A STUDY ON
KALANJAGAPADAI
(Psoriasis)

Dissertation Submitted To

THE TAMIL NADU Dr. M.G.R. Medical University

Chennai – 32

For the Partial fulfillment for the Award of Degree of

DOCTOR OF MEDICINE (SIDDHA)

(Branch – III, SIRAPPU MARUTHUVAM)

DEPARTMENT OF SIRAPPU MARUTHUVAM

Government Siddha Medical College

Palayamkottai – 627 002.

OCTOBER - 2019

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BONAFIDE CERTIFICATE

This is to certify that the dissertation entitled **"A STUDY ON KALANJAGAPADAI"** is a bonafide work done by **DR. B. LILLY SHEKENAH, (REG. NO. 321613004) GOVERNMENT SIDDHA MEDICAL COLLEGE, PALAYAMKOTTAI** in partial fulfillment of the University rules and regulations for the award of **M.D** (**SIDDHA), BRANCH - III SIRAPPU MARUTHUVAM** under my guidance and supervision during the academic year **2016-2019 OCTOBER.**

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DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled **"A STUDY ON KALANJAGAPADAI"** is a bonafide and genuine research work carried out by me under the guidance of **Dr. A. S. POONGODI KANTHIMATHI, M.D(s).,** Professor & Head of the Department, PG - III, Department of Sirappu Maruthuvam, Government Siddha Medical College, Palayamkottai and the dissertation has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title.

Date:

Place: Signature of Candidate

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ACKNOWLEDGEMENT

The author is extremely grateful to the Lord Almighty who empowered the author with His blessings and grace to complete this dissertation work successfully.

I take this opportunity to express my gratitude to the Vice Chancellor, The Tamil Nadu Dr. M. G. R. Medical University, Chennai and The Director, Directorate of Indian Medicine and Homeopathy, Chennai who flagged off my dissertation with cheer.

My grateful thanks to **Prof. Dr. R. Neelavathy, M.D. (S), Ph.D.,** Principal, Government Siddha Medical College, Palayamkottai for granting permission to undertake this dissertation and also with all the facilities needed for the smooth completion of the work.

My sincere thanks to **Prof. Dr. S .Victoria, M.D(S),** Vice Principal, and the **Institutional Ethical Committee,** Government Siddha Medical College, Palayamkottai for their kind approval and valuable support throughout the dissertation.

The author is grateful to **Prof. Dr. A. S. Poongodi Kanthimathi, M.D(S),** Head of the Department and guide, Department of Sirappu Maruthuvam, (PG-III), Government Siddha Medical College, Palayamkottai for her valuable guidance and critics which kindled me to focus on to the dissertation.

I would like to show my gratitude to **Dr. M. Ahamed Mohaideen, M.D(S),** Associate Professor, Department of Sirappu Maruthuvam, GSMCH Palayamkottai for his kind guidance and good co-operation to make the easy way to complete the dissertation.

I would like to show my gratitude to Lecturers **Dr. S. Sujatha M.D(S), Dr. V. Mahalakshmi M.D(S) & Dr. A. Muneeswaran M.D(S),** Department of Sirappu Maruthuvam, GSMCH Palayamkottai for their kind guidance and encouragement in carrying out the dissertation.

I would like to show my gratitude to Assistant Lecturers **Dr. S. Chitra M.D(S), Dr. G. Ganesan M.D(S) & Dr. R. Vanamamalai M.D(S),** Department of Sirappu Maruthuvam, GSMCH Palayamkottai for the support and guidance.

I record my deep sense of gratitude to **Prof. Dr. M. Senthil Kumar M.S (Ortho), D.Ortho.,** (Rtd), Tirunelveli Medical College, Tirunelveli for his valuable suggestions in modern medicine aspects.

I express my sincere thanks to Asso. Prof. Dr. A. Kingsley M.D(S), Department of Gunapadam, GSMCH Palayamkottai for the support.

I express my thanks to **Dr. S. Sudha, M.Sc., M.Ed., Ph.D.,** Associate Professor, Department of Medicinal Botany, Government Siddha Medical College, Palayamkottai for the guidelines in identification of herbal drugs.

The author is thankful to **Mrs.Nagaprema M.Sc. (Biochemsitry),** Head of the Department Biochemistry, Government Siddha Medical College, Palayamkottai, to all technical assistants of clinical laboratory for their help in evaluating the trial drugs.

The author is so grateful to **Dr. Mr. .Kalaivanan M.Sc.,M.Phil.,Ph.D** Lecturer, Department of Pharmacology, Government Siddha Medical College, Palayamkottai in carrying out the Pharmacological analysis of the trial drugs, needs special mention and appreciation.

I sincerely thank the great **Siddhars** who show me the right pathway in Siddha system. My heartfelt thanks to my colleagues and friends for assisting and helping in many ways.

INTRODUCTION

A Study on Kalanjapadai

1. INTRODUCTION

Siddha system of medicine is the most primitive medical system in India. It is mainly practiced in the southern part of India.

The word siddha denotes achievements. This achievement was related to the discipline of mind and its superiority over body, and was accomplished through both Yoga and medicines.

Eighteen Siddhars were said to have contributed towards the development of the siddha system of medicine.

1.1 Fundamental principles

The fundamental principles of siddha include theories of five elements and three humoral concepts.

According to siddha medical science, the universe was originally consisted of atoms which contributed to the five basic elements like earth, water, fire, air and space. These five elements correspond to the five senses of the human body.

The earth is the element which gives fine shape to the body including bones, tissues, muscles, skin, hair, etc.,

Water represents blood, secretions of the glands, vital fluid etc.,

Fire gives motion, vigor and vitality to the body. It helps in digestion, circulation and simulation.

Space is the characteristic of man's mental and spiritual faculties.

The physiological function of the body is mediated by three humours namely vatham, pitham & kabam.

Vatham is formed by the basic elements space and air. It is connected with the functions of nervous system.

Pitham is formed by fire. It plays a major role in digestion, metabolism, heat production & coloration of blood.

Kabam is by earth and water. It is connected with the reduction of heat and functions of various glands.

1.2 Diagnostic aspects in siddha system

The diagnosis of disease involves the identification of cause. Identification of causative factors is through the examination of pulse, urine, eyes, tongue, etc.

Eight methods of examination – envakai thervukal is used to determine diagnosis, etiology, treatment and prognosis

Noi nadal denotes the diagnosis of the affected disease.

Noi muthal naadal means to find out the root cause of the disease.

"நா நிறம் மொழி விழி மலமூத்திரம்

நாடி பரிசு மிவை மருத்துவராயுதம்"

- நோய் நாடல் நோய் முதனாடல்

1.3 Treatment aspects

Siddhars have classified diseases into 4448 types and various medicines are indicated for these diseases.

The drugs used by the siddhars could be classified into three groups:

Thavaram - herbal product

Thatu - inorganic subatoms

Sangamam - animal products

The siddha system of medicine comprises of various types of internal and external medicines. Internal medicines are 32 in number and the external medicines are 32 categories.

Certain special therapies like varmam, yogam, thokkanam, ottradam also practiced in siddha system.

Kayakarpam is one of the unique special therapeutic divisions, which is especially treated for rejuvenation and increasing the life span.

AIM & OBJECTIVES

A Study on Kalanjapadai

2. AIM AND OBJECTIVES

2.1 Aim

The aim of this dissertation work is to undergo phase II study on kalanjapadai chooranam as internal medicine and semparuthi poo ennai as external medicine and yoga therapy.

Objectives

2.2 Primary objectives

To evaluate the therapeutic efficacy of siddha formulation kottai karanthai chooranam as internal medicine and semparuthu poo ennai as external medicine in treatment of kalanjapadai (psoriasis)

2.3 Secondary objectives

1. To study the effect of yoga in the management of kalanjapadai along with the internal and external medicines
2. To correlate the etiology, clinical features of kalanjapadai in siddha system with psoriasis in modern science.
3. To screen the constituents present in the trial drug.
4. To access the siddha basic principles like envagai theru, neerkuri, neikuri
5. To analysis the trial medicine on the basis of Biochemical analysis and Pharmacological studies for anti-histamine anti-inflammatory
6. To find out whether there are any side effects produced by the trial drugs, kottai karanthai chooranam and semparuthi poo ennai during the course of treatment.

LITERATURE REVIEW

A Study on Kalanjapadai

3. REVIEW OF LITERATURES

3.1 SIDDHA ASPECTS

3.1.1 Definition

Based on the siddha literature, Kalanjagapadai is non-infectious inflammatory disease of the skin characterized by well-defined slightly raised dry, erythematous plaques with large adherent scales.

3.1.2 Kalanjagapadai

I. It is one of the tedious diseases that affect most of the people.
II. About 2 – 3% of the total population is predominantly affected by this disease.
III. It may affect both sexes. But predominantly affecting the females.
IV. It mostly affects the age group of 5-35 years.
V. It mainly affects the skin and mucous membrane.

3.1.3 Vernacular name's (வேறுபெயர்கள்)

வெண்பருச் செதில்நோய் செதில் உதிர்நோய்

- சித்த மருத்துவ சிறப்பு

செம்பாட்டு தோலழற்சி செதில் உதிர்வுப்படை சாம்பல் படை நுண்ணிய தொற்று செதில்படை.

- அருங்கலைச் சொல் அகரமுதலி

3.1.4 LITERATURE EVIDENCES

Siddha based definition

In siddha medicine the pancha bootham are elaborately described. According to siddha principle, thole (skin) is a part of prithivi. Skin is the largest organ in the human body.

In siddha system, skin disorders are brought under the clinical entity "Kuttam". Among the siddha literature "Yugi Muni vaithiya kaviyam, Thirumoolar vaithiyam, Thanvanthiri are some of the sources of information on causes and the 18 types of kuttam.

In the text book "Aathma Ratchamirtham ennum vaithya sarasangiragam" and "Thanvanthiri vaithiyam" the characteristic of kuttam are described clearly.

T.V. Sambasivam pillai has mentioned that in Tamil medicine 'Kuttam' means cutaneous affections and so it is a comprehensive term used various skin diseases.

In this book "Sorikuttam" has been compared to psoriasis.

(Sorikuttam – A kind of leprosy with diffuse papillary eruptions without ulceration on the entire surface of the body marked by intense itching and burning sensation followed by exfoliation of the epidermis or browny.

Scales – Eczematous psoriasis lepra Itchyosis

Among the 18 types of kuttam, thethru kuttam kajasarma kuttam and virpodaga kuttam resemble to that of kalanjgapadai.

