placed on a filter paper, on that-2 drops of dil. acetic acid and 2 drops of dil. Benzidine solution were placed.

Test for Basic Radicals

- **Test for Lead:** 2ml of the extract was added with 2ml of dil. potassium iodine solution.
- **Test for Copper:** One pinch (50mg) of substance was

made into paste with con. HCl in a watch glass and introduced into the non-luminous part of the flame.

- **Test for Aluminium:** In the 2ml of extract dil. sodium hydroxide was added in 5 drops to excess.
- **Test for Iron:**
 - a) To the 2ml of extract add 2ml of dil. ammonium solution
 - b) To the 2ml of extract 2ml thiocyanate solution and 2ml of con HNO₃ is added
- **Test for Zinc:** In 2ml of the extract dil. sodium hydroxide solution was added in 5 drops to excess and dil. ammonium chloride was added.
- **Test for Calcium:** 2ml of the extract was added with 2ml of 4% dil. ammonium oxalate solution
- **Test for Magnesium:** In 2ml of extract dil. sodium hydroxide solution was added in drops to excess.
- **Test for Ammonium:** In 2ml of extract 1 ml of Nessler's reagent and excess of dil. sodium hydroxide solution were added.
- **Test for Potassium:** A pinch (25mg) of substance was treated with 2ml of dil. sodium nitrite solution and then treated with 2ml of dil. cobalt nitrate in 30% dil. glacial acetic acid.
- **Test for Sodium:** 2 pinches (50mg) of the substance was made into paste by using HCl and introduced into the blue flame of Bunsen burner.
- **Test for Mercury:** 2ml of the extract was treated with 2ml of dil. sodium hydroxide solution.
- **Test for Arsenic:** 2ml of the extract was treated with 2ml of dil. sodium hydroxide solution.

Other constituents

- **Test for Starch :** 2ml of extract was treated with weak dil. iodine solution
- **Test for Reducing Sugar:** 5ml of Benedict's qualitative solution was taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boil it for 2 minutes.
- **Test for the Alkaloids:**
 - a) 2ml of the extract is treated with 2ml of dil. potassium iodide solution.
 - b) 2ml of the extract is treated with 2ml of dil. picric acid.
- **Test for Tannic Acid:** 2ml of extract was treated with 2ml of dil. ferric chloride solution
- **Test for Unsaturated Compound:** In the 2ml of extract 2ml of dil. Potassium permanganate solution was added.
- **Test for Amino Acid:** 2 drops of the extract was placed on a filter paper and dried well, and then 20ml of Burette reagent was added in it.

CLINICAL STUDY

STUDY DESIGN:

STUDY TYPE	: An open clinical trial
STUDY PLACE	: OPD and IPD of Ayothidoss Pandithar Hospital, National Institute of Siddha, Tambaram Sanatorium, Chennai - 47.
STUDY PERIOD	: 18 Months
SAMPLE SIZE	: 40 patients (20 IPD & 20 OPD patients included for trial)

SUBJECT SELECTION:

Patients reporting with symptoms of inclusion criteria were subjected to screening test and documentation.

INCLUSION CRITERIA

- Age : 20-60 years
- Sex : Both male and female
- Presence of ulcers with varicose veins
- With or without Pain, Itching, Edema, Fibrinous exudates in the lesions
- Hyper pigmentation

- Eczema around the ulcer
- Inflammation & Induration
- Willing to give specimen of blood for the investigation.
- Permit to take photograph.
- Willing to participate in trial and signing consent by fulfilling the condition of Proforma.

EXCLUSION CRITERIA

- Diabetes Mellitus.
- Hansen's disease.
- Diabetic ulcer
- Gangrene
- Tuberculous ulcer
- Any other systemic illness.

WITHDRAWAL CRITERIA

- Intolerance to the drug and development of any serious adverse effect during drug trial.
- Poor patient compliance & defaulters
- Patient unwilling to continue the course of clinical Study.
- Occurrence of any other systemic illness

TESTS AND ASSESSMENTS:

1. Clinical assessment
2. Siddha system assessment
3. Routine investigations

1. CLINICAL ASSESSMENT:

- Presence of ulcers with varicose veins
- With or without Pain, Itching, Edema, Fibrinous exudates in the lesions
- Hyper pigmentation
- Eczema around the ulcer
- Inflammation & Induration

Improvement assessed by following assessment:

1. The Outcome of the treatment were observed by Venous clinical severity score (VCSS) before and after treatment.

VENOUS CLINICAL SEVERITY SCORE

ATTRIBUTE	ABSENT=0	MILD=1	MODERATE=2	SEVERE=3
PAIN	NONE	OCCASIONAL, NOT RESTRICTING ACTIVITY OR REQUIRING PAIN MEDICATION	DAILY MODERATE ACTIVITY LIMITATION; OCCASIONAL PAIN MEDICATION	DAILY, SEVERE LIMITING ACTIVITIES OR REQUIRING REGULAR USE OF PAIN MEDICATIONS
VARICOSE VEINS	NONE	FEW SCATTERED	MULTIPLE; GREAT SAPHENOUS VEINS, CONFINED TO CALF AND THIGH	EXTENSIVE; THIGH AND CALF OR GREAT AND SMALL SAPHENOUS DISTRIBUTION
VENOUS EDEMA	NONE	EVENING ANKLE SWELLING ONLY	AFTERNOON SWELLING, ABOVE ANKLE	MORNING SWELLING ABOVE ANKLE AND REQUIRING ACTIVITY CHANGE, ELEVATION
SKIN PIGMENTATION	NONE	DIFFUSE, BUT LIMITED IN AREA AND OLD (BROWN)	DIFFUSE OVER MOST OF GAITER DISTRIBUTION (LOWER THIRD) OR RECENT PIGMENTATION (PURPLE)	WIDER DISTRIBUTION (ABOVE LOWER THIRD) PLUS RECENT PIGMENTATION
INFLAMMATION	NONE	MILD CELLULITIS, LIMITED TO MARGINAL AREA AROUND ULCER	MODERATE CELLULITIS, INVOLVES MOST OF (LOWER THIRD)	SEVERE CELLULITIS (LOWER THIRD AND ABOVE) OR SIGNIFICANT
INDURATION	NONE	FOCAL, CIRCUMMALL EOLAR	MEDIAL OR LATERAL, LESS THAN LOWER THIRD OF LEG	ENTIRE LOWER THIRD OF LEG OR MORE

NUMBER OF ACTIVE ULCERS	0	1	2	>2
ACTIVE ULCER DURATION	NONE	<3 MONTHS	>3 MONTHS, <1YEAR	NOT HEALED>1 YEAR
ACTIVE ULCER DIAMETER	NONE	<2	2-6	>6
COMPRESSION THERAPY	NOT USED OR PATIENT NOT COMPLIANT	INTERMITTANT USE OF STOCKINGS	WEARS ELASTIC STOCKING MOST DAYS	FULL COMPLIANCE, STOCKINGS+ELEVATION

1. INVESTIGATIONS BASED ON SIDDHA SYSTEM:

1. Naadi
2. Sparisam
3. Naa
4. Niram
5. Mozhi
6. Vizhi
7. Malam
8. Moothiram

● Neerkkuri:

● Neikkuri :

1. INVESTIGATION:

BLOOD

- Hb
- Total WBC Count
- DC
 - Polymorphs
 - Lymphocytes
 - Eosinophils
 - Monocytes
 - Basophils

- Total RBC count
- ESR
 - ½ Hr: 1 Hr:
- Blood sugar
 - Fasting: PP:
- Serum cholesterol

URINE

- Albumin
- Sugar(F) (PP)
- Deposits

RENAL FUNCTION TESTS

Blood Urea
 Serum Creatinine
 Uric acid

LIVER FUNCTION TESTS

Serum total bilirubin
 Direct bilirubin
 Indirect bilirubin
 Serum Alkaline phosphatases
 SGOT
 SGPT

DATA COLLECTION:

Required information were collected from each patient by using the following forms

FORMS:

- FORM I Screening and selection Proforma
- FORM II Clinical assessment Proforma
- FORM III Laboratory investigation Proforma
- FORM IV Drug compliance form
- FORM V Patient information sheet
- FORM VI Consent form
- FORM VII Withdrawal form/Pharmacovigilance
- FORM VIII Dietary Advice form

STUDY ENROLLMENT:

- Patients reporting at the OPD with clinical features of chronic ulcer, oedema, skin hyperpigmentation, fibrinous exudate, itching and eczema around the ulcer are chosen for enrolment based on the inclusion and exclusion criteria.
- The enrolled patients were informed about the study, trial drug, possible outcomes and the objectives of the study in the language and terms understandable to them and getting consent in the Informed Consent form (Form VI).
- Complete clinical history, complaints and duration, examination findings-- all would be recorded in the prescribed Performa's.

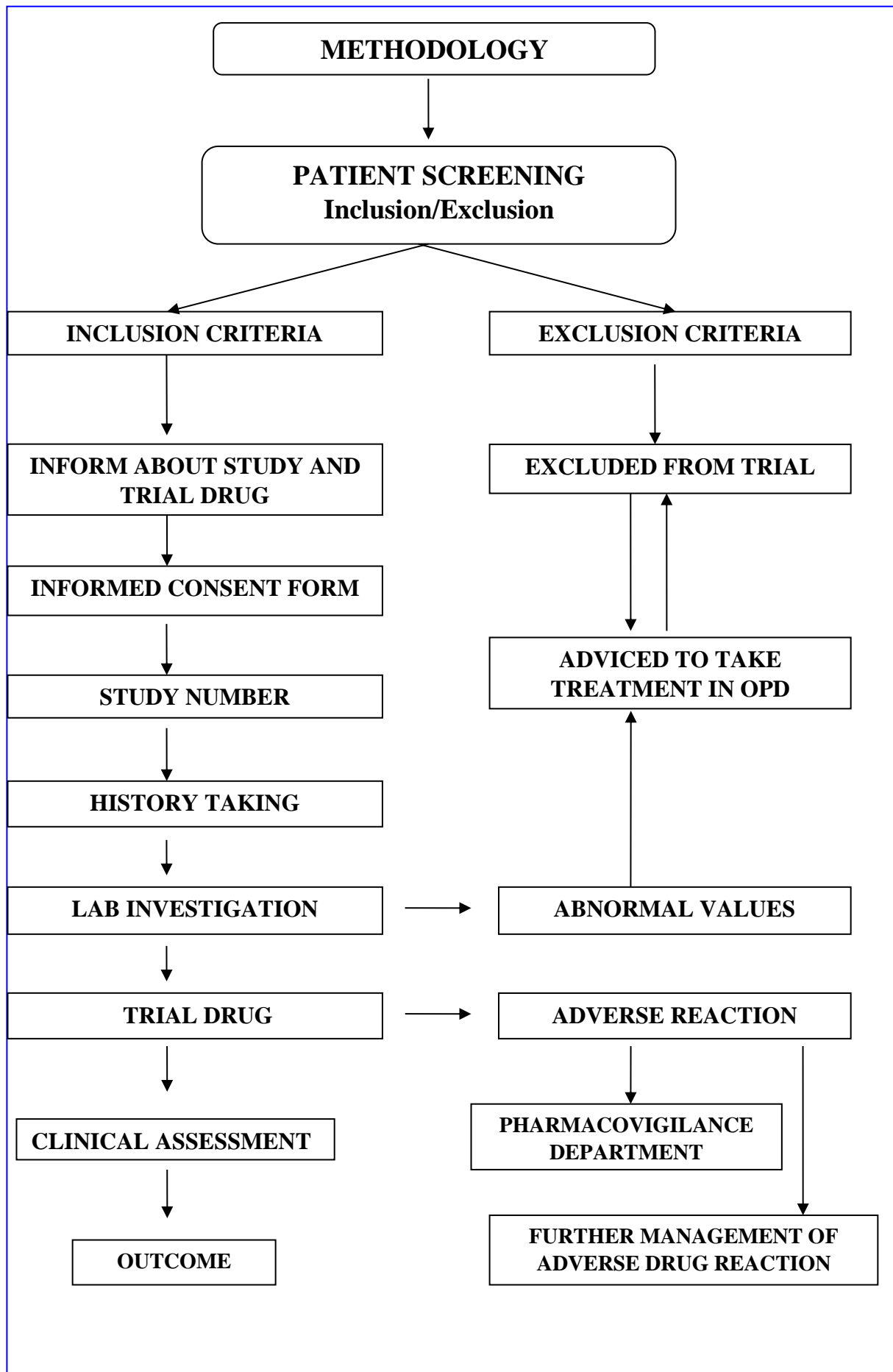
Screening Form- I was filled up, Form –II and Form –III were used for recording the patients, history, clinical examination of symptoms and signs and laboratory investigations respectively. If there is any abnormal laboratory reports obtained then excluded from this study. Patients would be advised to take the trial drug and appropriate dietary advice (Form VIII) would be given according to the patients, perfect understanding.

CONDUCT OF THE STUDY:

The day before the treatment Purgation was given with *Agasthiyar Kuzhambu* -200mg in the early morning in empty stomach with *Sangankuppi chaaru* for balancing the deranged mukkutram. Then the trial drugs “*ELATHY CHOORANAM*” (Internal) and “*PATHIRASARA VIRANA POOCHU THAILAM*” (External) were given for 45 days.

OPD patients were requested to visit the hospital once in 7 days. In each and every visit clinical assessment and prognosis were recorded in the presence of faculty members. For IPD patients the clinical assessment and prognosis were recorded daily.

Laboratory investigations were done before and after the trial. For IPD patients, who were not in a position to stay in the hospital for a long time were advised to attend the OPD for further follow-up. At the end of the trial, the patients were advised to visit the OPD for further 2 months for follow-up for any recurrence. Defaulters were allowed to continue and were withdrawn from the study with fresh case being inducted.



ADVERSE/SERIOUS EFFECTS MANAGEMENT:

If the trial patient develops any adverse reaction, he/she would be immediately withdrawn from the trial and were directed to take treatment in OPD of NIS. It was also be reported to the Pharmaco-vigilance committee of NIS.

DATA ANALYSIS:

After enrolling the patients in the study, a separate file for each patient was maintained and all forms were kept in the file. Study No. and patient's No. were entered on the top of the file for easy identification. Whenever the patients visit OPD during the study period, necessary entries were made at the assessment forms.

The screening forms were filled separately.

All forms were further scrutinized by Senior Research Officer (Statistics) for logical errors and incompleteness of data to avoid any bias. No modification in the results is permitted for unbiased reports.

ETHICAL ISSUES:

- The patients were informed about the treatment and other procedures in his vernacular language. After getting the consent only (language understandable to the patient) they were enrolled in the study.
- To prevent any infection, while collecting blood sample from the patient, only disposable syringes, disposable gloves, with proper sterilization of lab equipment's were used.
- The data collected from the patient was kept confidential.
- Treatment was provided free of cost.
- If any adverse reactions occur it was reported to the Pharmacovigilance committee of NIS and they were advised to take treatment at the OPD of National Institute of Siddha.