3.1.5 Aetiology

According to siddha literature, aetiology has been described below.

In "Thirumoolar vaithiyam" the aetiology is given as follows

1. வியாதியுள் மூவாறு விளங்கிய குட்டங்கேள்
   சுயாதிக் கிரந்தி சுழல் மேகத்தா லாறும்
   பயாதி மண்ணுளப் பல வண்டினா லெட்டும்
   நியாதி புழுநாலாய் நின்றதிக் குட்டமே – திருமூலர்.

2. "குட்டமுடன் திரேகமெல்லாம் பறக்கும்போது
   குழிகுழியாய் கிருமியினாற் கொள்ளும் புள்ளி – 96 குருநாடி.

3. பயில் மொழியீர் திரேகத்தில்ää கிருமிதானே
   பரந்துதிரி குட்டம் போல் புள்ளி காணும்
   மயலதுவும் கிருமியுந்தா நடந்து புக்கில்
   மேனியது சரசரென வெடித்து புண்ணாகும் - 92 குருநாடி.

4. "கிரந்தி சுழன் மேகத்தா லாறும்"
   Six types of skin diseases are caused by venereal disease.
   "பயாதி மண்ணுளப் பல வண்டினா லெட்டும்"
   Eight types of skin disease are caused by insect bites.
   "நியாதி புழுநாலாய் நின்றதிக் குட்டமே
   Four types are caused by worm's infestations.

IN THANVANTHIRI VAITHIYAM

"அறிவின்றி வியரீதஞ் சேராகாரம் புசிக்கலாலும்
துறையின்றி தோடாத தொன்றை தொட்டவைப் - புசிக்கலாலும்
குறை கொண்ட நிசித்தமான குலமங்கை யடுக்கலாலும்
நிறைகொண்ட பெரியோர் தம்மை நித்தித்து பேசலாலும்
நிந்தித்துப் புறத்தியாற் சோம நிலைகெடப் பிரிக்கலாலும்
வந்தித்துப் பூருவா சொல்மந்திர பாவத்தாலுஞ்
சந்திக்கக் கற்மாதர் தங்களைக் கருதலாலும்
தொந்தித்த குட்டரோகந் தொடுக்கு மென்றுரைத்தார் முன்னோர்"

- *தன்வந்திரி வைத்திய ரோகம்*

Guru Naadi Nool describes Aetiology as follows

"கிருமியில் வந்த தோடம் பெருகவுண்டு
கேட்கி லதன் பிரிவுதனை கிரமமாகப்
பொருமி வரும் வாயுவெல்லாம் கிருமியாலே
புழுக்கடி போல் காணுமது கிருமியாலே
செருமி வரும் பவுத்திரங்கள் கிருமியாலே
தேகமதில் சொரிக்குட்டம் கிருமியாலே
துருமிவருந் சுரோணிதங் கிருமியாலே
சூட்சமுடன் கிரிசைப்பால் தொழில் செய்வீரே

- *குருநாடி*

- ❖ Intake of contaminated foods
- ❖ Scolding the elders
- ❖ Thinking of females
- ❖ Destiny (Kanma vinai)
- ❖ Intake of allergic foods

The text book of "Sirappu Maruthuvam" describes the following etiological factors of kalanjaga padai.

பரம்பரை நோயாக – of unknown aetiology and may be genetic

மூவரில் ஒருவருக்கு

லசுன தாபிதம் - Tonsillitis

புப்புச பிணிகள் - Respiratory diseases

அதிர்ச்சி - Depression, anxiety

கால மாறுபாடுகள் - Due to changes in humidity

ஒவ்வாமை - Allergic disorder

மன உளைச்சல் - Psychological disturbances

Beta hemolytic streptococcal in guttate psoriasis.

Anti-hypertensive drugs – Beta blockers

They are

1. Propanolol
2. Atenolol
3. chloroquine
4. Red oxide of copper
5. Polio vaccine

முதலிய மருந்துகள் குருக்களையும் படையையும் உண்டு பண்ணலாம் என்று கூறப்பட்டுள்ளது.

In Guru naadi nool says generally siddhars mentioned all the skin disease are caused by microorganism and macroorganism.

“கிருமி” – Microorganism and Macro organism

“Thirumular has mentioned that the skin diseases are mentioned in three ways.

1. Venereal origin and other mega diseases.
2. Insect bites.
3. Infection and infestations.

“குட்டமது விட கரப்பான் விட நீர் சூலை

சுரோணிதத்தால் தாது கெட்டுத் தடிப்புண்டாகும்

மட்டறவே கிருமி சென்று மருவும் போது

வகையாய் கிருமியுட விடரூர் சென்று

குட்டமுடன் தேகமெல்லாம் பறக்கும் போது

குழிகுழியாய் கிருமியினீர்க் கொள்ளும் புள்ளி

தட்டறவே கிருமியுட ரூரால் வந்த

சகல குட்டம் விட கரப்பான் சாற்றலாமே

- திருமூலர்

Kuttam is named as a common word of chronic skin lesion as for the siddha text books.

Agasthiar had mentioned kanmam is the main cause for kutta noi.

Kanma varalaru (Psycho social cause)

“பழவினையால் விடப் பூச்சி கடித்தாலும்

பாதகர்க்கு ஒருநாளும் தீர்வதில்லை

உள வினையாலா***h***பிக் கொள்ள வந்த

உண்மைய தவறியாமல் மூர்க்கன் செய்வார்

களவினையுள் தீர்வதில்லை கடினமெத்த

கருணையுள்ள பூரணத்தில் கண்காட்சி

அளவினை நீ காணுமுன்னே அகலச் சொல்லு

அடையாளம் விரல் குறுகு பின்னால் கேளே

விரல் குறுகும் காஅல் நிமிறும் விம் போலேறும்

பாரான தேகமெல்லாந் தடித்து காணும்

பாதமெல்லாந் வெடித்து மிகப் புண்ணாய் காணும்

சரசமுடன் சொறி கரப்பான் பிணம் போல

தோணுள் சாந்தையாமே விந்தை கெடுத்தடி வீங்கும்

நா நல்கிலிந் நோய்க்கு மருந்தயராதே

நல்லோரை பீடிக்குங் குடங் கன்மமாமே”

- அகத்தியர் பரிபூரணம் ***400.***

In yugimuni 800 he mentions

“ஆச்சென்ற பதினெட்டு குட்ட்த்தாலும்

அவரவர்கள் செய்கின்ற அதர்மத்தாலும்

தேடிச் சென்ற சிவாலயத்திலுச் சிட்டங்கள்

செய்தவர்கள் சிவ நிறத்தை பண்ணினார்கள்
மூச்சென்ற பெரியோரை துடித்தோர்கள்
மூர்க்கமாய் அடைக்கலத்தை எடுக்கின்றார்கள்
ஆச்சென்ற திணையளவில் குறைந்த கூலி
கொடுக்கன்றொர் குட்ட்த்திற் கூடுவானோ"

- ***யூகிமுனி பெருநுல் 800***

Yugimuni strongly described only psycho-social factors are the main causes. They are stress inducing factors. He has attributed the following causes.

- Misbehavior in the temple
- Sacrilege towards god
- Humiliating the elders
- Breach of trust
- Praying low wages to workers

The main factors behind the reasons are manifestations of stress which can be considered as precipitating factor.

The psychic tranquility of the individual depends upon the harmony of social movements.

Hereditary also plays a important role in breeding Kalanjaga padai which appear in generations affecting several siblings and in such families the condition tends to be severe and persistant.

In yugi chinthamani, among the eighteen types of skin disease three types seen to be varients of kalanjaga padai.

But no description is available in agasthiar kanmakandam, he mentions.

"சேர்ந்த குட்டமொடு குறைநோய்கள் வந்த
சேதிகேள் மலராத அரும்பு கொய்தல்
தாரித்த சீவ செந்து வதைகள் செய்தல்
தாய் தந்தை மனது நொந்து ரோகந்தானே"

- அகத்தியர் கன்மகாண்டம்

- Plucking buds
- Domestic violence
- Hurting the parents

In Manmurukiyam, he mentions

"இடம் பொழு துணவு தொழிலோடு பருவம்
ஏனமிவை வேறுபடுத லாலும்
நஞ்சூறல் நஞ்சு கூடியது பொறும்
பிணியுற லாறும் நிறம் பெயர்தடுமே"

- Change of place, food, work, climate and diurnal.
- Toxins by animal bites.

In agasthiyar vaithyam he mentions

குயல்வாய் குஷ்டம் சயங்குளம் நீரிழிவு சுரக்கிராணி
நீரடைப்பு பாண்டு மூல வாய்வு
கயல் வாயு வருங்கண்ணில் குத்தாய் கடிந் தசவாயு
கணவாக முன் செய்த உயிர் வினைதானே"

- அகத்தியர் வைத்தியம்

- Skin disease
- Tuberculosis
- Diabetes
- Fever
- Diarrhoea

These diseases occurs due to destiny

Other cause

- Excessive intake of allergic foods
- Change of climate
- Excessive intake of sweets, fried foods.
- Chocolates and milk

(B-lactone globulin – allergen in children)

- *Unavu maruthuvam*

In pararasa sekaram, He mentions As the causes

- Kanmam
- Stress
- Excessive sleep

Finally concludes,

In our siddha system, siddhars not specified, the etiology for separate skin disease commonly they mentioned kanmam is one of the etiological factor. Kanmam denoteds the genetic transmission.

Even though genetic predisposed factor plays a key role among the etiological factors of psoriasis.

It is well influenced by other factors like stress, climate changes etc.