OBSERVATION AND RESULTS

RESULTS OF BIO-CHEMICAL ANALYSIS

Qualitative Analysis

SL. NO	EXPERIMENT	OBSERVATION	INFERENCE
1.	Appearance of the sample	Whitish in Colour	
2.	Solubility: a. A little of the sample is shaken well with distilled water. b. A little of the sample is Shaken well with con. Hcl Con. H ₂ SO ₄ .	Completely soluble Completely soluble	Absence of Silicate
3.	Action of Heat: A small amount of the sample is taken in a dry test tube and heated gently at first and then Strong.	No White fumes evolved Brown fumes not Evolved	Absence of Carbonate. Absence of Nitrate.
4.	Flame Test: A small amount of the sample is made into a paste with con. Hcl in a watch glass and introduced into non-luminous part of the Bunsen flame.	White flame is appeared	Absence of Copper.
5	Ash Test: A filter paper is soaked into a mixture of sample and cobalt nitrate solution and introduced into the Bunsen flame and ignited.	No Yellow colour flame.	Absence of Sodium.

Preparation of the Extract

5 gm of *Elathy chooranam* was weighed accurately and placed in a 250 ml clean beaker. Then 50 ml distilled water was added and dissolved well. Then it is boiled well for about 10 minutes. It was cooled and filtered in a 100 ml volumetric flask and then it was made up to 100 ml with distilled water. This fluid was taken for analysis.

SL. NO.	EXPERIMENT	OBSERVATION	INFERENCE
I. TEST FOR ACID RADICALS			
1.	Test For Sulphate: a. 2 ml of the above prepared extract is taken in a test tube to this added 2ml of 4% ammonium oxalate solution. b. 2ml of the above prepared extract is added with 2 ml of dil-Hcl is added until the effervescence ceases off. Then 2ml of Barium chloride solution is added.	No Cloudy appearance present No white precipitate insoluble in con. Hcl is obtained	Absence of Sulphate Sulphate is Not Confirmed.
2.	Test For Chloride: 2 ml of the above prepared Extract is added with dil. HNO ₃ till the effervescence ceases. Then 2 ml of silver nitrate solution is added.	No Cloudy appearance present (Mild trace element)	Absence of Chloride

3.	Test For Phosphate: 2 ml of the extract is treated with 2ml of ammonium molybdate solution and 2 ml of con. HNO ₃	No Cloudy yellow appearance Present	Absence of Phosphate
4.	Test For Carbonate: 2ml of the extract is treated with 2ml magnesium sulphate Solution	No cloudy appearance	Absence of Carbonate
5	Test For Nitrate: 1gm of the substance is heated with copper turnings and concentrated H ₂ SO ₄ and viewed the test tube vertically down.	Brown gas is not evolved	Absence of Nitrate
6.	Test For Sulphide: 1 gm of the substance is treated with 2ml of con. Hcl.	No Rotten egg Smelling gas Evolved	Absence of Sulphide.
7.	Test for fluoride & oxalate 2 ml of The Extract Is Added With 2ml of Acetic Acid and 2 ml calcium Chloride solution and heated.	No Cloudy appearance.	Absence of Fluoride & Oxalate
8.	Test for Nitrite: 3drops of extract is placed on a filter paper, on that 2 drops of acetic Acid and 2 drops of benzidine solution is placed.	No characteristic Changes.	Absence of nitrite.

9.	Test For Borate: 2 pinches of the substance is made into paste by using sulphuric acid and alcohol (95%) and introduced into the blue flame.	Bluish green colour flame not appeared	Absence of borate.
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II. TEST FOR BASIC RADICALS			
1	Test For Lead: 2 ml of the extract is added with 2ml of potassium iodide solution.	No Yellow precipitate is obtained	Absence of Lead.
2.	Test for Copper: a. One pinch of substance is made into paste with con. Hcl in a watch glass and introduced into the non-luminous part of the flame. b. 2 ml of extract is added with excess of ammonia solution.	No Blue colour flame precipitate No Blue colour precipitate	Absence of Copper. Absence of Copper.
3.	Test For Aluminium: Take the 2ml of the extract sodium hydroxide is added in drops to excess.	No characteristic changes	Absence of Aluminium.

4.	Test For Iron: (Ferrous) To the 2 ml of extract 2ml ammonium thiocyanate solution and 2ml of con.HNO ₃ is added.	No Blood red colour Appeared	Absence of Iron
5.	Test For Zinc: To 2ml of the extract sodium hydroxide solution is added in drops to excess.	White precipitate is not Formed	Absence of Zinc.
6.	Test For Calcium: 2ml of the extract is added with 2ml of 4% ammonium oxalate Solution.	No Cloudy appearance and white precipitate is obtained	Absence of Calcium.
7.	Test For Magnesium: To 2ml of extract sodium hydroxide solution is added in drops to excess.	White precipitate is not obtained.	Absence of Magnesium.
8.	Test For Ammonium: To 2ml of extract few ml of Nessler's reagent and excess of sodium hydroxide solution are added.	No brown colour appeared.	Absence of Ammonium.
9.	Test For Potassium: A pinch of substance is treated with 2ml of sodium nitrite solution and then treated with 2ml of cobalt nitrate in 30% glacial acetic acid.	No Yellowish precipitate is obtained	Absence of Potassium.
10.	Test For Sodium: 2 pinches of the substance is made into paste by using HCL and introduced into the blue flame of Bunsen burner.	No Yellow colour Flame appeared.	Absence of Sodium.

11.	Test For Mercury: 2ml of the extract is treated with 2ml of sodium hydroxide solution.	Yellow precipitate is not obtained	Absence of Mercury.
12.	Test For Arsenic: 2ml of the extract is treated with 2ml of sodium hydroxide solution.	No brownish red Precipitate is obtained	Absence of Arsenic.

III. MISCELLANEOUS

1.	<p>Test for Starch: 2ml of extract is treated with weak iodine solution.</p>	Blue colour developed	Presence of Starch
2.	<p>Test For Reducing Sugar: 5. ml of Benedict's qualitative solution is taken in a test tube and allowed to boil for 2 minutes and added 8 to 10 drops of the extract and again boil it for 2 minutes. The colour changes are noted.</p>	Brick red colour developed	Presence of Reducing sugar.
3.	<p>Test For The Alkaloids:</p> <p>a. 2ml of the extract is treated with 2ml of potassium Iodide solution.</p> <p>b. 2ml of extract is treated with 2ml of picric acid.</p> <p>c. 2ml of the extract is treated with 2ml of phosphotungstic acid.</p>	<p>Red colour developed</p> <p>Trace Yellow colour developed</p> <p>White precipitate developed</p>	<p>Presence of Alkaloid.</p> <p>Trace of Alkaloid present.</p> <p>Presence of Alkaloid.</p>

4.	<p>Test for Tannic Acid:</p> <p>2ml of extract is treated with 2ml of ferric chloride solution.</p>	<p>No Black precipitate is obtained</p>	<p>Absence of Tannic acid.</p>
5.	<p>Test for Unsaturated Compound:</p> <p>To the 2ml of extract 2ml of Potassium Permanganate solution is added.</p>	<p>Potassium Permanganate is not decolourised</p>	<p>Absence of Unsaturated Compound</p>
6.	<p>Test For Amino Acid:</p> <p>2 drops of the extract is placed on a filter paper and dried well and 2 ml of biuret reagent is added</p>	<p>No Violet colour developed</p>	<p>Absence of Amino acids.</p>

7.	<p>Test For type of Compound:</p> <p>2ml of the extract is treated with 2 ml of ferric chloride solution.</p>	<p>No Green colour developed</p> <p>No Red colour developed</p> <p>No Violet colour developed</p> <p>No blue colour Developed</p>	<p>Absence of oxyquinole epinephrine and pyrocatechol.</p> <p>Anti pyrine, Aliphatic amino acids and Meconic acid are absent.</p> <p>Apomorphine, Salicylate and Resorcinol are absent.</p> <p>Morphine, Phenol cresol and hydro quinone are absent</p>
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RESULT:

The Bio-chemical analysis of *Elathy chooranam* had shown the presence of Starch, Reducing Sugar and Alkaloids.

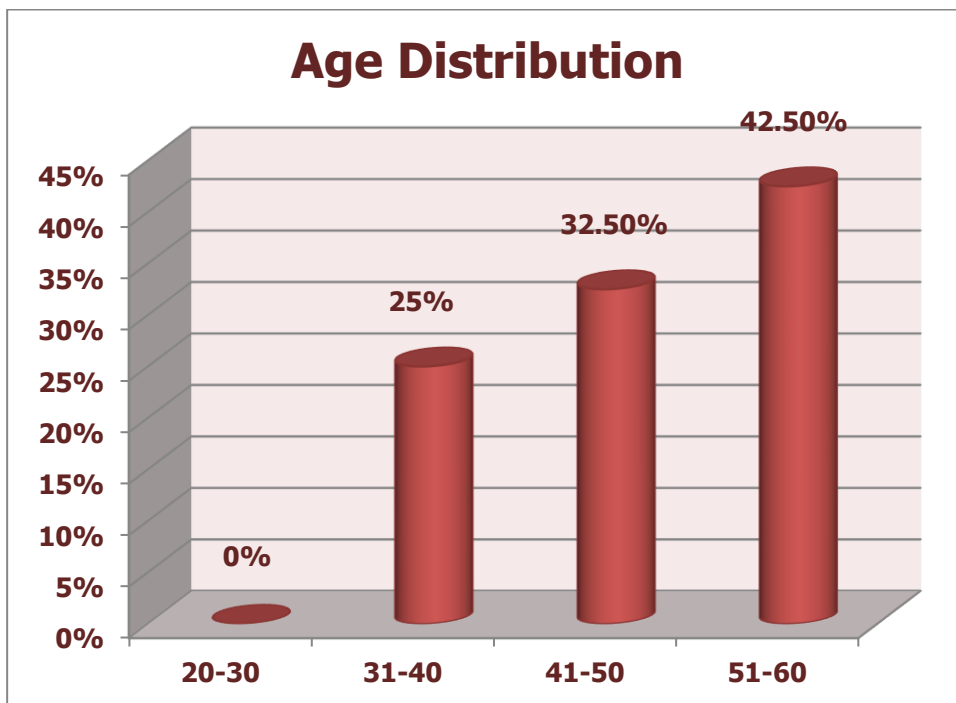
CLINICAL STUDY

The observation and results were studied and tabulated under the following heading.

- 1) Age distribution
- 2) Sex distribution
- 3) Occupational History
- 4) Family History
- 5) Diet habits
- 6) Thinai reference
- 7) Paruvakaalam
- 8) Kaalam distribution (According to age)
- 9) Yakkai Ilakkanam (Physical Constitution)
- 10) Gunam reference
- 11) Duration of illness
- 12) Clinical features
- 13) Distributions of three thodams
- 14) Udar Kattukkal reference
- 15) En Vagaitervugal
- 16) Neerkkuri reference
- 17) Neikkuri reference
- 18) Results

1) Age Distribution

S. No.	Age	No of Cases	Percentage
1.	20-30	0	0%
2.	31-40	10	25%
3.	41-50	13	32.5%
4.	51-60	17	42.5%

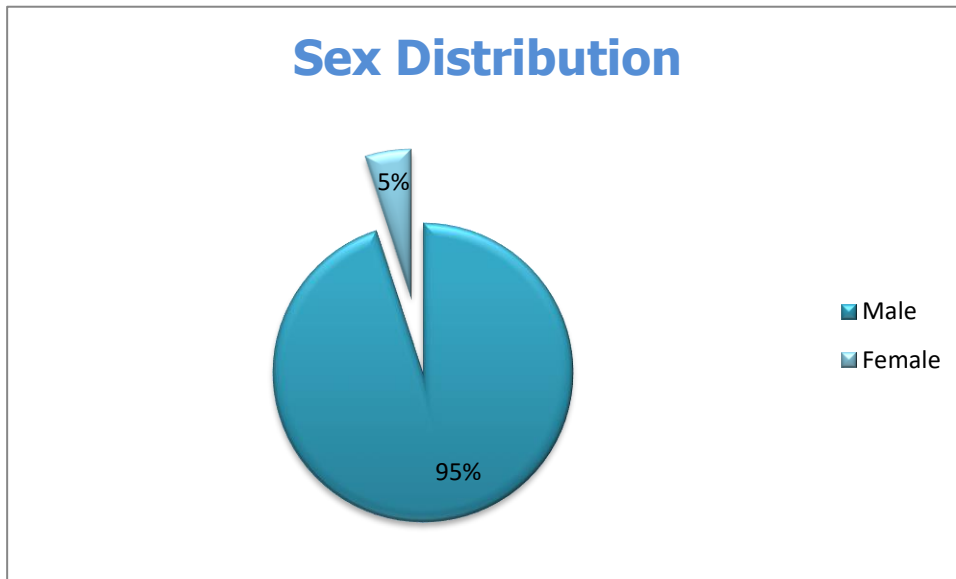


Observation:

The patients were selected from all age groups as given above and the maximum of patients (17) were in the age between 51 and 60 years.

2) Sex Distribution

S. No.	Sex	No of Cases	Percentage
1.	Male	38	95%
2.	Female	2	5%

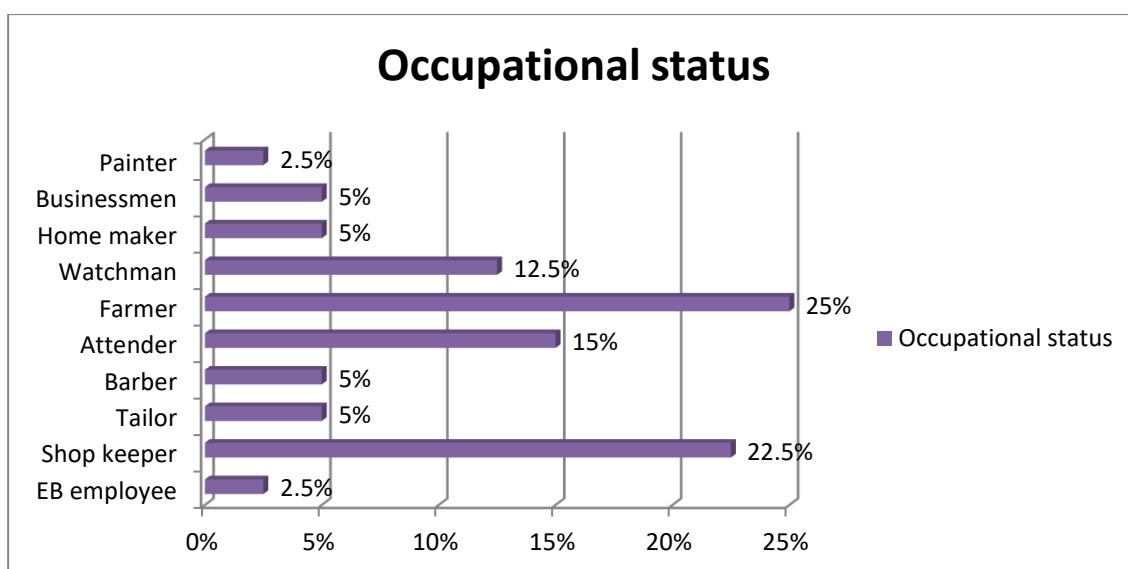


Observation:

Among 40 patients, 95% were males and 5% were females.