3.1.6 CLASSIFICATION

நோய் வகை

யூகிமுனி-18 வகை

புண்டரீகம்	சிகுரம்	மண்டலம்	கிடீபம்
விற்போடகம்	கரணம்	அபரிசம்	சர்மதலம்
பாமம்	கிருட்டிணம்	விசர்ச்சிகம்	தத்துரு
கஜசர்மம்	அவுதும்பரம்	விபாதிகம்	சித்துமா
சதாரு	சுவேதம்		

தன்வந்திரி வைத்தியரோகம் - ***18*** வகை

கபாலம்	சதரீக	தேத்துரு	பாம
சார்மேக	விசர்ச்சிக	புண்டரீக	சுகாநந்தி
உதும்பர	மண்டல	விற்போடக	வெண்
கிடீப	அருநோய்	சர்மதல	சித்துமா
அலச	விவாதிக		

வு.ஏ.சாம்பசிவம் பிள்ளை – ***18*** வகை

நீர்	செங்	விரல்குறை	விரண
வெண்	பொறி	சடை	கழி
சொறி	வரி	யானை	கிருமி
கருங்	எரி	திமிர்	ஆகு

பரராச சேகரம் - 18 வகை

வெண்	புண்	படர்	ஆணை
கருங்	சொறி	பஞ்சவர்ண	வறட்சி
செங்	புளி	வெடி	சற்ப
கரப்பான்	தேமல்	மூல	சுடலை
சிங்கவன்ன	முளை		

ஆத்மரட்சாமிர்தம் வைத்திய சாரசங்காரம் - 4 வகை

வெண்குட்டம் கருங்குட்டம்

செங்குட்டம் பெருவியாதி

Classification (நோய் கணிப்பு விவாதம்)

IN THANVANTHIRI VAITHIYAM

வாத பித்த லேற்பனத்தின் வாரரோகந் தானனெனினும்

தீது குட்ட மெழுந்தீருங் குட்டம் பதினொன்று

மோதுங் குட்டம் பதினெட்டுடன் நொய வையினுற் பவமும்

பேதக் குணமும் வியாதின் முன் பிறக்குங் குணமுடைப்பேனே.

குட்ட நோய் வாத பித்த சிலேத்மத்தினுள் வாதம் பித்தம் ஆகியவற்றால் உண்டானவை என்றும் ***7*** வகை குட்டங்கள் தீராது ***11*** வகை குட்டங்கள் தீரும் என்றும் கூறப்பட்டுள்ளது.

அசாத்திய குட்டம் - ***7*** ன் பெயர்

சொல்லுங் குஷ்டங் ஏழுவகைபேர் சொல்லிற் கவாலஞ்சர்மீகம்

வெல்லு முதும்போ மேகிடிபம் விசர்ச்சி மண்டலாக்கிரமு

மல்லல் தருமீசி யகுவை யாகும் பெயரோ டியாகும்

வல்லவியாதிக் குணமதனை வகுத்து பாரி லுரைப்பேன்.

சாத்தியம் பதினொன்றின் (***11)*** பெயர்

பூண்டதத் துருவினோடு சதரிசம் புண் டரீகந்

தாண்டு விற்போம் பாமாவுடம் மைதலம் வெண்

கூண்டடு காக நந்தி சித்துமை யலச் குஷ்டம் குட்டம்

வேண்டிய விவாதியோடும் பதினொன்றும் விரித்து கானே

“In yugi muni vaidhya chinthamani”

The kuttam has been classified into 18 types

“***முத்தாகும் குட்டந்தானே பதினெட்டுக்கும்***

முனியான யூகி நான் சொல்லக் கேளாய்

பத்தாகும் புண்டரீக குட்டமாகும்

பொருகின்ற விற்போடக குட்டமாகும்

பத்தாகும் பாமக்குட்டம், கச்சர்மகுட்டம்

பிரிவான கர்ணகுட்டம், சிகுரகுட்டம்

கித்தாகும் கிருட்டிணகுட்டமு மாமென்னே

குட்டமாம் ஸ்பரிசு குட்டமொடு

குடிலமாம் விசர்ச்சிக்க் குட்டமாம்

வட்ட்மாம் விபாதி குட்டமொடு

மருவலா கீடிப குட்ட சர்மதல

திட்டமாற் தேத்திரு குட்டமொடு

சித்துமா குட்டம் சதாரு குட்டம்

துட்டமாறு குட்டந் தன்னோடெக்க

சுயம்பான பதினெட்டு குட்டமாச்சே”

1. ***புண்டரீகம்*** - padar thamarai
2. ***விற்போடகம்*** – koppula perunoi
3. ***பாமம்*** – sirangu perunoi
4. ***கஜசர்மம்*** – yaanai thol perunoi
5. ***கரணம்*** – kadhu perunoi
6. ***சிகுரம்*** – tholperunoi
7. ***கிருட்டிணம்*** – karuperunoi
8. ***அவுதும்பரம்*** – athikkai perunoi
9. ***மண்டலம்*** – valayu perunoi
10. ***அபரிசம்*** – vali perunoi
11. ***விசர்சிகம்*** – sori perunoi
12. ***விபாதிகம்*** - senkuttam
13. ***சர்மதலம்*** – tholvedippu perunoi
14. ***கீடிபம்*** – pandri thol perunoi
15. ***தேத்ரு*** – thadippu perunoi
16. ***சித்துமா*** – naa perunoi
17. ***சதாரு*** – purai perunoi
18. ***சுவேதம்*** – venkuttam

T. V. Sambasivam pillai has mentioned according to tamil medical science kuttam is of 18 types

1. ***நீர்*** – leprosy with exudation
2. ***வெண்*** – white leprosy
3. ***சொறி*** – psoriasis
4. ***கருங்*** – black leprosy
5. ***பெரும்*** – true leprosy
6. ***செங்*** – macular leprosy
7. ***பொறி*** – leprosy with granules
8. ***வரி*** – leprosy with fissures

9. ***எரி*** – leprosy with burning sensation

10. ***விரல்குறை*** – lepra mutilans

11. ***சடை*** – leprosy with confluent ulcers

12. ***யானை*** – thick skinned leprosy

13. ***திமிர்*** – anesthetic leprosy

14. ***விரண*** –ulcerated leprosy

15. ***காய்*** – nodular leprosy

16. ***சூழி*** – a form with sloughing ulcers

17. ***கிருமி*** – leprosy with microbes

18. ***சூறா*** – incurable leprosy

Classification by Anubava vaithiya deva ragasiyam

Based on three thodams, 18 types of kuttam has been classified as follows

Vattam – kabala kuttam

Pitham – avuthumbara kuttam

Kabam – mandala kuttam, visharchiga kuttam

Vadha pitham – rusiya jimmiga kuttam

Pitha kabam – saruma kuttam, yoga kuttam, kidiba kuttam, siththuma kuttam, alasa kuttam

Kaba vatham – vibathiga kuttam

Thirithodam – thethuru kuttam, pundarega kuttam, satharu kuttam, virpodaga kuttam, bama kuttam, sarmathala kuttam.

"ஆத்மரட்சாமிர்தம் வைத்திய சாரசங்கிரகம்" – ***4*** வகை

1. வெண்குட்டம்

2. செங்குட்டம்

3. கருங்குட்டம்

4. பெருவியாதி

திருமூலர் - ***18*** வகை

கிரந்தி மேகத்தால் வருபவை - ***6***

வண்டினால் - ***8***

புழுவால் - *4*

3.1.7 Comparative studies

Among the eighteen types of skin diseases (kuttam) described by yugi, clinical features of thethiru kuttam, virpodaga kuttam, sadharu kuttam resemble those of kalanjaga padai.

தேத்துரு குட்டம்

“சர்மந்தான் சிவப்பாக வட்டணித்துச்
சலவை போல் வெளுக்குமே தினவுண்டாகும்.
வர்மந்தான் ரோகமது மிகவுண்டாகும்
மயிரெல்லாஞ் சுருண்டுமே உண்டையாகும்
கர்மந்தான் பித்த சேத்தும மிகுக்கும்
காயந்தான் கதித்துமே திமிருண்டாகும்
தர்மந்தான் சடமெல்லா மூதலாகும்
தாக்கான தேத்திருக் குஷ்டந்தானே”.

- யூகி முனி வைத்திய சிந்தாமணி 800.

Annular erythematous lesions with whitish appearance, itching, oedema of the body and rolling of hairs like balls are the characteristic clinical features in the entity.

விற்போடக குட்டம்

“புதுமையாய்ச் சரீரமெங்குத் தினவுண்டாகும்
பொருவெடியாய்த் திக்கெனத்தீக் கொழுந்து போல
மெதுமையாய் விட்டெரியும் நல்ல பாம்பின்
விஷப்படம் போலே தடித்து வெருப்பு மாகும்
சுதுமையாய் மிகச் சொரியுந் சிவப்புமாகும்
தூக்கமொடு சஞ்சலமும் தடிப்புண்டாகும்
கனத்தவிற் போடகமான குட்டந்தானே”.

- யூகிமுனி பெருநூல் 800.

Characterized by elevated skin lesions with erythema and itching. Burning sensation will be present on and off. Usually these entities are associated with anxiety and despair.

சதாரு குட்டம்

“எத்தான வெரிப்போடு தினவுமாகும்

எளிதான சேட்டுமவாதந் துற்பத்தி
பத்தான கட்டிப் புண்ணுமாகும்
பாம்பு தோல் போற்றிரைந்து பருத்துக் காணும்
வித்தான மூக்கோடு காது கன்னம்
மிகத்துடிப்பாஞ் சதாரு குஷ்டந்தானே".

-யூகிமுனி பெருநூல் 800.

கபால வாத கரப்பான்

"என்னவுரை வாதசிரத் தேயுங்க ரப்பனது
மின்னுமுகத் தான்வீங்கு மெய்குளிரும் வேதனையாம்
பின்னான சந்து டனே பிடரிமுத லாமிடங்கள்
தன்னாக நொந்துமிகத் தலைகனக்கு மென்றறியே"

- பரராச சேகரம் - சிரரோக நிதானம்.

பொழிப்புரை

மின்னும் முகம் வீங்கும் மெய்குளிரும் வேதனை உண்டாகும் சந்து பிடரி முதலிய இடங்கள் நொந்து தலை கணக்கும்.

"அறியே நீரும் சலமும் பாய்;ந் தனல்போ லெறிந்து குத்துண்டாம்.
சொறியும் பின்னர் மிகக்காய்த்து துஞ்சு நெய்போற் கழிந்தோடும்
பறியும் பொருக்குச் சாம்பரெனப் பரிய நாறும் புலனாற்றும்
குறியும் வாத சிரகரப்பான் கொண்டாரக் குற்ற குணமில்லையே"

- பரராச சேகரம் - சிரரோக நிதானம்

பொழிப்புரை

மலம் சிறுநீர் செல்லும் போது அனல் போல் எரியும். அத்தோடு குத்தல் சொறியும் உண்டாகும். தோய்த்து வைத்த நெய் போல் சீழ் கசிந்தோடும். புலால் நாற்றம் வீசும். இதன் குறிகுணங்கள் காளாஞ்சகபடை போல் (Pயளவரடயச pளழசயைளளை) காணப்படுகிறது.

கபால வெண்குட்டம்

“தோற்றுவெண் குட்டஞ் செய்யும் குணத்தினைச் சொல்லக் கேளாய்
நீற்றிடுங் கலம் போலச் சொறிந்திடு நீரும் பாயும்
ஏற்றமாய்ச் சாம்பல் வீழு மிழிபுலான் மினவே நாறும்
மாற்றமாய்க் கபால மேன்மேல் வறண்டுகா திரைச்ச லாமே”.