3) Occupational Status

S. No.	Nature of Work	No. of Cases	Percentage
1.	EB Employee	1	2.5%
2.	Shop Keeper	9	22.5%
3.	Tailor	2	5%
4.	Barber	2	5%
5.	Attender	6	15%
6.	Farmer	10	25%
7.	Watchman	5	12.5%
8.	Home maker	2	5%
9.	Businessman	2	5%
10.	Painter	1	2.5%

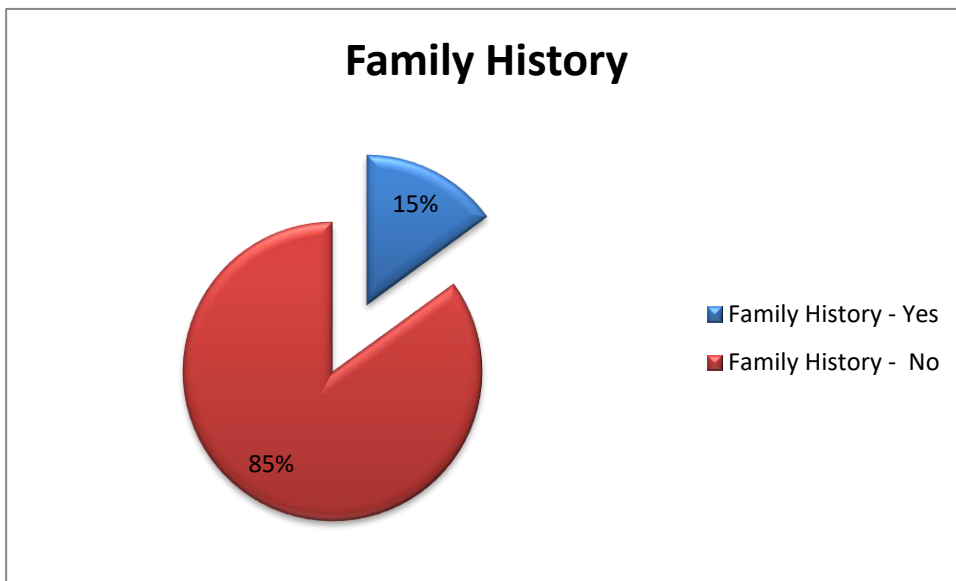


Observation:

The majority of patients in this study were farmers and shop keepers.

4) Family History

S. No.	Criteria	No of Cases	Percentage
1.	Family History - Yes	6	15%
2.	Family History - No	34	85%

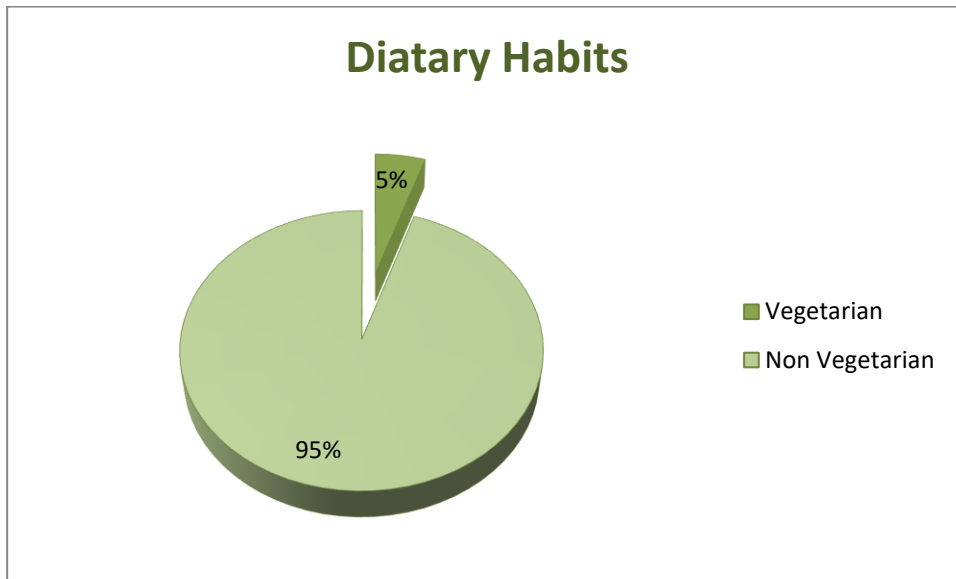


Observation:

85% of patients showed negative family history. 15% positive family history emphasized the genetic cause.

5) Dietary Habits

Sl. No	Dietary Habits	No of Cases	Percentage
1.	Vegetarian	2	5%
2.	Non Vegetarian	38	95%

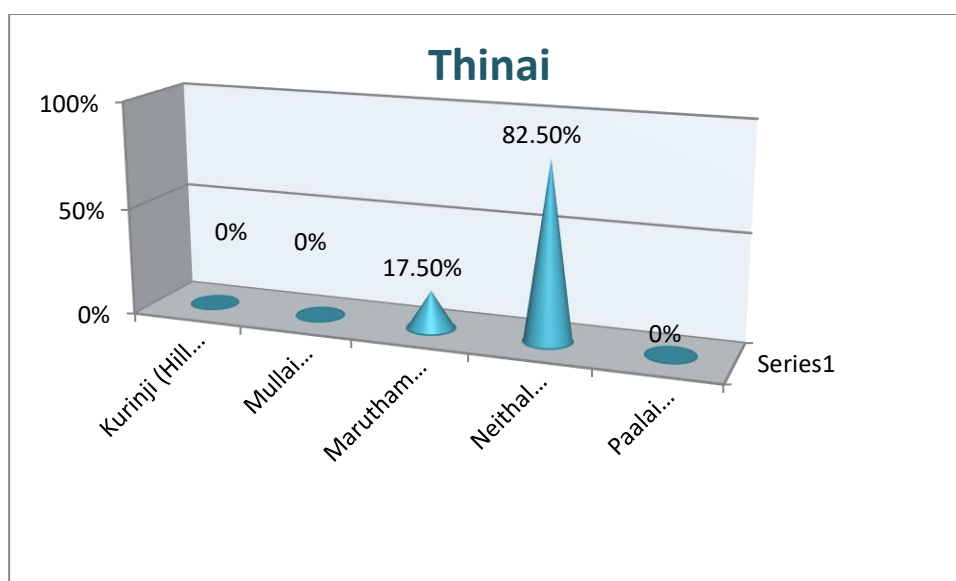


Observation:

95% of the patients were non-vegetarians.

6) Thina Reference

Sl.No	Thinai	No of Cases	Percentage
1.	Kurinji (Hill Area)	0	0%
2.	Mullai (Forest Area)	0	0%
3.	Marutham (Fertile Land)	7	17.5%
4.	Neithal (Costal Area)	33	82.5%
5.	Paalai (Desert Land)	0	0%

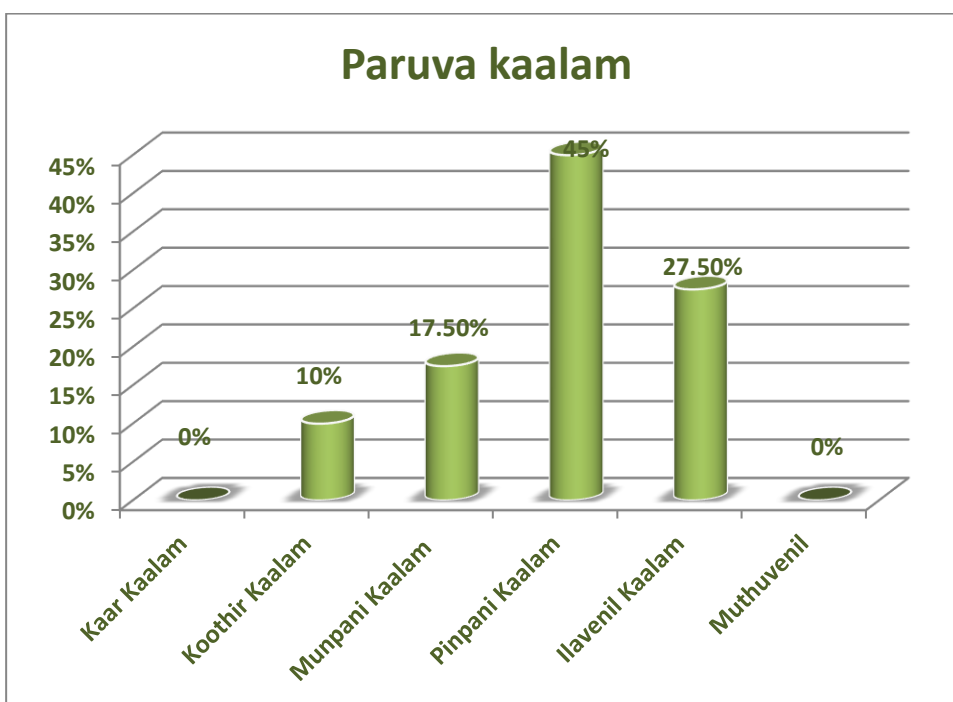


Observation:

82.5% of the patients were from Neithal (coastal area) and 17.5% of patients were from Marutham (Fertile land).

7) Paruvakaalam:

Sl. No.	Kaalam Distribution	No of Cases	Percentage
1.	Kaar Kaalam	0	0%
2.	Koothir Kaalam	4	10%
3.	Munpani Kaalam	7	17.5%
4.	Pinpani Kaalam	18	45%
5.	Ilavenil Kaalam	11	27.5%
6.	Muthuvenil	0	0%



Observation:

45% patients admitted in pinpani kaalam, 27.5% patients admitted in Ilavenil kaalam, 17.5% patients admitted in munpani kaalam and remaining 10% patients admitted in koothir kaalam.

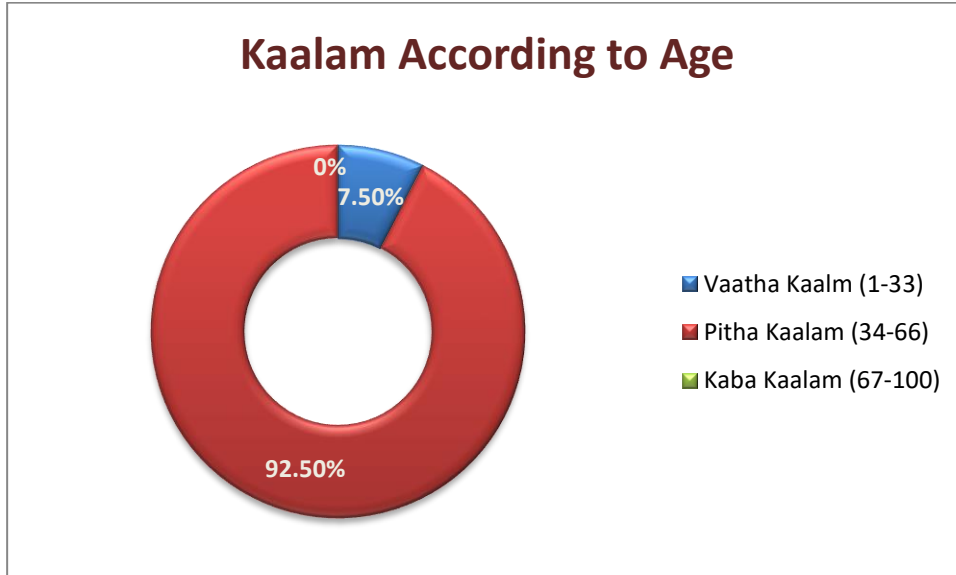
8) Kaalam Distribution (According to Age)

In Siddha literature human life has been divided into three periods as follows

- 1) Vaatham
- 2) Pitham
- 3) Kabam

The duration of each period is said to be 33 years

Sl. No.	Kaalam	No of Cases	Percentage
1.	Vaatha Kaalm (1-33)	3	7.5%
2.	Pitha Kaalam (34-66)	37	92.5%
3.	Kaba Kaalam (67-100)	0	0%



Observation:

92.5% of the patients in pitha kaalam and the remaining 7.5% patients reported in vatha kaalam.

9) Yaakai Ilakkanam (Physical Constitution)

Sl.No	Yaakai Ilakkanam	No. of Cases	Percentage
1.	Vaatha Udal	0	0%
2	Pittha Udal	0	0%
3.	Kaba Udal	0	0%
4.	Thontha Udal	40	100%

Observation:

All the patients (100%) had thontha udal.

10) Gunam (Quality and Characters)

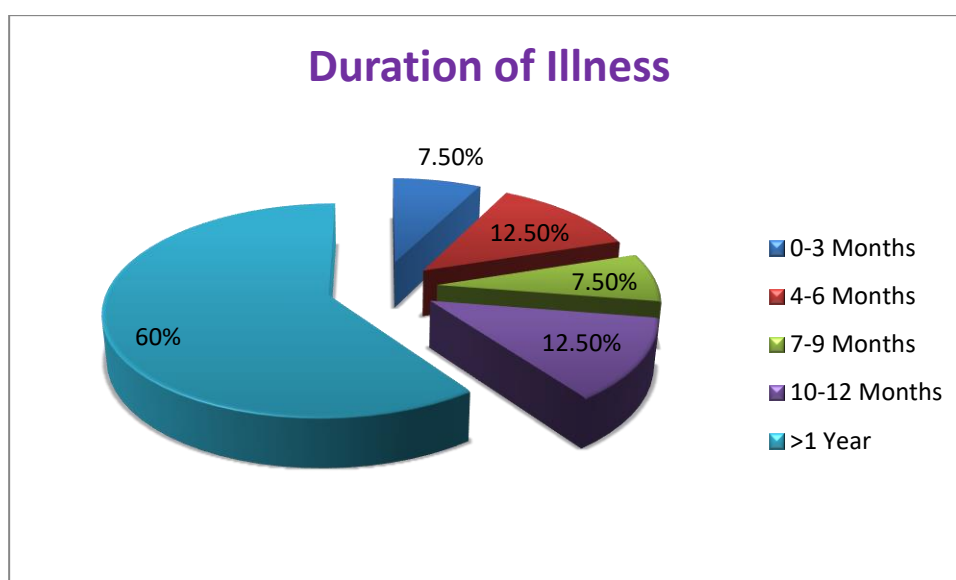
Sl.No	Gunam	No. of Cases	Percentage
1.	Sathuva Gunam	0	0%
2.	Rajo Gunam	40	100%
3.	Thamo Gunam	0	0%

Observation:

All the patients (100%) had Rajo gunam.

11) Duration of Illness

Sl.No	Duration of Illness	No of Cases	Percentage
1.	0-3 Months	3	7.5%
2.	4-6 Months	5	12.5%
3.	7-9 Months	3	7.5%
4.	10-12 Months	5	12.5%
5.	>1 Year	24	60%

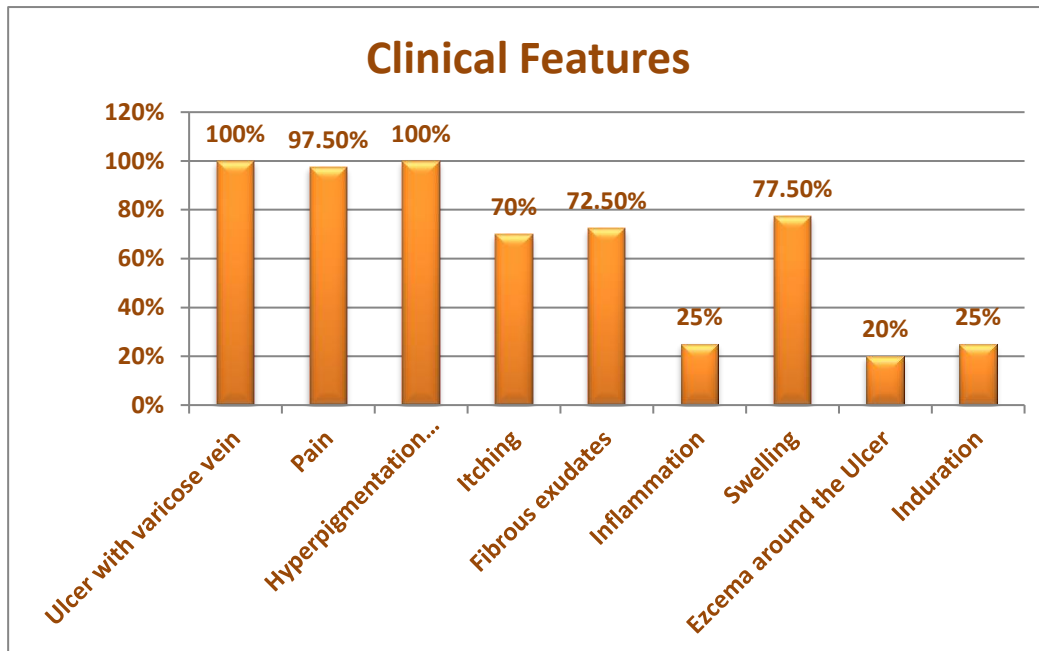


Observation:

60% of the patients were suffering with the illness for more than 1 year.

12) Clinical Features

Sl.No	Clinical Features	No. of Cases	Percentage
1.	Ulcer with varicose vein	40	100%
2.	Pain	39	97.5%
3.	Hyperpigmentation around the ulcer	40	100%
4.	Itching	28	70%
5.	Fibrous exudates	29	72.5%
6.	Inflammation	10	25%
7.	Swelling	31	77.5%
8.	Eczema around the Ulcer	8	20%
9.	Induration	10	25%

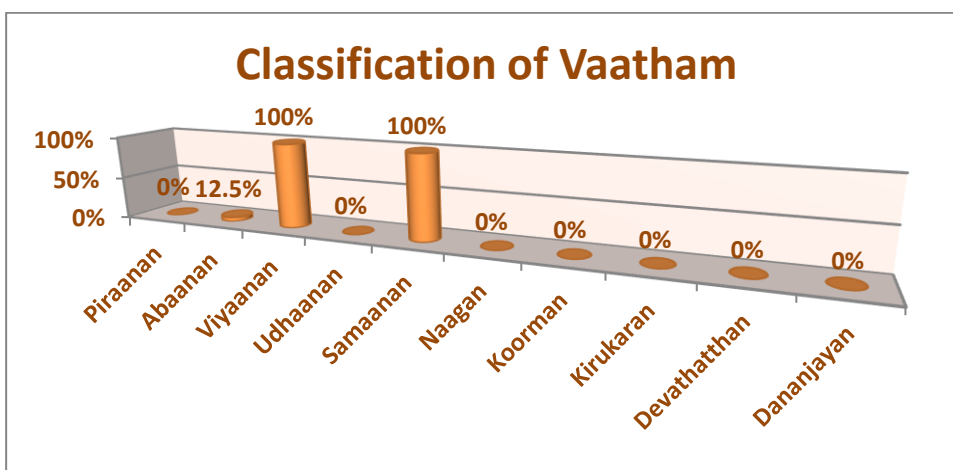


Observation:

All the patients in the study had clinical features of ulcer with varicose vein and hyperpigmentation around the ulcer. 97.5% patients were suffering from pain. 77.5% of patients had swelling and 70% had itching.

13) Distribution of Mukkutram - Vaatham

Sl.No.	Classification of Vaatham	No of Cases	Percentage
1.	Praanan	0	0%
2.	Abaanan	5	12.5%
3.	Udhaanan	0	0%
4.	Viyanan	40	100%
5.	Samaanan	40	100%
6.	Naagan	0	0%
7.	Koorman	0	0%
8.	Kirukaran	0	0%
9.	Devathatthan	0	0%
10.	Dananjayan	0	0%

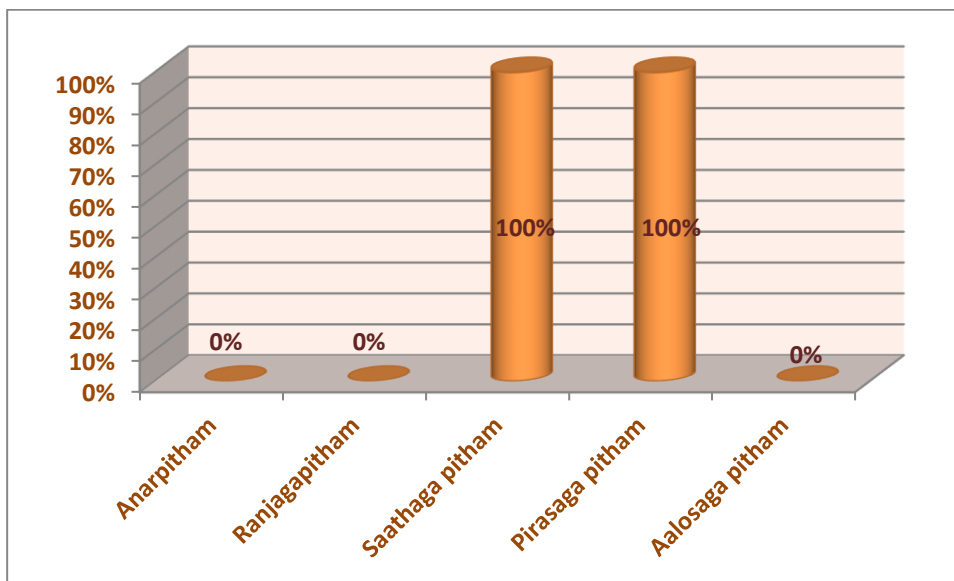


Observation:

Samaanan and Viyaanan were affected in all the 40 patients.
Abaanan was affected in 12.5 % cases.

Pitham

Sl.No	Classification of Pitham	No of Cases	Percentage
1.	Anar pitham	0	0%
2.	Ranjaga pitham	0	0%
3.	Saathaga pitham	40	100%
4.	Pirasaga pitham	40	100%
5.	Aalosaga pitham	0	0%

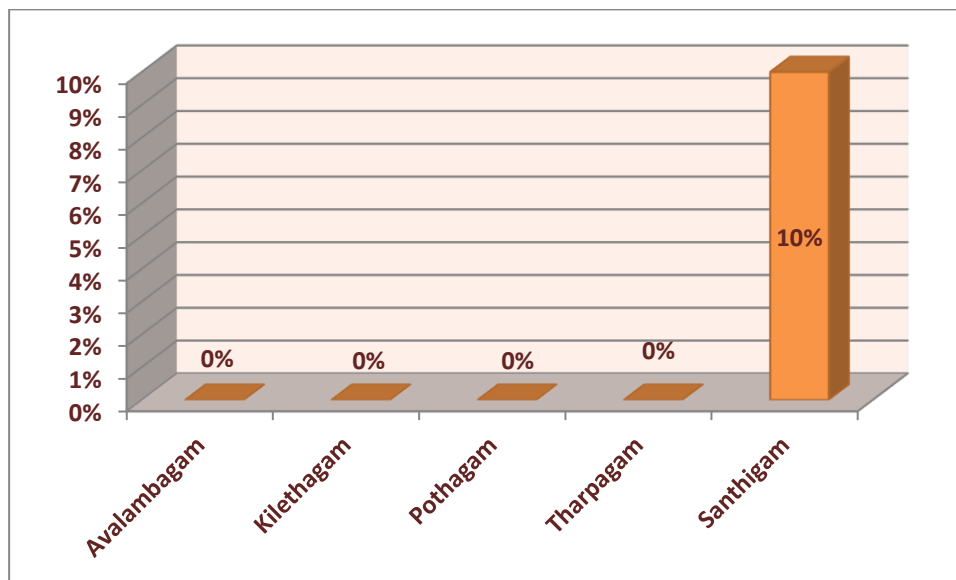


Observation:

Pirasaga pitham and saathaga pitham were affected in all the cases.

Kabam

Sl.No	Classification of Kabam	No of Cases	Precentage
1.	Avalambagam	0%	0%
2.	Kilethagam	0%	0%
3.	Pothagam	0%	0%
4.	Tharpagam	0%	0%
5.	Santhigam	04	10%

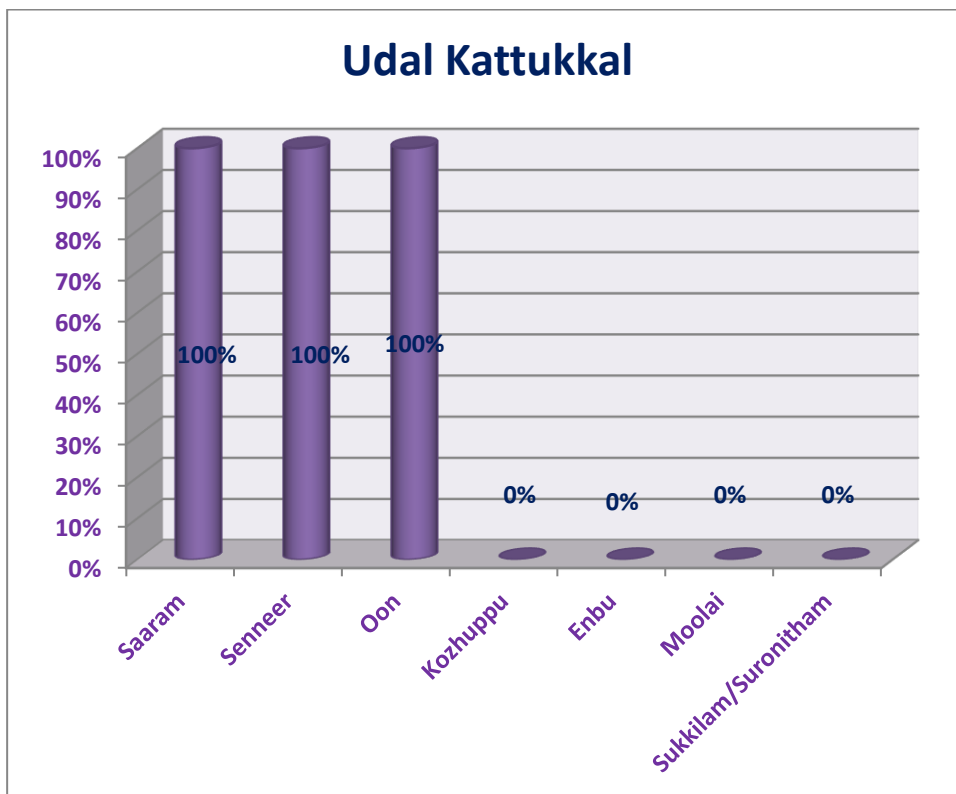


Observation:

In 10% of patients santhigam was affected.

14) Udal Kattukkal

Sl.No	Udal Kattukkal	No of Cases	Percentage
1.	Saaram	40	100%
2.	Senneer	40	100%
3.	Oon	40	100%
4.	Kozhuppu	0	0%
5.	Enbu	0	0%
6.	Moolai	0	0%
7.	Sukkiam/Suronitham	0	0%



Observation:

Saaram, senneer and oon were affected in all cases.

15) Envagai Thervugal

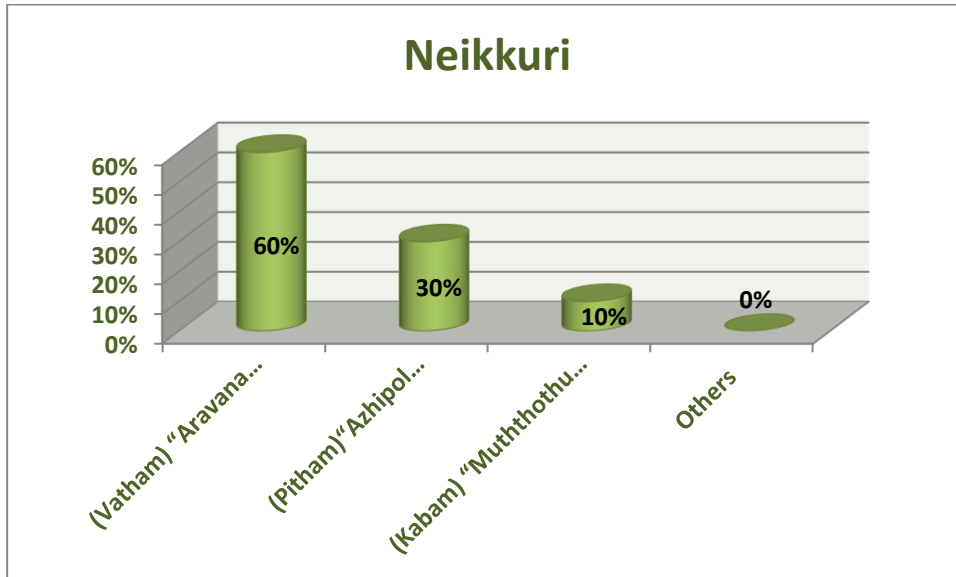
Sl.No	Envagai Thervugal	No of Cases	Percentage
1.	Naadi		
	a. Vatha pitham	25	62.5%
	b. Pitha vatham	10	25%
	c. Pitha kabam	04	10%
	d. Kabapitham	01	2.5%
2.	Sparisam	40	100%
3.	Naa	0	0%
4.	Niram	40	100%
5.	Mozhi	0	0%
6.	Vizhi	0	0%
7.	Malam	5	17.5%
8	Moothiram	0	0%

Observation

In Envagai thervugal, Niram and Sparisam were affected in all the 40 cases. The Naadinadai seen in Kaalanjagapadai patients were Vaathapitham 62.5%, Pithavaatham 25%, Pithakabam 10%, Kabapitham 2.5%.