பொழிப்புரை

திருநீறு வைக்கும் மரக்கலம் போல் வெள்ளையாக இருக்கும். சொறியோடு நீரும் பாயும் சாம்பல் போல் விழும். இதன் குறிகுணங்கள் காளாஞ்சக படை போல் காணப்படுகிறது.

கபால் வெண்கரப்பான்

“வீறும் சிரத்தில் வெண்கரப்பான் குணத்தைக் கேளாய் மெல்லியலே
கூறும் புள்ளி நிறம் வெளுப்பாய்க் குறுநெற் செதில்போல் கொதித்து விழும்
ஊறு ரூருந் தினவுண்டா மோடே யொடுப்போற் கரகரக்கும்
மாறு போல வுடல்வற்றும் வாதை யிதுவு மசாத்தியமே”

- பரராச சேகரம் - சிரரோக ருதானம்.

பொழிப்புரை

வெண்கரப்பானில் புள்ளி போன்று. வெருப்புண்டாகும். குருநெற் போல் செதில்கள் கொதித்து விழும். உடல் ஊறி நீருடன் தினவுண்டாகும் மாறு போல் உடல் வற்றும். இதன் குறிகுணங்கள் காளாஞ்சகபடை போல் (Exfoliative dermatitis).

According to thethuru kuttam, virpodaga kuttam, satharu kuttam, The clinical features are resemble to Kalanjagapadai.

Clinical features

In the siddha text book sirappu maruthuvam, sirappu authored by Sri.Dr.R. Thiagaraja, Clinical features are described as,

- The skin lesions are red in colour with raised margins and white ivory or silvery rough thick scales on removing the scales pin point blood-stained spots occurs.
- The lesions vary in size either thin or thick layers.
- In children these lesions may be like water drops.

- In severe cases lesions occur in the face, scalp and sometimes all over the body.

3.1.8 IN A CHRONIC CASE

- The skin lesion occurs in the extensor aspect of forearm.
- In some cases these lesions appear over the palms and soles.
- In some cases these lesions appear all over the body.
- The lesions are coin shaped and there may be small pus formed lesions can be found.
- In obese women, the lesions may occur over navel inguinal region and axilla with discharge. Due to sweating, Itching may be associated.
- The borders of the lesions are not be demarcated clearly.
- On fourth of the patients have lesions over nails which are pink coloured and associated with ridges.

3.1.9 PSORIATIC ARTHROPATHY (Kalanjaga Vatham):

Kalanjaga padai is often associated with painful joints known as **"Kalanjaga vatham**". It may affect any joint. The most often affected joints are inter-phalangeal joints. The terminal interphalangeal joints are usually involved as opposed to the proximal interphalangeal joints in **"Uthira vatha suronitham"** which is identical with rheumatoid arthritis.

In these cases the affected fingers show nail changes. This condition is termed as **"Psoriatic Arthropathica".** The joints of fingers, ankles, knee and sacroiliac region are selectively affected. Those joints are swollen and painful with psoriatic lesions.

Radiological changes are characteristic and consist of osteoporosis followed by increased density, diminished joint space, and erosion of joint surfaces followed by eventual destruction of the ends of bones. Ultimately, the joints become deformed.
Yugi muni describes the clinical features of Kalanjaga vatham as follows;

"வாதமாங் கால் கையில் குரங்கிரண்டும்
வருத்து சந்து முறுக்கியே குடைந்து நொந்து
நாதமா நடை தானுந்தான் கொடாமல்
நலிந்துமே முடமாகிக் கரடு கட்டிச்

சேதமாந் சடந்தானு மிக வெளுத்துத்

தினவோடு சிரங்குமாய்ச் சேட்பமாகிக்

காதமா யருசி யொடு மயக்கமாகும்

கருதியே காளாஞ்சகமாம் வாதமாமே”

- செய்யுள் ***259***

“வாதமாங் கால் கையில் குரங்கிரண்டும்”

The joints of fingers, feet, ankles, knee and sacroiliac are selectively affected and these joints are painful.

“நாதமா நடை தானுந்தான் கொடாமல்

நலிந்துமே முடமாகிக் கரடு கட்டிச”

The deforming erosive arthritis targets finger and toe. Marked cartilage destruction and bony articulation results in loss of joint space and marked instability.

“சேதமாந் சடந்தானு மிக வெளுத்துத்

தினவோடு சிரங்குமாய்ச் சேட்பமாகிக்

காதமா யருசி யொடு மயக்கமாகும்

கருதியே காளாஞ்சகமாம் வாதமாமே”

The whole body becomes pale (anemic). Well-defined erythematous papules which are sharply demarcated appear on the skin. There is also loss of taste and giddiness.

3.1.10 SIDDHA PATHOLOGY:

Noi (Pini)

Definition :

Whenever alterations occur in three vital humours, disease or noi occurs.

“உடலுடன் பிணைந்த உயிர் அனுபவிக்கும்

இன்ப உணர்ச்சிக்கு மாறான உணர்ச்சியே பிணி”

An alteration in three vital humours may occur due to

1. Dietary habits
2. Seasonal variations
3. Living place

4. Udal thathukkal
5. Mukkutram
6. Udal vanmai

“மிகினும் குறையினும் நோய் செய்யும் நூலோர்
வளி முதலா எண்ணிய மூன்று”.

- குறள்

Therefore the deranged vatha, pitha kapha denotes disease. The diseases are reflected through the pulses in the three humours.

Food variations:

“புளி துவர் விருஞ்சுங்கறி யார்
பூரிக்கும் வாதம்
ஒளி யுவர் கைப் பேறில் பித்துச்
சீறும் - கிளி மொழியே
கார்ப் பினிப்பு விஞ்சிற் கபம்
விஞ்சுஞ் சட்டிரதச்
சேர புணர் நோயணுகாதே”

- ✓ Sour and astringent increases vatham
- ✓ Salt and bitter increases pitham
- ✓ Pungent and sweet increases kabam

Paruvakaalam (season):

The whole year is constituted by 6 seasons. They are

- ✓ Karkalam (August 16 to October 15)
- ✓ Koothir kaalam (October 16 to December 15th)
- ✓ Munpani kaalam (December 16 to February 15th)
- ✓ Pinpani kaalam (February 16 to April 15th)
- ✓ Elavenil kaalam (April 16 to June 15th)
- ✓ Mudhuvenil kaalam (June l6 to August 15th)

In each and every season routine changes will occur in the land, normal biological functions of individual, living things, plants, animals, human beings, which will modify normal physiology and make them susceptible to certain specific disease.

In my dissertation maximum cases occur in **munpani kaalam.**

Nilam (land):

It is divided into five types. They are

1. Kurinchi
2. Mullai
3. Marutham
4. Neithal
5. Palai

In kalanjaga padai, maximum cases commonly affected in marutham and some in neithal nilam.

Based on dhanvandhari vaidhya rogam

"முன்னிலை வாத பித்த சிலேத்மன மூன்று மங்கும்
பின்னிய தறுக்காயுள்ள நரம்பினிற் பிரவேசித்து
மன்னிய ரத்தம் தண்ணீர் மாங்கிஷிந் தோல் கொடுத்தே
யன்னிய வன்னங் காணும் மாகையிற் குட்டமாமே"

- தன்வந்திரி வைத்திய ரோகம்

வாதம் பித்தம் கபம் மூன்றும் கேடடைந்து நரம்பில் சேர்ந்து இரத்தம் தண்ணீர் மாமிசம் தோல் இவற்றை கெடுத்து மாறுபாடு உண்டாக்கும்.

"குட்டரோகந்தான் வந்து குடிகொண்டாற் சரீரத்திலுள்ள
முட்டுறு வியர்வை யீரம் வற்றிய சூட்சஞ்சூட்சஞ்
திட்டமாய்க் கிருமியுண்டாய் தேகத்தில் மயிர்தோலெரிவு
சட்டமாம் நரம்பு தின்று சரீரத்திற் காணுமென்றே"

- தன்வந்திரி வைத்திய ரோகம்

- **வியர்வையின்மை**
- **கிருமியுண்டாதல்**
- **தோல் எரிவு**
- **நரம்பு பாதிப்பு**

ஆகியன குட்டரோகத்தை தொடர்ந்து வரும்.

3.1.11 UYIR THATHUIYAL:

Knowledge of three uyir thathus, seven udal thathus and six tastes will be helpful to do detailed study on the disease.

For instance, the taste sweet is the combination of Mann and Neer. The kaba dosha also possess of same combination. So it is clear that excessive take of sweet will increase kaba kuttram. It can be balanced by the administration of "Thee" bootham containing taste. Similarly, administration of sour taste increases vatha kuttram that can be alleviated by opposite taste. The vatham further divided into ten.

The classification and its functions are,

A. VATHAM

1. Pranan (Uyir Kaal)

It is responsible for respiration and digestion.

2. Abanan(Keezhnokku Kaal)

It lies below the umbilicus responsible for the downward expulsion of stools, urine and constriction of anal sphincter.

3. Viyaanan (Paravu Kaal)

It is responsible for the action of all organs, sensation and absorption of food.

4. Uthaanan(Melonkku Kaal)

It is responsible for the absorption and distribution of food.

5. Samaanan (Nadu Kaal)

It is responsible for the balancing of the other vayus; absorption of nutrition's and water balance of the body.

6. Nagan

It is responsible for the movements for eyelids.

7. **Koorman**

It is responsible for the sight, closing of eyelids, yawning and closure of mouth.

8. Kirukaran

It is responsible for the secretion of mouth and nose, appetite, sneezing, cough.

9. Devathathan

It is responsible for aggravating of the emotional disturbances anger, lust

frustration, etc.

10. Thananjayan

It escapes from the head on the third day after death.

Increased vaatham

Emaciation, desire to hot food, shivering, abdominal bloating, constipation, sleeplessness, giddiness and laziness.

Decreased vaatham

Pain all over the body, low voice, loss of attentiveness, unconsciousness and other diseases of increased kabam.

In the cases of Kalanjaga padai

Abanan	-	Habitual Constipation.
Viyaanan	-	Erythematous in the affected lesions of skin.
Samaanan	-	Due to other Vayu it is affected.
Kirakaran	-	Polydipsia, polyphagia, loss of appetite.
Devathathan	-	Insomia.

The above Vayus are commonly affected.