Neerkuri and Neikkuri

Sl.No	Type of Test	No of Cases	Percentage
1.	Neerkkuri		
	“Niram”-Pale yellow	40	100%
	-Dark yellow		
2.	Neikkuri		
	(Vaadham) “Aravna Neendal”	24	60%
	(Pitham) “Azipol Paraviyathu	12	30%
	(Kabam) “Muththothu ninrathu”	04	10%
	Others	0	0%



Observation:

Among 40 cases, 60 % of patients had Vaatha neer neikkuri, 30% had Pitha neer neikkuri and only 10% had Kaba neer neikkuri

VCSS Score

S. No.	OP/IP NO.	AGE / SEX	VCSS		VCSS (RESULT
			BT	AT		
1.	0003-17	54/M	12	4	66.7	Moderate
2.	0705-18	47/M	16	11	31.25	Mild
3.	0043-17	44/M	12	3	75	Good
4.	0152-17	60/M	18	13	27.78	Mild
5.	0188-17	39/F	14	7	50	Moderate
6.	0417-18	60/F	15	12	20	Poor
7.	J 76642	60/M	13	3	76.92	Good
8.	J 71909	31/M	9	3	66.66	Moderate
9.	10040	49/M	8	2	75	Good
10.	J 69785	37/M	8	2	75	Good
11.	J 44174	60/M	15	10	33.33	Mild
12.	J 82520	51/M	15	12	20	Poor
13.	0052-17	45/M	15	8	46.66	Mild
14.	8784-17	50/M	13	2	84.61	Good
15.	J 94994	41/M	11	9	18.18	Poor
16.	J 99259	48/M	14	11	21.42	Poor
17.	K 05153	40/M	12	8	33.33	Mild
18.	J 76696	55/M	11	7	36.36	Mild
19.	J 44175	50/M	14	8	42.85	Mild
20.	J 99230	38/M	10	2	80	Good
21.	0525-18	42/M	17	10	41.17	Mild
22.	J 89710	58/M	10	2	80	Good
23.	G 42979	42/M	10	2	80	Good
24.	K 13310	40/M	9	2	77.77	Good

25.	J 68842	57/M	12	9	25	Mild
26.	I 04968	38/M	14	9	35.71	Mild
27.	G 67933	52/M	10	5	50	Moderate
28.	0524-18	34/M	8	2	75	Good
29.	K 11106	60/M	12	11	8.33	Poor
30.	0576-18	60/M	12	7	41.66	Mild
31.	I 73715	56/M	11	8	27.27	Mild
32.	G 28368	45/M	11	8	27.27	Mild
33.	J 84180	51/M	7	3	57.14	Moderate
34.	K 13154	32/M	10	2	80	Good
35.	K 22613	60/M	11	7	36.36	Mild
36.	I 12036	42/M	13	8	38.46	Mild
37.	K 09162	37/M	11	10	9.09	Poor
38.	0639-18	57/M	21	19	9.52	Poor
39.	0687-18	52/M	10	2	80	Good
40.	K 25942	43/M	12	2	83.33	Good

Note:

BT: Before treatment; **AT:** After treatment

Venous Clinical Severity Score (VCSS):

VCSS 0-25 = 0-25% (**poor**) reduction in the VCSS in before and after treatment

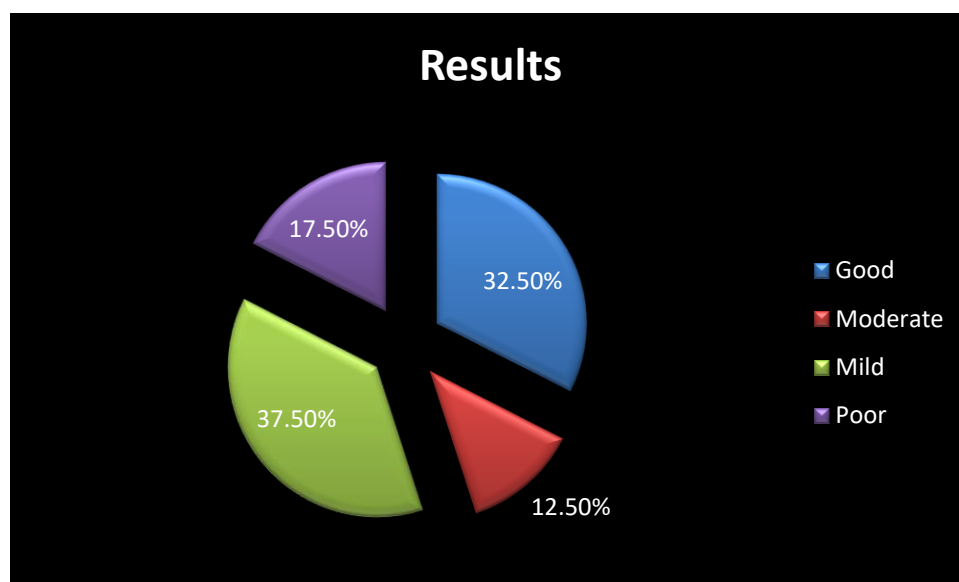
VCSS 25-50 = 25-50% (**mild**) reduction in the VCSS in before and after treatment

VCSS 50-75 = 50-75% (**moderate**) reduction in the VCSS in before and after treatment

VCSS 75-100 = 75-100% (**good**) reduction in the VCSS in before and after treatment

18) Results

Sl. No	Results	No of Cases (Among the 40 Patients)	Percentage
1.	Good	13	32.5%
2.	Moderate	5	12.5%
3.	Mild	15	37.5%
4.	Poor	7	17.5%



Observation:

Good improvement was observed in 13 patients (32.5%), moderate improvement in 5 patients (12.5%), mild improvement in 15 patients (37.5%) and poor improvement in 7 patients (17.5%).

STATISTICAL ANALYSIS

STATISTICAL ANALYSIS

All collected data were entered into MS Excel software using different columns as variables and rows as patients. SPSS software was used to perform statistical analysis. Basic descriptive statistics include frequency distributions and cross- tabulations were performed. The quantity variables were expressed as Mean \pm Standard Deviation and qualitative data as percentage. A probability value of <0.05 was considered to indicate as statistical significance. Paired t test was performed for determining the significance between before and after treatment.

Paired Sample Statistics (VCSS Before Treatment and After Treatment)

Variable	Obs	Mean \pm SD	t Value	p Value
Before treatment	40	12.15 \pm 2.92	t=13.97	p <0.0001
After treatment	40	6.63 \pm 4.14		

The mean \pm standard deviation of VCSS at before and after treatment were 12.15 \pm 2.92 and 6.63 \pm 4.14 respectively which is considered extremely significant (t=13.97, p=0.0001).

IP No. 0003-17, 54 years / Male

BEFORE TREATMENT



AFTER TREATMENT



OP No.J76642, 60 years / Male

BEFORE TREATMENT



AFTER TREATMENT



LABORATORY INVESTIGATIONS

INVESTIGATIONS BEFORE AND AFTER TREATMENT

S. NO.	IP / OP NO.	AGE / SEX	Hb (gm/dl)		TOTAL RBC COUNT (million/cu.mm)		ESR (mm/hour)		TOTAL WBC (cells/cu.mm)	
			BT	AT	BT	AT	BT	AT	BT	AT
1.	0003-17	54/M	12.2	13.4	4.1	4.5	24/35	8/18	6300	7900
2.	0705-18	47/M	13.7	13.4	4.6	4.4	16/32	12/24	5800	6200
3.	0043-17	44/M	15.8	16.4	4.7	5.2	8/12	4/6	6400	6800
4.	0152-17	60/M	13.8	13.6	4.5	4.7	13/24	8/12	9200	9600
5.	0188-17	39/F	12	12.4	5.0	5.2	4/12	4/12	7300	7600
6.	0417-18	60/F	11.4	11.6	5.1	5.3	4/8	2/4	7500	7700
7.	J 76642	60/M	13.3	13.6	4.8	5.0	6/10	4/8	7700	7400
8.	J 71909	31/M	12.4	12.6	4.3	4.4	26/52	22/48	7500	7600
9.	10040	49/M	13.7	13.6	4.4	4.8	10/20	8/10	5100	5400
10.	J 69785	37/M	15.2	15.4	5.2	5.2	2/6	4/8	6300	6200
11.	J 44174	60/M	16	16.2	5.2	5.2	12/18	4/8	8000	8200
12.	J 82520	51/M	11.5	11.7	4.8	5.1	18/24	4/8	6700	7000
13.	0052-17	45/M	14.8	15.8	4.7	5.4	4/8	2/12	7300	7500
14.	8784-17	50/M	14.5	15.9	5.2	5.5	8/12	4/7	8200	8400
15.	J 94994	41/M	14.6	14.8	4.3	4.2	4/12	2/8	6600	6400
16.	J 99259	48/M	15	14.8	5.1	4.9	12/20	2/4	8100	7900
17.	K 05153	40/M	15.0	15.2	5.3	5.2	2/6	2/8	7800	7600
18.	J 76696	55/M	16	13.8	5.1	4.5	6/14	20/40	8300	7900
19.	J 44175	50/M	8.6	9.2	3.7	3.8	30/62	24/54	8000	7600
20.	J 99230	38/M	13.7	13.4	4.7	4.5	24/50	18/32	6900	7200
21.	0525-18	42/M	12.6	12.4	4.8	5.0	22/44	18/38	6800	7100
22.	J 89710	58/M	15.7	15.5	5.2	5.8	2/4	4/8	7000	7200
23.	G 42979	42/M	15.7	15.4	4.7	4.5	8/18	2/6	7200	6900
24.	K 13310	40/M	13.1	13.2	5.1	4.9	13/25	12/19	6300	6200
25.	J 68842	57/M	7.4	8.2	4.7	4.6	40/80	34/78	5100	5800
26.	I 04968	38/M	14.6	15	4.7	4.6	4/8	8/12	9500	8400

27.	G 67933	52/M	13.8	14.2	4.8	5.2	2/4	8/12	8600	9200
28.	0524-18	34/M	13.5	13.8	4.6	4.8	10/22	8/16	4700	4900
29.	K 11106	60/M	16.6	16.2	4.5	5.2	4/6	2/8	7000	6900
30.	0576-18	60/M	15.9	15.4	5.3	5.1	2/4	2/4	8400	7600
31.	I 73715	56/M	15	14.7	5.2	5.0	2/4	6/12	5900	6500
32.	G 28368	45/M	13.8	15.0	4.7	4.6	4/8	4/6	6200	6400
33.	J 84180	51/M	16.2	16.2	5.3	5.5	20/40	12/20	7700	7600
34.	K 13154	32/M	16	16.2	5.3	5.2	2/4	2/8	9700	9400
35.	K 22613	60/M	15.6	14.8	5.1	5.3	2/4	2/4	8500	8900
36.	I 12036	42/M	16	16.4	5.4	5.5	8/16	4/8	6200	6600
37.	K 09162	37/M	13.8	13.8	5.2	5.1	20/40	10/20	7700	7400
38.	0639-18	57/M	11.2	11.5	4.3	4.4	13/62	52/92	7100	7900
39.	0687-18	52/M	15.8	16	5.2	5.8	2/4	4/8	7200	7800
40.	K 25942	43/M	16.2	16.2	5.3	5.5	20/40	10/20	7700	7900

INVESTIGATIONS BEFORE AND AFTER TREATMENT

S. No.	OP / IP No.	AGE / SEX	SGOT (IU/L)		SGPT (IU/L)		Alkaline phosphatase	
			BT	AT	BT	AT	BT	AT
1.	0003-17	54/M	31	31	23	23	109	99
2.	0705-18	47/M	25	26	26	30	80	120
3.	0043-17	44/M	37	35	33	30	85	82
4.	0152-17	60/M	20	20	30	35	110	109
5.	0188-17	39/F	20	20	30	30	110	90
6.	0417-18	60/F	26	26	30	35	98	120
7.	J 76642	60/M	20	20	30	30	115	110
8.	J 71909	31/M	20	20	26	28	105	110
9.	10040	49/M	33	35	25	26	130	130
10.	J 69785	37/M	38	38	23	23	115	115
11.	J 44174	60/M	30	30	35	35	110	110
12.	J 82520	51/M	17	21	11	15	87	92
13.	0052-17	45/M	20	25	30	30	90	95
14.	8784-17	50/M	28	30	35	35	110	110
15.	J 94994	41/M	30	25	36	36	95	89
16.	J 99259	48/M	32	30	39	40	85	88
17.	K 05153	40/M	19	17	15	14	95	107

18.	J 76696	55/M	24	25	35	37	81	86
19.	J 44175	50/M	16	14	20	18	99	97
20.	J 99230	38/M	40	40	35	38	90	95
21.	0525-18	42/M	20	18	24	22	82	90
22.	J 89710	58/M	16	18	20	22	64	65
23.	G 42979	42/M	22	21	46	44	61	71
24.	K 13310	40/M	16	22	13	26	97	112
25.	J 68842	57/M	16	14	18	20	80	83
26.	I 04968	38/M	16	18	16	12	79	85
27.	G 67933	52/M	19	25	24	18	75	80
28.	0524-18	34/M	16	16	16	23	43	35
29.	K 11106	60/M	20	20	25	35	90	110
30.	0576-18	60/M	18	25	24	25	76	60
31.	I 73715	56/M	16	18	16	19	74	85
32.	G 28368	45/M	20	30	30	35	90	110
33.	J 84180	51/M	18	18	25	36	110	120
34.	K 13154	32/M	22	19	26	11	118	95
35.	K 22613	60/M	9	12	15	14	60	67
36.	I 12036	42/M	29	34	36	35	110	110
37.	K 09162	37/M	20	30	35	20	110	120
38.	0639-18	57/M	23	20	21	19	90	85
39.	0687-18	52/M	21	25	19	21	101	120
40.	K 25942	43/M	20	23	20	16	71	56

S.NO	IP/OP NO	AGE / SEX	TOTAL BILIRUBIN		DIRECT BILIRUBIN		INDIRECT BILIRUBIN	
			BT	AT	BT	AT	BT	AT
1.	0003-17	54/M	0.8	0.8	0.2	0.2	0.6	0.6
2.	0705-18	47/M	0.3	0.7	0.1	0.3	0.2	0.4
3.	0043-17	44/M	0.9	0.4	0.2	0.2	0.7	0.2
4.	0152-17	60/M	0.8	0.4	0.2	0.1	0.6	0.3
5.	0188-17	39/F	0.7	1.0	0.3	0.2	0.4	0.8
6.	0417-18	60/F	0.4	0.8	0.1	0.2	0.3	0.6
7.	J 76642	60/M	0.3	1.0	0.1	0.3	0.2	0.7
8.	J 71909	31/M	1.0	0.6	0.2	0.2	0.8	0.4
9.	10040	49/M	0.6	0.5	0.2	0.2	0.4	0.3
10.	J 69785	37/M	1.0	0.3	0.2	0.1	0.8	0.2
11.	J 44174	60/M	0.7	0.9	0.2	0.2	0.5	0.7

12.	J 82520	51/M	0.5	0.7	0.2	0.2	0.3	0.5
13.	0052-17	45/M	0.9	0.7	0.2	0.2	0.7	0.5
14.	8784-17	50/M	0.8	0.8	0.2	0.3	0.6	0.5
15.	J 94994	41/M	0.8	0.3	0.2	0.1	0.6	0.2
16.	J 99259	48/M	0.6	1.0	0.2	0.2	0.4	0.8
17.	K 05153	40/M	0.2	0.9	0.1	0.3	0.1	0.6
18.	J 76696	55/M	0.9	0.5	0.2	0.2	0.7	0.3
19.	J 44175	50/M	0.5	0.7	0.2	0.2	0.3	0.5
20.	J 99230	38/M	0.8	0.8	0.2	0.3	0.6	0.5
21.	0525-18	42/M	0.8	0.7	0.2	0.3	0.6	0.4
22.	J 89710	58/M	0.9	0.5	0.2	0.2	0.7	0.3
23.	G 42979	42/M	0.7	1.0	0.2	0.3	0.5	0.7
24.	K 13310	40/M	0.8	0.3	0.3	0.1	0.5	0.2
25.	J 68842	57/M	0.5	0.8	0.2	0.3	0.3	0.5
26.	I 04968	38/M	0.9	0.5	0.2	0.3	0.7	0.2
27.	G 67933	52/M	0.2	0.7	0.1	0.2	0.1	0.5
28.	0524-18	34/M	0.6	0.9	0.2	0.4	0.4	0.5
29.	K 11106	60/M	0.8	0.2	0.2	0.1	0.6	0.1
30.	0576-18	60/M	0.8	0.6	0.2	0.3	0.6	0.3
31.	I 73715	56/M	0.9	1.0	0.2	0.3	0.7	0.7
32.	G 28368	45/M	0.4	0.8	0.2	0.2	0.2	0.6
33.	J 84180	51/M	0.7	1.0	0.3	0.3	0.4	0.7
34.	K 13154	32/M	1.0	0.4	0.3	0.2	0.7	0.2
35.	K 22613	60/M	0.6	0.5	0.2	0.2	0.4	0.3
36.	I 12036	42/M	1	0.7	0.2	0.3	0.8	0.4
37.	K 09162	37/M	0.3	0.8	0.1	0.3	0.2	0.5
38.	0639-18	57/M	0.4	0.5	0.2	0.2	0.2	0.3
39.	0687-18	52/M	0.7	0.4	0.2	0.2	0.5	0.2
40.	K 25942	43/M	0.8	0.6	0.2	0.3	0.6	0.3

S. No.	OP/IP No.	AGE/ SEX	BLOOD (mg/dl)				UREA		CREATININE (mg/dl)	
			FASTING (mg/dl)		POST PRANDIAL (mg/dl)					
			BT	AT	BT	AT	BT	AT	BT	AT

1.	0003-17	54/M	90	96	121	125	18	17	0.8	0.8
2.	0705-18	47/M	94	94	110	120	16	18	0.6	0.5
3.	0043-17	44/M	100	90	101	121	20	18	0.8	0.8
4.	0152-17	60/M	99	90	145	120	14	18	0.7	0.6
5.	0188-17	39/F	80	84	120	100	16	18	0.8	0.8
6.	0417-18	60/F	82	80	110	130	18	17	0.8	0.7
7.	J 76642	60/M	108	110	110	120	16	18	0.7	0.6
8.	J 71909	31/M	100	100	135	110	18	18	0.8	0.7
9.	10040	49/M	80	90	110	120	18	18	0.8	0.6
10.	J 69785	37/M	80	90	130	130	18	16	0.8	1.0
11.	J 44174	60/M	80	85	130	110	18	18	0.7	0.7
12.	J 82520	51/M	80	95	120	135	14	16	1.0	0.8
13.	0052-17	45/M	80	80	110	128	18	12	0.8	0.6
14.	8784-17	50/M	90	100	130	110	16	16	0.7	0.6
15.	J 94994	41/M	80	100	120	130	16	14	0.5	0.7
16.	J 99259	48/M	93	90	120	140	16	16	0.5	1.0
17.	K 05153	40/M	90	90	182	130	16	9	1.0	0.8
18.	J 76696	55/M	80	100	100	99	16	15	0.7	0.6
19.	J 44175	50/M	85	88.5	148	110	20	18	0.8	0.7
20.	J 99230	38/M	110	90	121	120	18	16	0.8	0.7
21.	0525-18	42/M	77	100	100	121	35	26	0.8	0.7
22.	J 89710	58/M	90	90	120	124	17	14	0.8	0.8
23.	G 42979	42/M	110	100	128	124	14	15	1.1	0.9
24.	K 13310	40/M	99	90	127	140	13	20	0.7	0.8
25.	J 68842	57/M	90	110	106	121	16	19	0.8	0.9
26.	I 04968	38/M	94	95	125	108	6	11	0.6	1.1
27.	G 67933	52/M	100	93	119	140	11	14	0.8	1.0

28.	0524-18	34/M	100	100	116	99	28	29	1.1	0.8
29.	K 11106	60/M	95	110	110	91	18	18	0.7	0.8
30.	0576-18	60/M	91	91	113	110	10	7	1.0	1.6
31.	I 73715	56/M	105	100	120	129	18	16	1.0	0.1
32.	G 28368	45/M	97	103	120	126	18	19	0.8	0.8
33.	J 84180	51/M	90	110	120	130	16	16	0.8	0.9
34.	K 13154	32/M	93	100	108	140	14	14	0.8	0.8
35.	K 22613	60/M	90	86	106	79	9	12	1.0	0.8
36.	I 12036	42/M	98	86	174	193	18	16	0.7	1.0
37.	K 09162	37/M	80	75	110	130	18	18	0.4	0.7
38.	0639-18	57/M	80	90	110	120	18	19	0.8	0.6
39.	0687-18	52/M	90	110	120	140	17	15	1.1	1.2
40.	K 25942	43/M	95	90	115	110	20	19	0.6	0.7

S. No.	OP/IP NO.	AGE/ SEX	URINE SUGAR (F)		URINE SUGAR (PP)		ALBUMIN		DEPOSITS			
			BT	AT	BT	AT	BT	AT	Epithelial cells		Pus cells	
									BT	AT	BT	AT
1.	0003-17	54/M	Nil	Nil	Nil	Nil	Nil	Nil	2-3	2-4	2-3	2-3
2.	0705-18	47/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	1-2	2-3	2-6
3.	0043-17	44/M	Nil	Nil	Nil	Nil	Nil	Nil	2-3	2-3	2-6	2-5
4.	0152-17	60/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	2-3	2-3	2-3
5.	0188-17	39/F	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-6	2-3	2-6
6.	0417-18	60/F	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-6	2-3	2-3
7.	J 76642	60/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-6	2-3	2-3
8.	J 71909	31/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	3-5	3-5	2-3
9.	10040	49/M	Nil	Nil	Nil	Nil	Nil	Nil	2-3	2-3	3-6	3-5

10.	J 69785	37/M	Nil	Nil	Nil	Nil	Nil	Nil	3-6	3-6	2-3	5-6
11.	J 44174	60/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	3-6	2-3	2-4
12.	J 82520	51/M	Nil	Nil	Nil	Nil	Nil	Nil	3-5	4-5	1-2	3-4
13.	0052-17	45/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	2-4	2-3	1-2
14.	8784-17	50/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-5	2-3	3-4
15.	J 94994	41/M	Nil	Nil	Nil	Nil	Nil	Nil	3-5	4-6	2-3	3-4
16.	J 99259	48/M	Nil	Nil	Nil	Nil	Nil	Nil	3-5	4-6	4-6	4-5
17.	K 05153	40/M	Nil	Nil	Nil	Nil	Nil	Nil	1-2	3-5	2-6	2-3
18.	J 76696	55/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	2-3	2-3	6-7
19.	J 44175	50/M	Nil	Nil	Nil	Nil	Nil	Nil	2-3	4-6	2-3	2-3
20.	J 99230	38/M	Nil	Nil	Nil	Nil	Nil	Nil	2-5	2-3	2-3	2-4
21.	0525-18	42/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-6	2-4	3-5
22.	J 89710	58/M	Nil	Nil	Nil	Nil	Nil	Nil	2-4	4-8	1-2	1-2
23.	G 42979	42/M	Nil	Nil	Nil	Nil	Nil	Nil	1-2	2-4	1-2	1-3
24.	K 13310	40/M	Nil	Nil	Nil	Nil	Nil	Nil	3-6	1-2	2-4	1-2
25.	J 68842	57/M	Nil	Nil	Nil	Nil	Nil	Nil	3-6	3-5	2-4	2-4
26.	I 04968	38/M	Nil	Nil	Nil	Nil	Nil	Nil	1-2	1-2	2-3	2-4
27.	G 67933	52/M	Nil	Nil	Nil	Nil	Nil	Nil	2-4	1-2	2-4	2-5
28.	0524-18	34/M	Nil	Nil	Nil	Nil	Nil	Nil	2-4	6-8	2-4	8-10
29.	K 11106	60/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-6	2-3	2-3
30.	0576-18	60/M	Nil	Nil	Nil	Nil	Nil	Nil	1-2	1-2	1-2	3-5
31.	I 73715	56/M	Nil	Nil	Nil	Nil	Nil	Nil	2-6	4-6	4-5	3-5
32.	G 28368	45/M	Nil	Nil	Nil	Nil	Nil	Nil	2-3	2-4	4-6	4-6
33.	J 84180	51/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-6	2-3	3-5
34.	K 13154	32/M	Nil	Nil	Nil	Nil	Nil	Nil	2-3	2-4	1-2	2-4
35.	K 22613	60/M	Nil	Nil	Nil	Nil	Nil	Nil	3-5	2-3	3-5	1-2

36.	I 12036	42/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	2-3	4-6	2-3
37.	K 09162	37/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	2-6	2-3	3-4
38.	0639-18	57/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	5-6	2-3	2-3
39.	0687-18	52/M	Nil	Nil	Nil	Nil	Nil	Nil	4-6	4-6	2-3	2-3
40.	K 25942	43/M	Nil	Nil	Nil	Nil	Nil	Nil	1-2	2-4	2-4	2-4

DISCUSSION

DISCUSSION

Silaipun (Varicose ulcer) is one of the late manifestations of chronic venous insufficiency (CVI) of the lower limbs, a disease of great importance to public health due to its high incidence and prevalence. This condition is difficult to treat and needs complete rest (leg elevation).

The trial drugs were prepared in Gunapadam lab of National institute of Siddha after the authentication of the raw drugs by Assistant professor of medicinal botany, NIS, Chennai. The trial drugs were prepared by standard operating procedure as mentioned in the protocol.

The bio-chemical analysis was done at the biochemistry lab of NIS and the results were documented. The bio-chemical analysis of Elathy chooranam had shown the presence of reducing sugar, starch and alkaloids.

The clinical study was conducted with a well-defined protocol and a proper proforma after the approval of Institutional Ethical Committee.

For this dissertation study, 40 patients were selected and the patients were treated in the OP/IP department of Sirappu maruthuvam, in Ayothidoss pandithar hospital-National Institute of Siddha, Tambaram Sanatorium, Chennai-47.

Based on various criteria, the data were collected and tabulated. The criteria were family history, sex predominance, age distribution, occupation, dietary habits and incidence of the disease with reference to thinai, seasonal variation, clinical manifestations and assessment of the improvement in the prognosis of the disease with the trial drug.

In Siddha system, it is necessary to bring the vitiated humours to equilibrium. Hence before the treatment agasthiyar kuzhambu with sangankuppi juice (*Cleodendrum inerme*) was given for viresanam (purgation) in the early morning to normalize the vitiated humours. During the treatment, the patients were advised to follow pathiyam (dietary regimen).

Internal drug: Elathy chooranam – 1.5 gm two times per day with milk

External drug: Pathirasara virana poochu thailam for external application.

Duration of drug: 45 days

40 patients of both genders were recruited for this study. Among the 40 patients, 38 patients (95%) were males and 2 patients (5%) were females.

In this trial 40 cases were selected. Among 40 patients, 10 patients (25%) between 31 and 40 years, 13 patients (32.5%) between 41 and 50 years, 17 patients (42.5%) between 51 and 60 years. In this present study, considerable numbers of patients were reported (17 patients) between the age of 51 and 60 years among study sample.

Among 40 cases recruited to this study, 6 number of cases had family history of varicose ulcer (VU). Recent studies regarding varicose ulcer also emphasize on this concept that VU has a genetic predisposition.

In this study only 2 patients were vegetarian, and remaining patients were non vegetarian.

In this present study, 33 patients were reported from *Neithal* (82.5%) and 7 patients were from *Marutham* (17.5%). 18 patients were admitted during *Pinpani Kaalam* (*Maasi & Panguni*) while in *munpani kaalam* (*Maargali & Thaii*), *ilavenil kaalam* (*Chitthirai & Vaigasi*) and *koothir kaalam* (*Ippasi & Karthikai*) 7,11 and 4 patients were admitted respectively.

Based on the Kaalam (age), 37 patients (92.5%) were affected at *pitha kaalam* (age between 34 to 66 years) while 3 patients (7.5%) were affected at *vatha kalam* (age between 1 to 33 years).

Varicose ulcer with various sizes were selected randomly for the trial. 24 patients (60%) had ulcer more than one year while 3 patients (7.5%) had ulcer within 3 months and between 7 to 9 months duration separately. 5 patients (12.5%) had ulcer between 4 to 6 months and 10 to 12 months duration each.

Among 40 cases, all cases had ulcer and hyperpigmentation around the ulcer. Itching, fibrinous exudate and swelling were seen in 70-80% of patients which were markedly reduced after the treatment. Eczema, inflammation and induration were seen in 20 -25% patients.

Laboratory investigations were done for all the cases before and after treatment. There were no variations in hepatic, renal and other parameters.

The outcome of this study was clinically observed by VCSS, which showed encouraging results of good improvement in 13 patients (32.5%) , moderate improvement in 5 patients (12.5%), mild improvement in 15 patients (37.5%) and poor improvement in 7 patients (17.5%) of total 40 cases.

The mean± standard deviation of VCSS before and after treatment were 12.15±2.92 and 6.63±4.14 respectively which is considered extremely significant (t=13.97, p=0.0001).

In this study, no adverse events were observed during the course of the treatment. At the time of discharge, all the patients were advised to attend Out-Patient Department of Sirappu Maruthuvam of NIS for 2 months for follow-up treatment.

SUMMARY

SUMMARY

The disease *silaipun* was taken for the clinical study with *Elathy Chooranam* as internal medicine and *Pathirasara virana poochu thailam* as external application. For the clinical study, 40 cases were selected based on the approved protocol.

The trial was approved by the Institutional Ethical Committee (IEC) (**Date of IEC Approval & its Number; NIS/IEC/2016/11-11/14.10.2016**). The trial was registered in Clinical Trial Registry of India (**CTRI/2018/04/013087**). Hence the study is safely executed on patients and there was no adverse drug reactions noted during the study period.

Out of the 40 cases, 20 cases were treated in OPD and remaining 20 cases were treated in IPD of Ayothidoss Pandithar Hospital of National Institute of Siddha, Chennai-47. The detailed study on *silaipun* with reference to its aetiology, pathogenesis, investigations, clinical features, diagnosis and treatment with trial drugs was done.

The outcome results of my study was clinically observed by Venous Clinical Severity Score (VCSS) that is 32.5% of cases had shown good improvement, 12.5% of cases had shown moderate improvement, 37.5% of cases had shown mild improvement and remaining 17.5% had shown poor improvement.

CONCLUSION

CONCLUSION

This clinical study validated the Siddha herbal formulation of the trial drug “*Elathy Chooranam*” is efficacy to Varicose ulcer patients. It was found to be effective on *silaipun* patients in reducing clinical signs and symptoms like pain, itching and size of the ulcer. The literature evidence for this drug is *Siddha vaidhya thirattu* which is well-known Shasthric preparation.

In this study, no adverse reactions were reported. Hence, it is concluded that the trial drugs are clinically safe.

The cost of the trial medicines are low. These drugs are easily available and the dosage is also convenient.

The quantitative outcome of VCSS is statistically significant between the commencement and end of the treatment i.e from 12.15 ± 2.92 to 6.63 ± 4.14 . The qualitative outcome shows there is 32.5% of cases shown good improvement, 12.5% of cases shown moderate improvement, 37.5 % shown mild improvement and 17.5% of cases shown poor improvement.

ANNEXURE

CERTIFICATES



NATIONAL INSTITUTE OF SIDDHA- राष्ट्रीय सिद्ध संस्थान

Ministry of AYUSH- आयुष मंत्रालय

GOVERNMENT OF INDIA-भारत सरकार

TAMBARAM SANATORIUM, CHENNAI -600 047 -ताम्बरम सनटोरियमचेन्नई -600 047

फोनोTele : 044-22411611

फैक्सFax : 22381314

ईमेल: nischennaisiddha@yahoo.co.in

वेब www.nischennai.org

F.No.NIS/6-20/IEC/15-16

Dt: 14.10.2016

CERTIFICATE

Address of Ethics Committee: National Institute of Siddha, Tambaram Sanatorium, Chennai-600047, Tamil Nadu, India	
Principal Investigator: Dr. Pon.Loganathan – 1 year, Dept.of Sirappu Maruthuvam	
Protocol Title:- Evaluation of Therapeutic efficacy of Elathy Chooranam (Internal medicine) and pathirasata virana Pochu thailam (External medicine) in the treatment of Silaipun (Varicose ulcer).	
Documents filed	1) Protocol, 2) Data Collection forms
Clinical trial Protocol (others – Specify)	Yes-(M.D-Dissertation)
Informed consent documents	Yes
Any other documents	-
Date of IEC approval & its number	NIS/IEC/2016/11-11/ 14.10.2016

We approve the trial to be conducted in its presented form.