B. PITHAM

The pitha dosha is further divided into five as follows,

1. Anala Pitham (Aakku Anal)

Its action is characteristic of thee. This is responsible for digestion of food.

2. Ranjaga Pitham (Vanna Aeri)

It is responsible for the colour and contents of the blood.

3. Saathagam (Atralanki)

It lies in the heart. It is responsible for the action after thinking.

4. **Prasagam (Ollolithee**)

It is responsible for the complexion of skin.

5. Aalosagam (Nokkazhal)

It is responsible for the vision.

Increased Pitham

Yellowishness of eye, stools, urine and skin. Excessive thirst and appetite, burning sensation of body and sleeplessness.

Decreased Pitham

Hypothermia, loss of skin complexion and causes derangement of kabam.

In the cases of Kalanjaga padai

Anala pitham - Indigestion of food.

Ranjagam - Paleness of conjunctiva and tongue.

Sathagam - Difficulty to do the routine works properly and sluggishness.

Pirasagam - Dryness and roughness of skin.

The above pithams are commonly affected.

C KABAM

1. Avalambagam

It causes diseases of the respiratory system when it is affected thereby indirectly affecting the other lyyams.

2. Kilethagam

Appetite and digestion may not be normal when it is affected.

3. Pothagam

Derangement causes anorexia, distaste.

4. **Tharpakam**

Memory and perception of senses may be affected when this is deranged.

5. Sandhigam

Mobility of joints is affected due to drying up of the synovial fluid when sandhigam is abnormal.

Increased kabam

Increased salivation, inactiveness, heaviness of the body, impaired joint movement, dyspnoea, coughs and increased sleep.

Decreased kabam

Giddiness, flattening of chest increased sweating and palpitation. It is also important to know that the taste and activities which increase the Vaatham, pitham and kabam for the proper treatment of the diseases.

In the cases of Kalanjaga padai

- Kilethagam - loss of appitite was mainly affected.
- Tharpagam - Burning sensation of eyes was affected in few cases.
- Santhigam - Pain in joint affected in few cases

The above kabam are commonly affected.

3.1.12 SEVEN UDAL KATTUGAL

There are seven primary body tissues which constitute the entire human body and all the organs of the various systems.

1. **Saaram**

   It is the end product of digestive process. It gives strength to the body and mind.

2. **Senneer**

   The saram after absorption is converted into senneer. It is responsible for knowledge, strength and health complexion.

3. **Oon**

   It gives figure and shape to the body. It is responsible for the, movement of the body.

4. **Kozhuppu**

   It lubricates the organs and thus facilitates their function.

5. **Enbu**

   Gives shape to the body helps locomotion and protects vital organs.

6. **Moolai / machai**

   Present in the core of the bone and it gives strength maintains the normal condition of the bone.

7. **Sukkilam /Suronitham**

   Responsible for reproduction

In the case of Kalanjaga padai out of seven udal attukkal

Saaram	: Dryness, roughness, tiredness.
Senner	: Dryness, paleness of the skin.
Oon	: Weakness of sense organ.
Enbu	:Pain in the joints in chronic cases.

3.1.13 UDAL VANMAI (Body Immunity)

The Udal Vanmai is classified into 3 types. They are,

- lyarkai Vanmai
- Seyarkai Vanmai
- Kaala Vanmai

IYARKAI VAN MAI

Natural immunity of the body itself by birth.

SEYARKAI VANMAI

Improving the health by intake of nutritious food materials, activities and Medicines.

KAALA VANMAI

Development of immunity according to age and the environment.

When Udalvanmai is affected there may be a possibility of Kalanjaga Padai.

3.1.14 PINIYARI MURAIMAI

The method adopted to find out a disease in Siddha is known as P1N1YARI MURAIMAI. It is based on the following principles.

- Poriyaal Arindhal
- Pulanaal Therdhal
- Vinavudhal.

"Pori" is the five organs of perception namely Nose, Tongue, Eyes, Ears and Skin. "Pulan" is the five objects of senses Smell. Taste, vision auditory and sensation, respectively corresponding to "Pore". Poriyalarithai and Pulanal Therthal go hand in hand with the concept to examining the patients. "Pori" and "Pulan" with that of the "patient's .Pori" and" physicians Pulan".

"Vinathal" is a method of inquiring the details of either the patient's problem that made him to approach the physician from his own or his /her attendants who accompany them.

Along with, above mentioned principles is also carried out inspection in modern medicine. Besides, Thottuparthal (Palpation) and Thattiparthal (Percussion) are also used to diagnose a patient.

The prime method adopted to diagnose the disease is by means of "Envagai Thervugal" (Eight types of investigations). Envagai Thervugal a physician' instruments and can be understood by the following verses.

“நாடிப் பரிசம் நா நிறம் மொழி விழி
மலம் மூத்திரம் மிவை மருந்துவராயுதம்”

\- தேரையர்

சித்த மருத்துவ நோய்நாடல் நோய் முதல் நாடல் திரட்டு பாகம் -1

Envagai Thervugal constitue

1. Naa

2. Niram
3. Mozhi
4. Vizhi
5. Sparism
6. Malam
7. Moothiram
8. Naadi

1. Naa (Tongue)

The colour, character and condition of the tongue change according to the changes of mukkutram.

In Kalanjaga padai no abnormality is seen in Naa.

2. Niram (Colour)

Signs of Vatha, Pitha and Kaba colours, mixed colour cyanosis, pallor, flusing or Yellowish discoloration can be studies by means of Niram.

In case of Kalanjaga padai white patches with silvery scales can be noticed at affected areas.

3. Mozhi (Speech)

Constitutes high or low-pitched voice, slurring and incoherent Speech, nasal or crying, hoarseness of voice etc.

In case of Kalanjaga padai, no abnormalities was ruled out in Mozhi.

4. Vizhi (Eye)

Along with sight, anatomical lesions are noted, Burning of the eyes, lacarymation, mutation, colour change of the eyes also noted. In case of Kalanjaga padai, no abnormalities was ruled out in vizhi.

5. Sparism (Palpation)

By palpation and inspection, the following information's were elicited. Temperature of the skin, whether uniformly hot or cold, thickness. Fissures soft/hard swelling, wrinkles, pigmentation of hairs etc.

In case of Kalanjaga padai well defined macules, papules, thickening, roughness, pain and white silvery scaling of skin can be noticed at affected area.

6. Malam (Stools)

Vatha type - Hard, rough, dry, scanty and black.

Pitha type - Loose stools, moderate in quantity. Yellowish red with fermenting odour.

Kaba type - Clay or white coloured stools, huge in quantity with slimy, mucous and frothy bubbles.

Thontha type - Faecal matter possesses some of the features of two doshas.

In case of Kalanjaga padai constipation was reported in some cases.

7. M**oothiram (Urine)**

The Examination of urine is classified under 2 headings.

“அருந்து மாறிரதமும் அவிரோதமதாய்
அஃகல் அலர்தல் அகாலவூன் தவிர்ந்தழற்
குற்றள வருந்தி உறங்கி வைகறை
ஆடிக் கலசத் தாவியே காதுபெய்
தொரு முகூர்த்தக் கலைகுட் படுநீரின்
நிறக்குறி நெய்க்குறி நிருமித்தல் கடனே.”

- சித்த மருத்துவாங்க சுருக்கம்

Neerkuri - Niram, Edai, Manam, Nurai, Enjal Neikuri

Neerkuri

“வந்த நீர்க்கரி யெடை மணம் நுரை எஞ்சலென்
றைந்திய லுளவை யறைகுது முறையே”.

- **சித்த மருத்துவாங்க சுருக்கம்**

- **Niram** indicates the colour of the urine voided.
- **Edai** indicates the specific gravities of urine.
- **Manam** indicated the smell of the urine voided.
- **Nurai** indicates the frothy nature of the urine voided.
- **Enjal** indicates the quantity (increases or decreased) of urine voided.

In addition, frequency of Micturation, abnormal constituents, such as sugar, protein, presence of blood, pus, renal crystals also to be noted.

In Kalanjaga padai patient straw coloured urine is noted. Poly urea can be noted in some cases.

(b) Neikuri:

The specialty of neikuri is stated in the following verse:

“ஐக்குறி கொடுவட வானிழ லமர்ந்தோர்

கைக்குறி தெரிந்த நங் கடவுளைத் துதித்தே
மெய்குறி நிறந்தொனி விழி நாவிருமலம்
கைக்குறி முழவதூ உங்கற்றார் தம்மினும்
பொய்க்குறி மெய்குறி புகலுமெ வர்க்கும்”

- சித்த மருத்துவ நோய் நாடல் நோய் முதனாடல் திரட்டு

The collected specimen as said above is to be analysed by following method. The specimen is kept open in a glass dish or china clay container. It is to be examined under direct sunlight, without shaking of the vessel. Then add one drop of gingelly oil at a distance of 1/2" or 3/4" height observe keenly the direction it spreads with in few minutes, and conclude the diagnosis.

The character of Vatha Neer

“அரவெண் நீண்டி னஃதே வாதம்”

When the drop of oil spreads like a snake, it indicates Vatha Neer.

The Character of Pitha Neer

“ஆழிபோற் பரவின் அஃதே பித்தம்”

When the drop of oil spreads like a ring, it indicates Pitha Neer.

The Character of Kaba Neer

“முத்தொத்து நிற்கின் மொழிவ தென் கபமே”

When the drop of oil remains as that of a pearl, it indicates Kaba Neer.

The Character of Thontha Neer

*“***அரவில் ஆழியும் ஆழியில் அரவும்**
அரவில் முத்தும் ஆழியில் முத்தும்*”*

- **சித்த மருத்துவ நோய் நாடல் நோய் முதனாடல் திரட்டு**

Thontha Neer

Ring in the Snake Snake in the ring Pearl in the snake Pearl in the ring

8. Naadi (pulse):

Naadi is responsible for the existence of life and can be felt on inch below the wrist on the Radial side by means of palpation with the tips of index, middle and ring fingers corresponding to vatham, pitham and kabam.

These humors vatham, pitham and kabam exist in the ratio 1: ½ : ¼ normally the arrangement in this ratio leads to various disease entities.

In the **Kalanjaga vatham** he following types of naadi were observed. They are,

i. Vatha kabam

ii. Vatha Pitham

3.1.15 LINE OF TREATMENT (NOI NEEKAM) The aim of noi neekam is based on

1. To bring the three doshas in equilibrium.
2. Treatment of the disease accordingly the signs and symptoms.
3. Pathiyam

Siddha system of medicine is based on the mukkutra theory and hence the treatment is mainly aimed to bring down the three doshas to its equilibrium state and there by restoring the physiological consitions of several thathus.