The Institutional Ethics Committee expects to be informed about the progress of the study, any SAE occurring in the course of the study.

(Dr.V.Subramanian)
Chairman

(Prof.Dr.V.Banumathi)
Member Secretary





NATIONAL INSTITUTE OF SIDDHA, CHENNAI – 600047

BOTANICAL CERTIFICATE

Certified that the following plant drugs used in the Siddha formulations “Elathy Chooranam” (Internal) and “Pathira Saara Virana poochu thailam” (External) taken up for Post Graduation Dissertation studies by **Dr. Loganathan, Pon M.D.(S)**, II year, Department of Sirappu Maruthavam, 2017, are identified through Visual inspection, Experience, Education & Training, Organoleptic characters, Morphology and Taxonomical methods as

Syzygium aromaticum (Linn.) Merr. & L.M. Perry (Myrtaceae). Flower bud

Piper nigrum Linn. (Piperaceae). Fruit

Mesua ferrea Linn. (Clusiaceae) Flower

Taxus baccata Linn. (Taxaceae). Leaf

Zingiber officinale Rose. (Zingiberaceae). Rhizome

Elettaria cardamomum Maton (Zingiberaceae). Fruit

Maranta aurundinacea Linn. (Marantaceae). Rhizome

Saccharum officinarum Linn. (Poaceae). Crystal sugar.

Cassia auriculata Linn. (Caesalpinaceae). Leaves

Azadirachta indica A. Juss. (Meliaceae). Leaves

Ipomoea staphylina R.Br. (Convolvulaceae). Leaves

Achyranthes aspera Linn. (Amaranthaceae). Leaves

Wrightia tinctoria (Rottler.) R.Br. (Apocynaceae). Leaves

Gossypium herbaceum Linn. (Malvaceae). Leaves

Tamarindus indica Linn. (Caesalpinaceae). Leaves

Solanum trilobatum Linn. (Solanaceae). Leaves

Ficus religiosa Linn. (Moraceae). Bark



Certificate No: NISMIB3062017

Date: 15-07-17

Authorized Signatory
Dr. D. ARAVIND, M.D.(S), M.Sc.,
Assistant Professor
Department of Medicinal Botany
National Institute of Siddha
Chennai - 600 047, INDIA



The Tamil Nadu Dr. M.G.R. Medical University

69, Anna Salai, Guindy, Chennai - 600 032.

This Certificate is awarded to Dr/Mr/Mrs.....**PON..LOGANATHAN**.....

For participating as ~~Resource Person~~ / Delegate in the Twenty First Workshop on

“RESEARCH METHODOLOGY & BIostatISTICS”

For AYUSH Post Graduates & Researchers

Organized by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University From 25th to 29th April 2016.


Dr.N.KABILAN, MD(S).
PROF & HEAD
DEPT.OF SIDDHA


Prof.**Dr.P.PARUMUGAM**, M.D.,
REGISTRAR i/c


Prof **Dr.S.GEETHALAKSHMI**, M.D., Ph.D.,
VICE CHANCELLOR

CASESHEET PROFORMA

**NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.**

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

TO EVALUATE THE THERAPEUTIC EFFICACY OF *ELATHY CHOORANAM* (INTERNAL MEDICINE) AND *PATHIRASARA VIRANA POOCHU THAILAM* (EXTERNAL MEDICINE) IN THE TREATMENT OF *SILAIPUN* (VARICOSE ULCER).

Principal Investigator: Dr.Pon.Loganathan.

FORM I - SCREENING & SELECTION PROFORMA

SL.NO

OP NO:

NAME:

AGE/GENDER:

CONTACT NO:

INCLUSION CRITERIA

1) Age :20-60Yrs	Yes/ No	8) Fibrinous exudate	Yes/ No
2) Sex	M/F	9) Skin pigmentation	Yes/ No
3) Ulcer	Yes/ No	10) Inflammation	Yes/ No
4) Pain	Yes/ No	11) Induration	Yes/No
5) Edema	Yes/ No	12) Itching	Yes/No
s6) Eczema around ulcer	Yes/ No	13) Permit to take photograph	Yes/ No
7) Willing to give blood for investigation	Yes/ No	14) Willing to participate in trial and signing consent by fulfilling the condition of Proforma.	Yes/ No

Patient satisfying minimum 8 criteria will be included in the clinical trial.

EXCLUSION CRITERIA: H/O

Diabetes mellitus	Yes/No	Gangrene	Yes/ No
Tuberculous ulcer	Yes/No	Any other systemic illness	Yes/No
HIV	Yes/No	Hanson's disease	Yes/No
Diabetic ulcer			

ADMITTED TO TRIAL: YES NO If yes, serial No:
OPD IPD

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST - GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

TO EVALUATE THE THERAPEUTIC EFFICACY OF *ELATHY CHOORANAM* (INTERNAL MEDICINE) AND *PATHIRASARA VIRANA POOCHU THAILAM* (EXTERNAL MEDICINE) IN THE TREATMENT OF *SILAIPUN* (VARICOSE ULCER).

Principal Investigator: Dr.Pon.Loganathan.

FORM II – CLINICAL RESEARCH FORM

STUDY NO

OP / IP NO:

NAME:

AGE/GENDER:

ADDRESS:

CONTACT NO:

RELIGION: H / M / C / O

OCCUPATION:

INCOME:

MARRITAL STATUS: MARRIED

UNMARRIED

DATE OF INITIAL ASSESSMENT:

COMPLAINTS & DURATION:

PERSONAL HISTORY:

PERSONAL HABITS	YES	NO	IF YES SPECIFY DURATION	AMOUNT/ Qty
Smoking				
Tobacco Chewing				
Alcohol				
Narcotic Drug Addiction				

HISTORY OF PREVIOUS ILLNESS AND TREATMENT TAKEN:

FAMILY HISTORY:

Whether this problem runs in family? 1. Yes

2.No

If yes, mention the relationship of affected person(s)

1. _____

2. _____

DIETARY HABIT:

1. Vegetarian

2. Non-vegetarian

MENSTRUAL HISTORY AND OBSTETRIC HISTORY:

FORM II a

GENERAL EXAMINATION:

- 1. Body weight [Kg] :
- 2. Height [cms] :
- 3. Body Temperature [⁰F] :
- 4. Blood Pressure (mm/Hg) :
- 5. Pulse Rate /min. :
- 6. Heart Rate / min. :
- 7. Respiratory Rate /min. :

Yes No

- 8. Pallor :
- 9. Jaundice :
- 10. Clubbing :
- 11. Cyanosis :
- 12. Pedal Oedema :
- 13. Lymphadenopathy :
- 14. Jugular venous pulsation :

VITAL ORGANS EXAMINATION:

Normal

Abnormal

- 1. Heart
- 2. Lungs
- 3. Brain
- 4. Liver
- 5. Kidney
- 6. Spleen
- 7. Stomach

SYSTEMIC EXAMINATION:

Normal

Abnormal

- 1. Cardio-vascular system
- 2. Respiratory system
- 3. Gastro intestinal system

- | | | |
|---------------------------|----------------------|----------------------|
| 4. Central nervous system | <input type="text"/> | <input type="text"/> |
| 5. Uro-genital system | <input type="text"/> | <input type="text"/> |
| 6. Endocrine system | <input type="text"/> | <input type="text"/> |

SIDDHA SYSTEM OF EXAMINATION

1. THEGI (TYPE OF BODY CONSTITUTION):

- | | | | |
|----------------|----------------------|-----------------|----------------------|
| 1. Vaatha udal | <input type="text"/> | 3. Kaba udal | <input type="text"/> |
| 2. Pitha udal | <input type="text"/> | 4. Thontha udal | <input type="text"/> |

2. NILAM (LAND WHERE THE PATIENT LIVED MOST):

- | | | | |
|-------------|----------------------|------------|----------------------|
| 1. Kurinji | <input type="text"/> | 3. Paalai | <input type="text"/> |
| 2. Mullai | <input type="text"/> | 4. Neithal | <input type="text"/> |
| 5. Marutham | <input type="text"/> | | |

3. KAALAM:

- | | | | |
|-------------------|----------------------|----------------------|----------------------|
| 1. Kaar kaalam | <input type="text"/> | 4. Pinpani kaalam | <input type="text"/> |
| 2. Koothir kaalam | <input type="text"/> | 5. Ilavenil kaalam | <input type="text"/> |
| 3. Munpani kaalam | <input type="text"/> | 6. Muthuvenil kaalam | <input type="text"/> |

4. GUNAM:

- | | | | |
|---------------|----------------------|--------------|----------------------|
| 1. Sathuvam | <input type="text"/> | 2. Rasogunam | <input type="text"/> |
| 3. Thamogunam | <input type="text"/> | | |

5. PORIPULANGAL (SENSORY ORGANS):

	1 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd Day	46 th day
Mei (skin)								
Vaai(tongue)								
Kan (eye)								
Mooku(nose)								
Sevi (ear)								

6. KANMENDRIYAM (MOTOR ORGANS):

	1 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd day	46 th day
Kai(upper limb)								
Kaal(lower limb)								
Vaai(speech)								
Eruvai (excretory organ)								
Karuvai (reproductive organs)								

7. KOSANGAL (SHEATH):

	1 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd day	46 th day
AnnamayaKosam								
Pranamayakosam								
Manomaya kosam								
Vignanamaya kosam								
Aananthamay akosam								

8.UYIR THATHUKKAL (THREE HUMOURS):

A. VALI

	1 th day	8 th day	15 th day	22 nd day	29 th day	36 th day	43 rd day	46 th day
Praanan								
Abaanan								
Viyaanan								
Udhaanan								
Samaanan								
Naagan								

Koorman								
Kirukaran								
Devathathan								
Dhananjeyan								

B) AZHAL

	1th day	8th Day	15th day	22nd day	29th day	36th day	43rd day	46th day
Analakam								
Prasakam								
Ranjakam								
Aalosakam								
Saathakam								

C. IYAM:

	1th day	8th day	15th day	22nd day	29th day	36th day	43rd day	46th day
Avalambagam								
Kilethagam								
Pothagam								
Tharpagam								
Santhigam								

9.SEVEN UDAL DHATHUS: (7 SOMATIC COMPONENTS)

	1th day	8th day	15th day	22nd day	29th day	36th day	43rd day	46th day

Saaram								
Senneer								
Oon								
Kozhuppu								
Enbu								
Moolai								
Sukkilam / Suronitham								

ENVAGAI THERVU: [EIGHT TYPES OF EXAMINATION]

I. NAADI: [PULSE PERCEPTION]

II. SPARISAM:

1th Day	8th day	15thday	22ndday	29th day	36th day	43rd day	46th day
1th Day	8th Day	15th Day	22nd day	29th day	36th day	43rd day	46th day

III. NAA:[TONGUE]

1th Day	8th Day	15th Day	22nd Day	29th Day	36th Day	43rd Day	46th Day

VI.NIRAM: [COMPLEXION]

1. Vaatham 3. Kabam
 2. Pitham

V.MOZHI: [VOICE]

1. High Pitched Low Pitched
 3. Medium Pitched

VI.VIZHI: [EYES]

1th Day	8th Day	15th Day	22th Day	29th Day	36th Day	43rd Day	46th Day

VII. MALAM: [BOWEL HABITS / STOOLS]

	Before treatment	After treatment
Niram		
Irugal		
Ilagal		
Others		

VIII. MOOTHIRAM [URINE EXAMINATION]

Neerkkuri	Before treatment	After treatment
Niram		
Manam		
Edai		
Nurai		
Enjal		

NEIKURI	Before treatment	After treatment
Aravu (Serpentine fashion)		
Aazhi (Annular/Ringed fashion)		
Muthu (Pearl beaded fashion)		
Kalappu (Mixed fashion)		
Other fashion		

CLINICAL EXAMINATION: CLINICAL EXAMINATION OF SKIN

1.Site: -----

2. Colour: Normal Reddish Black Greyish

3. Shape: Irregular Regular Champagne bottle shape

4. Itching: No Mild Moderate Severe

5. Fibrinous exudate: No Mild Moderate Severe
6. Erythema: Present Absent
7. Bleeding: Present Absent
8. Crusting: Present Absent
9. Lichenification: Present Absent
10. Varicose vein: Present Absent
11. Venous edema: Present Absent
12. Inflammation: Present Absent
13. Induration: Present Absent

- | | YES | NO |
|-------------------|-------------------------------|--------------------------------|
| 14. Ulcération: | <input type="checkbox"/> | <input type="checkbox"/> |
| 15. Macule: | <input type="checkbox"/> | <input type="checkbox"/> |
| 16. Papule: | <input type="checkbox"/> | <input type="checkbox"/> |
| 17. Pustule: | <input type="checkbox"/> | <input type="checkbox"/> |
| 18. Blister: | <input type="checkbox"/> | <input type="checkbox"/> |
| 19. Vesicle : | <input type="checkbox"/> | <input type="checkbox"/> |
| 20. Pigmentation: | Hypo <input type="checkbox"/> | Hyper <input type="checkbox"/> |

FORM II B-CLINICAL ASSESSMENT DURING AND AFTER TRIAL

OP/ IP NO:

STUDY NO:

NAME:

AGE/GENDER:

DATE OF RECRUITMENT:

	Day 1	After 7 days	After 14 days	After 21days	After 28 days	After 35 days	After 42 days	After 46 days
Ulcers with varicose vein								

Fibrinous exudate								
Itching								
Edema								
Skin pigmentation								
Eczema around the ulcer Itching								
Inflammation								
Induration								

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

**NATIONAL INSTITUTE OF SIDDHA
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POST-GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

TO EVALUATE THE THERAPEUTIC EFFICACY OF *ELATHY CHOORANAM*(INTERNAL MEDICINE) AND *PATHIRASARA VIRANA POOCHU THAILAM*(EXTERNAL MEDICINE) IN THE TREATMENT OF *SILAIPUN* (VARICOSE ULCER).

Principal Investigator: Dr.Pon.Loganathan.

FORM-III – LABORATORY INVESTIGATIONS PROFORMA

STUDY NO:

OP / IP NO:

AGE/GENDER:

BLOOD INVESTIGATIONS		NORMAL VALUES	BEFORE TMT (DATE)	AFTER TMT (DATE)
Hb(gm/dl)		M:12-15 F:11.5-14		
T.WBC (cells/cu.mm)		4000-11000		
DIFFERENTIAL COUNT (%)	Polymorphs	40-75		
	Lymphocytes	20-40		
	Monocytes	2-10		
	Eosinophils	1-6		
	Basophils	0-1		
T.RBC(million cells/cu.mm)		M:4.0-5.5 F:3.5-4.5		
ESR(mm/hour)	½ hr.	M:1-13 F:1-20		
	1 hr.			