“விரேசணத்தால் வாதம் தாழும்
வமனத்தால் பித்தம் தாழும்
நசிய அஞ்சணத்தால் கபம் தாழும்”.

- சித்த மருத்துவாங்கச் சுருக்கம் ப.எண்.***662***

- ✓ Vatha disease can be brought down by Viresanam.
- ✓ Pitha disease can be brought down by Vamanam.
- ✓ Kaba disease can be brought down by Anjanam.

“வாதமலாது மேனிகெடாது”

- தேரன் சேகரப்பா

சித்த மருத்துவ நோய்நாடல் நோய்முதல் நாடல் திரட்டு பாகம் -***1*** ப.எண்.***363***

Hence, Kalanjaga padai occurs due to the vitiation of vatham it can be set right by giving viresanam.

Treatment of disease:

In addition to this following medications are practiced in the Siddha system .

- ✓ Aha maruthugal (Internal medicines)
- ✓ Pura maranthugal (external medicines)
- ✓ Restriction regarding food habits and routine day to day life style.
- ✓ Sirappu Maruthuvam - a special feature of Siddha medicine like Pranayamam,

Yoga.

After the thiridoshas are brought down to its equilibrium state, the signs and symptoms of disease should be treated properly. For the study.

AHA MARUTHUVAM

- ✓ kottai karanthai chooranam

PURA MARUTHUVAM

- ✓ Semparuthi Poo Ennai

Restriction Regarding food and Habits

1. Avoid bitter guard, guava, egg, fish, chicken
2. Avoid alcohol, smoking etc.,
3. Obese must be restricted.
4. Since it is a chronic and not a life threatening disease, it should not be loaded with
   heavy drags.
5. The meditations should calm the mind just free from stress and strain
6. The patches should be washed with lukewarm water, to remove the scales everyday early morning. After the bath, external applications are to be applied thereafter.
7. Avoid allergic food items.

"பெருஞ் சோள மிறுங்கும் பெரும் கம்பு
வரகு காருடன் வாழையின் காயொடு
உரை கொள் பாகற் கெளிற்று மீன் உண்டிடில்
விரிவதாய் கரப்பானு மிகுந்ததே"

\- பதார்த்த குண சிந்தாமணி

3.1.16 SPECIAL NON DRUG THERAPEUTICS

Several special medicaments of non-drug therapeutic like Yoga, Pranayamam, Asanas, Kalpa medicines are employed in Siddha systems.

These are employed during diseased state and for the prevention of diseases during healthy days. In Kalanjagapadai, patients are also advised to follow Pranayamam, Yoga and Asanas, in order to avoid the remissions and exacerbation of this disease.

PRANAYAMAM

It is a form of Kayakalpa method. By practicing this one can prevent any disease. This is explained in the following verse,

Figure 3.1.1 Pranayama

3.1.17 YOGA

Yoga is maintained by the body in a particular posture for a particular period of time. This is totally different from the ordinary exercise. Yoga vitalises, both physical body and the mental set-up unlike exercise which tones only the muscles. The common benefits are,

- ✓ It tones the internal organs.
- ✓ It prevents obesity and disease.
- ✓ It maintains normal circulation to all the organs of the body.
- ✓ It is very safeguard for all the vital organs.
- ✓ It avoids laziness, enhances pure mind and cleverness and memory power. There will be no problems like psychosomotive disturbances if practised daily.

3.1.18 ASANAS

Retarding skin disease the following Asanas can be advised

I. - PADMASANA (LOTUS POSE)

TECHNIQUE:

1. Keep the right foot on the left thigh

2. Start bouncing the right knee. If the bouncing knee easily touches the floor, then bend the left knee, take hold of the left foot with both hands, gently glide it over the crossed right leg and place it on the right thigh.
3. This will give symmetrical placement of the Padmasana legs and you are in lotus position.
4. The hands should be kept on the knees with palms open, and the thumb and second finger of each hand should touch forming a letter O.

Benefits:

1. This is an extremely good pose for meditation and concentration.
2. It has a calming effect on the mind and the nerves.
3. This pose keeps the spine erect. Helps to keep the joints in flexible condition.
4. Helps to develop a good posture.
5. It allows the body to be held completely steady for long periods of time.
6. It holds the trunk and head like a pillar with the legs as the firm foundation.

Figure 3.1.2 Padmasana

2. சர்வாங்காசனம் - SARVANGASANA (THE SHOULDER STAND)

TECHNIQUE

1. Lie flat on your back. Inhale deeply while raising your legs and spine until the toes point to the ceiling.
2. The body rests on the shoulders and the back of the neck. The body is supported by the hands, which are placed on the center of the spine between the waist and the shoulder blades. Keep your spine and legs straight.

3. Breathe slowly and deeply with the abdomen and concentrate on the thyroid gland. On a male, the thyroid gland is located behind the Adams apple. For women, it is located in the same area which is a few inches above the sternal notch (hollow of the neck where the neck joins the rest of the body.) or approximately half way up the neck from the sternal notch. Stay in this position for about two minutes.
4. To come out of this posture, just bend your knees, curve your back and slowly return to lying on the floor while exhaling. First bend your knees, put the palms on the floor, then curving the spine, gradually unfold it the way one unrolls a carpet. When your entire back touches the floor, straighten the knees, take a deep breath and slowly lower your legs to the ground while breathing out.
5. If you wish, you may go straight into the next posture (the 'reverse posture') instead of lying down.

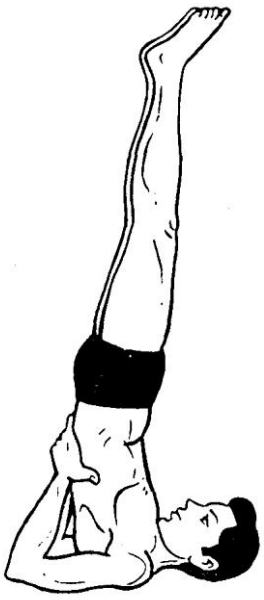


Figure 3.1.3 Sarvangasana

Benefits

1. The main benefit of the shoulder stand is to get the thyroid gland working at peak efficiency. It's the thyroid gland which is mainly responsible for your correct weight and youthful appearance.
2. The shoulder stand also regulates the sex glands.
3. It vitalizes the nerves, purifies the blood and promotes good circulation, strengthens the lower organs and helps them to stay in place.

4. It gives a healthy stretch to the neck muscles.
5. It is beneficial for people suffering from poor circulation, constipation, indigestion, asthma and reduced virility.
6. This pose is especially recommended for women after childbirth and for those, from painful menstruation, other female disorders, and seminal weakness.
7. The sanskrit name for this posture sarvangasana means 'all the body'

3. சவாசனம் - The Corpse Posture *(Shava-asana)*

Instruction

1. Lie flat on your back with your legs together but not touching, and your arms
2. Close to the body with the palms facing up.
3. Keep your eyes gently closed with the facial muscles relaxed and breathe deeply and slowly through the nostrils.
4. Starling at the top of the head and working your way down to the feet, bring to each part of your body, consciously relaxing it before proceeding on to the next.
5. Remain in the shava-asana for between 3 and 5 minutes or longer. If you become sleepy while in the shava-asana begin to breathe a bit faster and deeper.

Comments

1. The goal of the shava-asana is for the body and minds to be perfectly still and relaxed. Not only should the body be motionless and at ease, but the mind as well should be quiet, like the surface of a still lake.
2. It goes without saying that the *shava-asana* will take some time to perfect. It will find the simple exercise of focusing your attention on each part of your body and consciously directing the breath there to be a great help with this posture.
3. There are two common obstacles that can prevent you from fully benefiting from this posture: sleepiness and a restless mind. If our mind is restless or wondering focus your attention on all of the bodily sensations you're experiencing. Bring your mind to the sensation of the floor beneath you or on the rhythm of your breath.

4. While practicing your *Yoga-asana* routine you should always begin and end each session with the *shava-asana.*

Durations/Repetitions:

1. We recommend that you begin your period of *yoga-asana* practice with at least 3-5 minutes of *shava-asana.*
2. Return to it periodically thought your posture session to relax and rejuvenate the body/mind and then conclude your session with at least 3-5 minutes more.

Benefits

1. This asana relaxes the whole psycho-physiological system.
2. It should ideally be practiced before sleep; before, during and after asana practice,particularly after dynamic exercises such as surya namaskara.
3. When the practitioner feels physically and mentally tired. It develops body awareness.
4. When the body is completely relaxed, awareness of the mind increases, developing pratyahara.

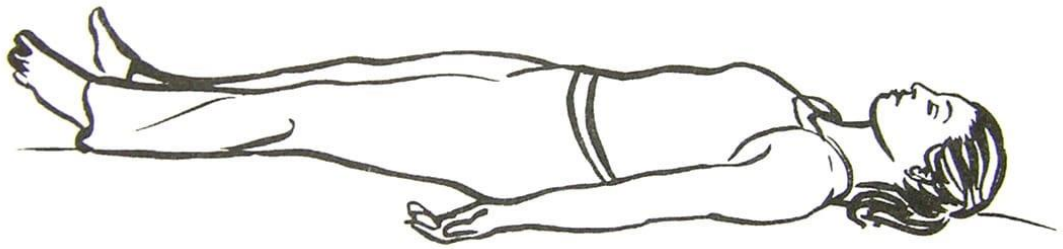


Figure 3.1.4 The Corpse Posture

3.1.19 PATHIYAM

Diseases mainly occur due to wrong diet habits. Siddhars stressed this in every aspect of treatment and prevention from further occurrences. This view is well understood in this verse.

“மருந்தென வேண்டாவாம் யாக்கைக்கு
அருந்தியதுயற்றது போற்றி யுணின்”

\- குறள்

During diseased states, diet restrictions or pathiyam are strictly to be followed. These are to be administered to normalize the deranged doshas and for the good manifestation of given medicines to be more effective. I his is given in the verse,

“பத்தியயத்தினாலே பலன் உண்டாகும் மருந்து

பத்தியங்கள் போனால் பலன் போகும் - பத்தியத்தில்
பத்தியமேவெற்றி தரும் பண்டிதர்க்கு – ஆதலினால்
பத்தியமே உத்தியென்று பார்”

- தேரையர் வெண்பா.

So it is very essential to and here pathiyam strictly for the early cure of the

Diet

Food habits that reduce the vatham, pitham, kabam to the normal level has to be taken. Patients are strictly convinced to avoid all the non-vegetarian items except goat's flesh. Avoidance of the following food items were also strictly advised.

Agathi keerai	-	Leaves of sesbania grandiflora.
Seeni avaraikai	-	Cynampsis psoratoides.
Pagarkai	-	Bitter guard.
Poosanikai	-	Great pumpkin.
Perum payaru	-	Cow - gram.
Solam	-	Maize.
Kanam	-	Horsegram.
Motchai	-	Flac bean.
Elumicham pazham	-	Lemon (citrus medica)
Rich protein foods	-	Consists of histidine.

The rich protein consists of glucogenic amino acids. This amino acids on metabolism undergoes decarboxylation to yield histamine in the presence of an enzyme histidine decarboxylase.

Histamines acts on skin and causes urticaria and anaphylactic reactions. So in order avoid skin complications, avoid dietary foods which are rich in highly biological value proteins.

Habits:

Patients avoid smoking, alcohol etc., advised to have timely diet.

ANUPANAM IN SIDDHA SYSTEM:

“அனுபானத்தாலே யவிழ்தம் பலிக்கும்
இனிதான சுக்கு கன்னல் இஞ்சி – பினுமுதகால்
கோமேயம் பால் முலைப்பால் கோநெய் தேன் வெற்றிலை நீர்

ஆமிதையாராய்ந்து செய்யலாம்”.

- தேரையர் வெண்பா

Siddha system considers anupanam as an important and sometimes more important than the medicine itself, without a knowledge of the importance of anupanam, success in the treatment is not possible. Kottai karanthai chooranam is given with hot water two times a day.

காய கற்பம்

Advised to take (Rejuvenation) " காய கற்பம்" to render the body invulnerable.

All patients were also advised to follow siddhers preventive measures which would give immortality of body and soul, quoted in "Pathartha Guna Chinthamani" as follows.

“தின்ன மிரண்டுள்ள சிக்க வடக்காமற்
பேண்ணின்பா லொன்றைப் பெருக்காமல் - உண்ணுங்கால்
நீர்சுருக்கி மோர் பெருக்கி நெய்யுரக்கி யுண்பவர்தம்
பேருரைக்கிற் போமே பிணி

- பதார்த்த குண சிந்தாமணி

3. REVIEW OF LITERATURES

3.2 MODERN ASPECTS

3.2.1 Skin anatomy

The skin is the largest organ of the body, with a total area of about 20 square feet. The important function of the skin is to protect us from microbes, ultraviolet radiation from the sun, helps to regulate body temperature and permits the sensation of touch, heat and cold.

Skin has three layers:

a) Epidermis
b) Dermis
c) Hypodermis
d) Epidermis

It is the outermost layer of the skin that is visible to the eye. It provides protection to the body. It does not contain any blood vessels.

Epidermis

Types of cells present in epidermis are keratinocytes, melanocytes, Langerhans cell and merkel cells.

Keratinocytes:

It is the most common type of cell in the epidermis and is responsible for the synthesis of the protein keratin. They originate from the basal layer which is the deepest layer of the epidermis and gradually move up to the outside layer of the epidermis. They are shed from the skin and replaced by new maturing cells.

Melanocytes:

It is present throughout the basal layer of the epidermis. These cells are responsible for the production of melanin, which contributes to the color of the skin of the

individual. It also helps to protect the body from ultraviolet radiation present in sunlight that can damage the DNA of the skin cells.

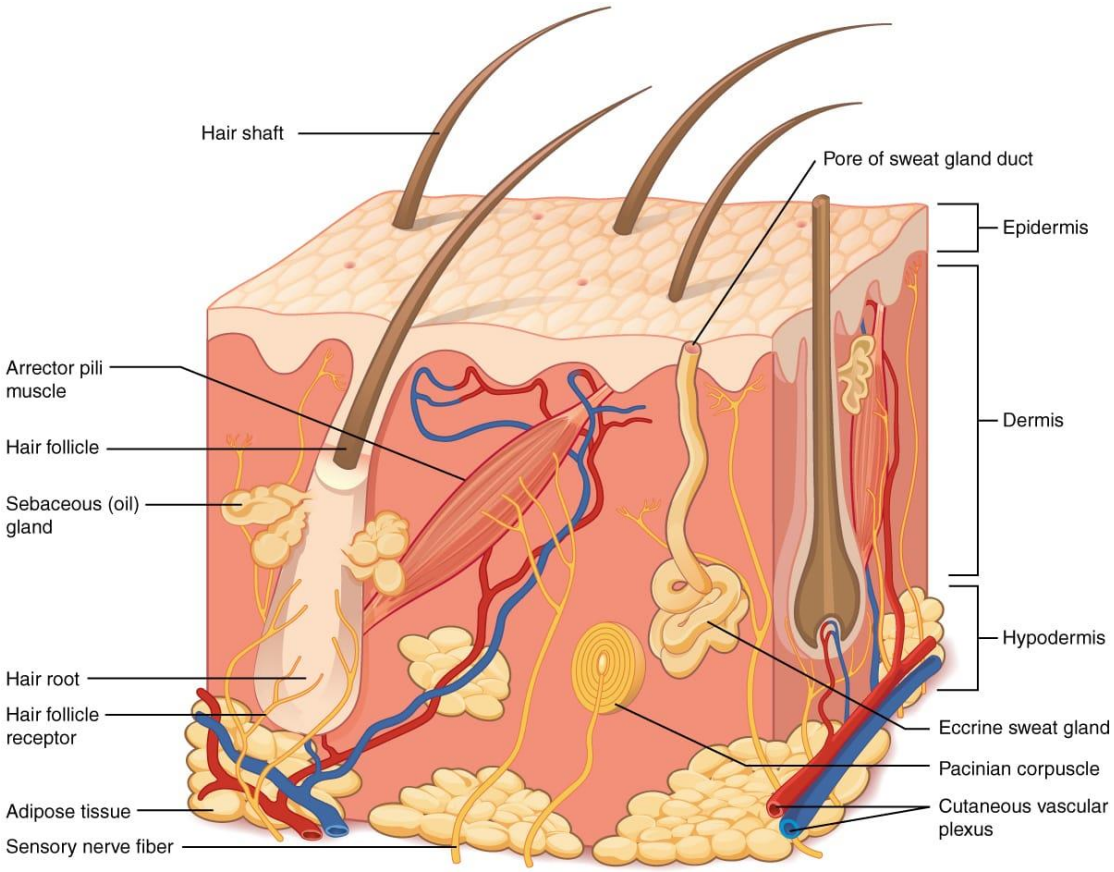


Figure 3.2.1 Skin Structure

Langerhans cells:

It is produced in the bone marrow and also present in the epidermis. Langerhans cells detect foreign substances and infections as a part of the immune system of the skin.

Merkel cells:

It originates from neural crest cells and is responsible for the perception of gentle touch. They are present in the epidermis in specific areas of the skin, such as nail beds and genitalia.

3.2.2 Structure:

The epidermis consists of stratified, squamous epithelial cells. It has 5 layers from deep to superficial namely,

i. Stratum basale or basal layer
ii. Stratum spinosum or spiny layer
iii. Stratum granulosum or granular layer
iv. Stratum lucidum
v. Stratus corneum

Stratum basale:

It is otherwise known as stratum germinativum. It is the deepest epidermal layer and attaches the epidermis to the basal lamina. Dermal papilla increases the strength of the connection between the epidermis & dermis. Stratum basale is a single layer of cells primarily made of basal cells. Merkel cells and melanocytes are the cell types that are found dispersed among the basal cells in the stratum basale.

Stratum spinosum:

It is spiny in appearance due to the protruding cell process that joins the cells via a structure called a desmosome. The stratum spinosum is composed of 8 to 10 layers of keratinocytes, formed as a result of cell division in stratum basale. Interspersed among the keratinocytes of this layer is a type of dendritic cell called the Langerhans cell which functions as a macrophage by engulfing bacteria, foreign particles and damaged cell. The keratinocytes begin the synthesis of keratin and release a water-repelling glycolipid that helps prevent water loss from the body.

Stratum granulosum:

It has a grainy appearance due to further changes to the keratinocytes as they are pushed from the stratum spinosum. The cells become flatter, their cell membranes thicken, and they generate large amounts of protein named keratin, which is fibrous, and keratohyalin that accumulates as lamellar granules within the cells. These two proteins make up the bulk of the keratinocyte mass in stratum granulosum. The nuclei and other cell organelles disintegrate as the cells die leaving behind the keratin, keratohyalin and the cell membranes will form the stratum lucidum and the stratum corneum.

Stratum lucidum:

The Stratum lucidum is a smooth translucent layer of the epidermis located just above the stratum granulosum and below the stratum corneum. This thin layer of cells is found only in the thick skin of the palms, soles and digits. The keratinocytes that compose the stratum lucidum are dead and flattened. These cells are densely packed with eleiden, a clear protein rich in lipids which gives these cells their transparent appearance & provides a barrier to water.

Stratum corneum:

It is the most superficial layer of the epidermis & the layer exposed to the outside environment. There are 15 to 30 layers of cells in the stratum corneum. This dry, dead layer helps prevent the penetration of microbes and provides a mechanical protection against abrasion. The cells in this layer are shed periodically and are replaced by cells pushed up from stratum granulosum. The entire layer is replaced during a period of about 4 weeks.

Dermis:

The dermis is considered as the core of the integumentary system. It contains blood and lymph vessels, nerves and other structures such as hair follicles and sweat glands. The dermis is made up of two layers of connective tissue that comprise an interconnected mesh of elastin and collagenous fibers, produced by fibroblasts. The more superficial papillary layer serves as an anchor point for the epidermis above and is intimately connected to the deeper reticular layer.

Papillary layer:

It is made up of loose, areolar connective tissue. Within the papillary layer are fibroblasts, a small number of fat cells adipocytes, and an abundance of small blood vessels. The papillary layer also contains phagocytes, defensive cells that help fight bacteria and other infections, lymphatic capillaries, nerve fibers and touch receptors called the meissner corpuscles.

Reticular layer:

It is present under the papillary layer. It is much thicker composed of dense irregular connective tissue which resists forces, and flexibility of the skin. Elastin fibers provide some elasticity to the skin.

Hypodermis:

The hypodermis is also called as subcutaneous layer. It is present directly below the dermis and serves to connect the skin to the underlying fascia surrounding the muscles. It consists of well vascularized, loose, areolar connective tissue and abundant adipose tissue, which functions as a mode of fat storage.