Blood Investigations		Normal Values	Before TMT (DATE)	After TMT (DATE)
Blood glucose (mg/dl)	Fasting	70-110		
	PP	80-140		
	Random	80-120		
RFT (mg/dl)	Blood urea	16-50		
	Serum creatinine	0.6-1.2		
	Serum uric acid	M:3-9 F:2.5-7.5		
LFT (mg/dl)	Total bilirubin	0.2-1.2		
	Direct bilirubin	0.1-1.2		
	Indirect bilirubin	0.2-0.7		
	SGOT (IU/L)	0-40		
	SGPT (IU/L)	0-35		
	Alkaline phosphatase(IU/L)	80-290		

Urine investigations	Before TMT(Date)	After TMT (Date)
Albumin		
Fasting sugar		
PP sugar		
Deposits		

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

NATIONAL INSTITUTE OF SIDDHA

AYOTHIDOSS PANDITHAR HOSPITAL
CHENNAI – 600 047.

POST-GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM

TO EVALUATE THE THERAPEUTIC EFFICACY OF *ELATHY CHOORANAM*(INTERNAL MEDICINE) AND *PATHIRASARA VIRANA POOCHU THAILAM*(EXTERNAL MEDICINE) IN THE TREATMENT OF *SILAI PUN* (VARICOSE ULCER).

Principal Investigator: Dr.Pon.Loganathan.

FORM IV (DRUG COMPLIANCE FORM)

STUDY NO OP / IP NO: NAME:
AGE/GENDER:

DRUG NAME:

On 1st day-Date: Drugs issued: (Gms) Drugs returned: (Gms)
On 8th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)
On 15th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)
On 22nd day-Date: Drugs issued: (Gms) Drugs returned: (Gms)
On 29th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)
On 36th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)
On 43rd day-Date: Drugs issued: (Gms) Drugs returned: (Gms)
On 46th day-Date: Drugs issued: (Gms) Drugs returned: (Gms)

	Date	Morning	Evening	Day	Date	Morning	Evening
Day 1				Day25			
Day2				Day26			
Day3				Day27			
Day4				Day28			
Day5				Day29			
Day6				Day30			
Day7				Day31			
Day 8				Day32			
Day9				Day33			
Day10				Day34			
Day11				Day35			
Day12				Day36			
Day13				Day37			

Day14				Day38			
Day15				Day39			
Day16				Day40			
Day17				Day41			
Day18				Day42			
Day19				Day43			
Day20				Day44			
Day21				Day45			
Day22				Day46			
Day23							
Day24							

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

FORM V – PATIENT INFORMATION SHEET

Name of Principal Investigator: Dr.Pon.Loganathan,

Name of the institute: National Institute of Siddha,
Tambaram Sanatorium, Chennai-47.

I, Dr.Pon.Loganathan studying M.D(Siddha) at National Institute of Siddha, Tambaram Sanatorium is doing a trial on *SILAIPUN* (Varicose ulcer). Varicose ulcer is a most common persistent skin disease, occurring throughout the world. In this regard, I am in a need to ask you few questions. I will maintain confidentiality of your comments and data obtained. There will be no risk of disclosing your identity and no physical, psychological or professional risk is involved by taking part in this study. Taking part in this study is voluntary. No compensation will be paid to you for taking part in this study.

You can choose not to take part. You can choose not to answer a specific question. There is no specific benefit for you if you take part in the study. However, taking part in the study may be of benefit to the community, as it may help us to understand the problem of defaulters and potential solutions.

If you agree to be a participant in this study, you will be included in the study primarily by signing the consent form and then you will be given the internal medicine *ELATHY CHOORANAM* (Internal medicine-1.5g BD for 45 days) and *PATHIRASARA VIRANA POOCHU THAILAM* (External medicine), if you wish to stay in the In-Patient ward Treatment will be provided to you assuring that you will not be definitely hurt in any course of treatment.

The information I am collecting in this study will remain confidential. I will ask you few questions through a questionnaire. It will take approximately 20 min of time. Your name won't be mentioned in the lab investigation form instead a code will be used.

If you wish to find out more about this study before taking part, you can ask me all the questions you want or contact Dr.Pon.Loganathan, PG Scholar cum principal investigator of this study, National Institute of Siddha, Chennai-47. You can also contact the Member-secretary of Ethics committee, National Institute of Siddha, Chennai 600047, and Tel No: 044-22380789 for rights and participation in the study.

தேசிய சித்த மருத்துவ நிறுவனம்
அயோத்திதாஸ் பண்டிதர் மருத்துவமனை - சென்னை 47

சிலைப்புண் நோய்க்கான சித்த மருந்துகளின் (ஏலாதி சூரணம் மற்றும் பத்திரசார விரண பூச்சு தைலம்) பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான தகவல் படிவம்.

முதன்மை ஆராய்ச்சியாளர் பெயர்: மருத்துவர் : பொன்.லோகநாதன்

நிறுவனத்தின் பெயர் : தேசிய சித்த மருத்துவ நிறுவனம்

தேசிய சித்த மருத்துவ நிறுவனத்தில் பட்ட மேற்படிப்பு பயின்று வரும் நான் மருத்துவர் பொன்.லோகநாதன், சிலைப்புண் என்னும் நோயில் மருத்துவ ஆராய்ச்சியில் ஈடுபட்டுள்ளேன். புண் என்னும் நோய் உண்டாவதற்கான அடிப்படை காரணம் கிருமிகள் அன்று. கட்டி உடைவதனாலும், கருவியினாலும், அடிபடுவதாலும், நெருப்பினாலும், பிற உயிர்களின் கடிகளாலும் உண்டாவதாக கூறப்படுகிறது. - து பரவ கூடிய நோய் அன்று. - ந்த ஆராய்ச்சி சம்பந்தமாக சில கேள்விகளை கேட்கவும், தேவையான ஆய்வக பரிசோதனைக்கு தங்களை உட்படுத்தவும் உள்ளேன்.- து சம்பந்தமான தங்களது அனைத்து விவரங்களும் ரகசியமாக வைக்கப்படும் என உறுதி அளிக்கிறேன். - தில் பயணப்படி முதலிய எந்த உதவித் தொகையும் வழங்கப்பட மாட்டாது. - ந்த ஆராய்ச்சியின் போது உடலுக்கு வேறு பாதிப்பு ஏற்படும் பட்சத்தில் தேசிய சித்த மருத்துவமனையில் தக்க சிகிச்சை அளிக்கப்படும்.- ந்த ஆராய்ச்சிக்கு தாங்கள் விருப்பத்தின் பேரில் உட்படும் பட்சத்தில் உள்மருந்தாக ஏலாதி சூரணம் (1.5gm) 2 வேளை (காலை,மாலை) உணவுக்குப் பின் 45 நாட்கள் உட்கொள்ள வேண்டும். வெளி மருந்தாக பத்திரசார விரண பூச்சு தைலம் வெளியே தடவ வேண்டும். வெளி நோயாளர்கள் 7 நாட்களுக்கு ஒருமுறை மருத்துவமனைக்கு வரவேண்டும். உள் நோயாளியாக தங்க விருப்பம் தெரிவிக்கும் பட்சத்தில் நோய்க்கு தகுந்த சிகிச்சை அளிக்கப்படும். - ந்த ஆராய்ச்சியில் நோயினராக சேர்ந்த பிறகு உங்களுக்கு விருப்பம் - ல்லையெனில் எப்போது வேண்டுமானாலும் விலகி கொள்ளலாம். - ந்த ஆராய்ச்சி சம்பந்தமாக மற்ற விபரங்களுக்கும் நோயின் தன்மை பற்றியும் முதன்மை ஆராய்ச்சியாளரான மருத்துவர்: பொன்.லோகநாதன் (பட்ட மேற்படிப்பாளர் சிறப்பு மருத்துவ துறை) அணுகவும். கைப்பேசி எண் 7418240820. மேலும் - ந்த ஆராய்ச்சிக்கு IEC சான்று பெறப்பட்டுள்ளது. - ந்த மருந்து சிறப்பாக புண் நோய்க்காக அங்கீகரிக்கப்பட்ட சித்த மருத்துவ நூலில் கூறப்பட்டுள்ளது. ஏற்கனவே உபயோகத்தில் உள்ள - து போன்ற மருந்து - துவரை நோயாளிகளிடம் எந்த வித பக்க விளைவுகளையும்

ஏற்படுத்தவில்லை. மேலும் உணவு முறையில் மருத்துவரால் கூறப்படும் பத்தியம் காக்குமாறு அறிவுறுத்தப்படுகிறது.

**NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL, CHENNAI – 600 047.**

**POST- GRADUATE DEPARTMENT OF SIRAPPU MARUTHUVAM
TO EVALUATE THE THERAPEUTIC EFFICACY OF *ELATHY***

CHORANAM(INTERNAL MEDICINE) AND *PATHIRASARA VIRANA POOCHU THAILAM*(EXTERNAL MEDICINE) IN THE TREATMENT OF *SILAI PUN* (VARICOSE ULCER).

FORM VI: INFORMED CONSENT FORM

“I have read the foregoing information, or it has been read to me. I have had the opportunity to ask questions about it and any questions I have asked have been answered to my satisfaction.

I consent voluntarily to participate in this study and understand that I have the right to withdraw from the study at any time without affecting my further medical care”.

"I have received a copy of the information sheet/consent form".

Signature of the participant:

In case of illiterate participant

“I have witnessed the accurate reading of the consent form to the potential participant, and the individual has had the opportunity to ask questions. I confirm that the individual has given consent freely.”

Date:

Signature of a witness

Left thumb Impression

Of the Participant

(Selected by the participant bearing no connection with the survey team)

Signature of the Investigator

Signature of the Lecturer

Signature of the HOD

தேசிய சித்த மருத்துவ நிறுவனம்

அயோத்திதாஸ் பண்டிதர் மருத்துவமனை-சென்னை 47

ஒப்புதல் படிவம்

சிலைப்புண் நோய்க்கான சித்த மருந்துகளின் (ஏலாதி சூரணம் மற்றும் பத்திரசார விரண பூச்சு தைலம்) பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கான ஒப்புதல் படிவம்-ஆய்வாளரால் சான்றளிக்கப்பட்டது.

நான் - ந்த ஆய்வு குறித்த அனைத்து விபரங்களையும் நோயாளிக்கு புரியும் வகையில் எடுத்துரைத்தேன் என உறுதியளிக்கிறேன்.

தேதி:

கையொப்பம்:

- டம்:

பெயர் :

நோயாளியின் ஒப்புதல்

என்னிடம் - ந்த மருத்துவ ஆய்வின் காரணத்தையும், மருந்தின் தன்மை மற்றும் மருத்துவ வழிமுறை பற்றியும், தொடர்ந்து எனது உடல் - யக்கத்தை கண்காணிக்கவும், அதனை பாதுகாக்கவும் பயன்படும் மருத்துவ ஆய்வுக்கூட பரிசோதனைகள் பற்றி திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் - ந்த மருத்துவ ஆய்வின் போது, எப்பொழுது வேண்டுமானாலும் - ந்த ஆய்விலிருந்து என்னை விடுவித்து கொள்ளும் உரிமையை தெரிந்திருக்கின்றேன். நான் என்னுடைய சுதந்திரமாக தேர்வு செய்யும் உரிமையைக் கொண்டு சிலைப்புண் நோய்க்கான ஏலாதி சூரணம் (உள் மருந்து) மற்றும் பத்திரசார விரண பூச்சு தைலம் (வெளி மருந்து) மருந்தின் பரிகரிப்புத் திறனைக் கண்டறியும் மருத்துவ ஆய்விற்கு என்னை உட்படுத்த ஒப்புதல் அளிக்கிறேன்.

தேதி:

கையொப்பம்:

- டம்:

பெயர் :

உறவுமுறை:

சாட்சிக்காரர் கையொப்பம்:

பெயர்:

விரிவுரையாளர் கையொப்பம்:

துறைத்தலைவர் கையொப்பம்

NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL, CHENNAI – 600 047.

DEPARTMENT OF SIRAPPU MARUTHUVAM

TO EVALUATE THE THERAPEUTIC EFFICACY OF *ELATHY CHOORANAM*(INTERNAL MEDICINE) AND *PATHIRASARA VIRANA POOCHU THAILAM*(EXTERNAL MEDICINE) IN THE TREATMENT OF *SILAI PUN* (VARICOSE ULCER).

Name of Principal Investigator: Dr.PON.LOGANATHAN.

FORM VII - WITHDRAWAL FORM

1. SERIAL NO OF THE CASE:

2. OP / IP NO:

3. NAME:

4. AGE:

5. GENDER:

6. DATE OF TRIAL COMMENCEMENT:

7. DATE OF WITHDRAWAL FROM TRIAL:

8. REASONS FOR WITHDRAWAL:

Long absence at reporting:	Yes/ No
Irregular treatment:	Yes/ No
Shift of locality:	Yes/No
Increase in severity of symptoms:	Yes/No
Development of severe adverse drug reactions:	Yes/No
Development of adverse event:	Yes/No

(If YES, give the details of adverse reaction in Form VII -B – Adverse Reaction Form / Pharmaco Vigilance Form)

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

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DEPARTMENT OF SIRAPPU MARUTHUVAM

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Name of Principal Investigator: Dr.PON.LOGANATHAN.

FORM VII - A – ADVERSE REACTION FORM / PHARMACO VIGILANCE FORM

SERIAL NO:

OP/IP NO:

NAME:

AGE:

GENDER:

DATE OF TRIAL COMMENCEMENT:

DATE OF THE ADVERSE REACTION OCCUR:

DESCRIPTION OF ADVERSE REACTION:

Date:

Station:

Signature of the Investigator:

Signature of the Lecturer:

Signature of the HOD

**NATIONAL INSTITUTE OF SIDDHA
AYOTHIDOSS PANDITHAR HOSPITAL, CHENNAI – 600 047.**

DEPARTMENT OF SIRAPPU MARUTHUVAM

TO EVALUATE THE THERAPEUTIC EFFICACY OF *ELATHY CHOORANAM* (INTERNAL MEDICINE) AND *PATHIRASARA VIRANA POOCHU THAILAM* (EXTERNAL MEDICINE) IN THE TREATMENT OF *SILAIPUN* (VARICOSE ULCER).

Name of Principal Investigator: Dr.Pon.Loganathan.

FORM VIII – DIETARY ADVICE FORM

சேர்க்க கூடிய உணவுகள்	தவிர்க்க வேண்டியவைகள்
<p>முருங்கைப்பிஞ்சு அவரைப்பிஞ்சு காரட் பீட்ரூட் கரிசாலை பொன்னாங்கண்ணி மணத்தக்காளி முருங்கைக்கீரை பசலைக்கீரை சிறுகீரை கறிவேப்பிலை கொத்தமல்லி மாதுளை ஆப்பிள் பேர்ச்சை திராட்சை கொய்யா நாவல் சப்போட்டா உலர் திராட்சை வேகவைத்த காய்கறிகள்</p>	<p>கோழிக்கறி மீன் நண்டு கருவாடு முட்டை புளிப்புப் பொருள்கள் வேர்க்கடலை எள்ளு அன்னாசி நல்லெண்ணெய் எலுமிச்சை தக்காளி புளிப்பு தயிர் மோர் ஊறுகாய் பெண்போகம் வெற்றிலை,பாக்கு புகையிலை மது அருந்துதல்</p>

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BIBLIOGRAPHY

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