Skin appendages:

a. Nails
b. Hair follicles
c. Sweat gland
    a. Apocrine sweat gland
    b. Eccrine sweat gland
d. Sebaceous gland

Nails:

Nail is a horny plate that grows on the back of each finger and toe at its outer end. Finger and toe nails are made of a tough protective protein called alpha-keratin. The nail consists of the nail plate, the nail matrix and the nail bed below it. The lunula is the visible part of the matrix, the whitish crescent shaped base of the visible nail.

Hair follicle:

A hair follicle anchors each hair into the skin. Hair is made of a tough protein called keratin. This hair follicle regulates hair growth.

Hair growth occurs in cycles consisting of 3 phases:

1. Anagen-growth phase
2. Catagen-transitional phase
3. Telogen-resting phase

Sweat gland:

Sweat glands are small tubular structures of the skin that produce sweat. It is a type of exocrine gland. There are two main types of sweat glands.

a. Apocrine glands

b. Eccrine glands

Apocrine glands are mostly limited to the axilla and perianal areas in humans. Eccrine glands are distributed almost all over the body.

Sebaceous gland:

A small gland in the skin which secretes a lubricating sebum into the hair follicles in order to lubricate the skin & hair. Sebaceous glands develop from the same tissue that gives rise to the epidermis of the skin. Sebum is made of triglycerides, wax esters, squalence and metabolites of fat producing cells.

3.2.3 Physiology of skin:

Protective function:

Skin forms the covering of all the organs of the body and protects these organs from bacterial infection. The lysozyme secreted in skin destroys the bacteria. The keratinized stratum corneum of epidermis offers resistance against toxic chemicals like acids and alkalis. During injury or skin infection, the keratinocytes secrete cytokines like interleukins & tumor necrosis factor, & interferon which play important role in immunological reactions, tissue repair & wound healing. Skin protects the body from ultraviolet rays of sunlight.

Sensory function:

Skin is considered as the largest sense organ in the body. It has many nerve endings, which form the specialized cutaneous receptors. These receptors are stimulated by the sensations of touch, pain, pressure or temperature sensation and convey these sensations to the brain via afferent nerves.

Storage function:

Skin stores fat, water, chloride and sugar. It can also store blood by the dilation of the cutaneous blood vessels. The skin is also a good store house of ergosterol vitamin D.

Synthetic function:

Vitamin D3 is synthesized in skin by the action of ultraviolet rays from sunlight on cholesterol.

Regulation of body temperature:

Excess heat is lost from the body through skin by radiation, conduction, convection and evaporation. Sweat glands of the skin play active part in heat loss by secreting sweat. The lipid content of sebum prevents loss of heat from the body in cold environment. The temperature of the skin depends upon the amount of blood flowing through the vessels.

Regulation of water and electrolyte balance:

Skin regulates water balance and electrolyte balance by excreting water and salts through sweat. The sebum also acts as a lubricant for the drying effects of the atmosphere in skin. This is important because it prevents our body from losing all the necessary nutrients and minerals that it stores up.

Excretory function:

Skin can excrete small quantities of waste materials like urea, salts and fatty substance. Sweat is one of the ways that skin removes waste from the body.

Absorptive function:

Skin can absorb the fat soluble substances and some ointments. Due to the absorptive capabilities of skin, the cells comprising the outermost 0.25 to 0.4 mm of skin can be supplied by external O_2 rather than via the underlying capillary network. Iontophoresis, also called electromotive drug administration, is a technique that uses a small electric charge to deliver a medicine or other chemical through the skin.

3.2.4 PSORIASIS

Definition:

A common, chronic, disfiguring, inflammatory and proliferative condition of the skin. The most characteristic lesions consist of red, scaly, sharply demarcated, indurated plaques, present particularly over extensor surfaces and scalp.

Prevalence:

Psoriasis is the most prevalent autoimmune disease. Psoriasis affects nearly 2- 3% of the world's population. In India, the incidence of psoriasis among total skin patients

ranged between 0.44 and 2.2%. The ratio of male to female is 2.46%.psoriasis often appears between the age of 15 and 25, but can develop at any age. Psoriatic arthritis usually develops between the ages of 30 and 50. The study also provided support for seasonal variation with 68% cases first diagnosed in winter & spring seasons. 60 individuals per 100000 per year were seeking medical care for psoriasis for the first time.

3.2.5 Aetiology:

The cause of psoriasis is not fully understood, but medical world believe psoriasis is the result of several factors including genetics, environmental factors and the immune system. Around one-third of the people with psoriasis report a family history of the disease. Most of the identified genes relate to the immune system, particularly the major histocompatibility complex (MHC) and T cells. Classic genome wide linkage analysis has identifies nine loci on different chromosomes associated with psoriasis. They are called psoriasis susceptibility through a (PSORS1 through PSORS9). Three genes in PSORS1 locus have a strong association with psoriasis vulgaris.

- HLA-C variant HLA-CW6
- CDSN
- CCHCR1

T cells are involved in inflammatory process that leads to psoriasis. Psoriasis is an autoimmune condition. T cells mistakenly attack the skin cells. The attacks on the skin cause red, inflamed areas of the skin to develop. Psoriasis might be worse in the winter, dry air, less natural sunlight and cold temperatures can make symptoms worse.

Factors that may trigger psoriasis:

- Infections such as streptococci throat or skin infections
- Stress
- Injury to the skin such as sunburn cut scrape
- Smoking
- Heavy alcohol consumption
- Vitamin D deficiency

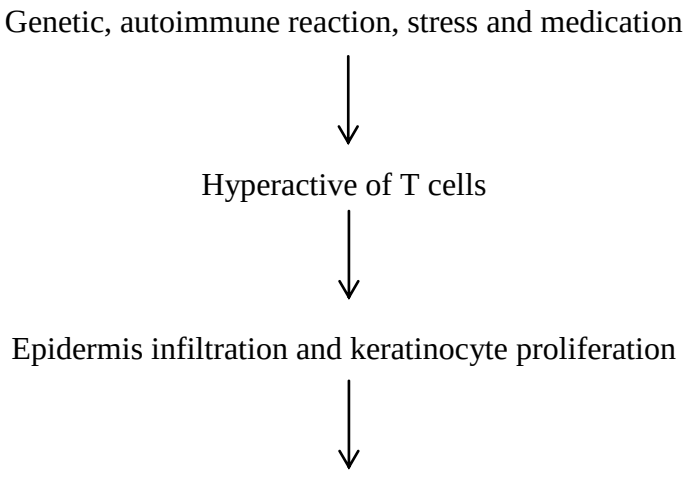
Certain medications including lithium which is prescribed for bipolar disorder, B-blockers, antimalarial drugs, iodides.

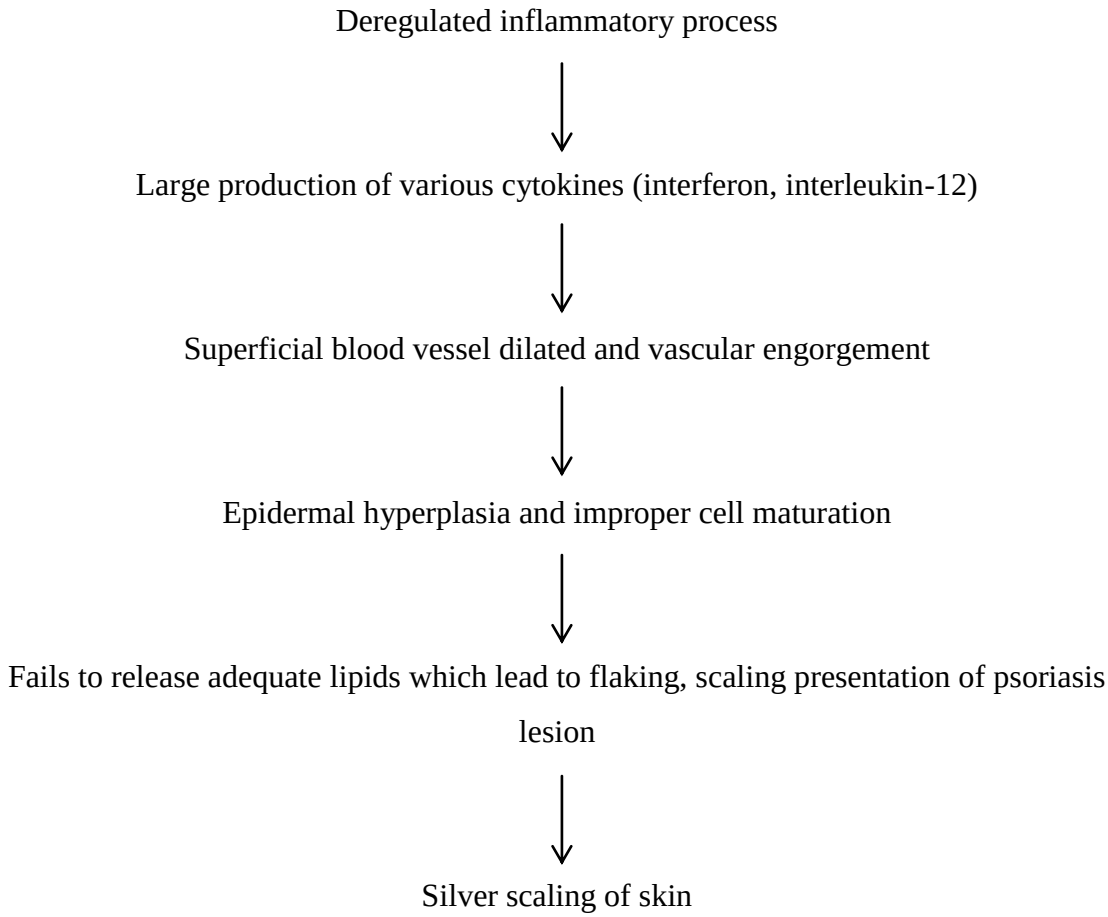
Common symptoms of psoriasis:

- Red, raised, inflamed patches of skin
- Whitish-silver scales or plaques on the red patches
- Dry skin that may crack and bleed
- Soreness around patches
- Itching and burning sensations around patches
- Thick, pitted nails
- Painful, swollen joints

3.2.6 Pathophysiology of psoriasis:

The pathophysiology of psoriasis is multifactorial & involves epidermal hyper proliferation, abnormal differentiation of epidermal keratinocytes and inflammation with immunologic alteration in the skin. Hyper proliferation is characterized by increased DNA synthesis and a markedly decreased turnover rate of epidermis. Abnormal keratinocyte differentiation involves increased expression of keratins and a delay in expression of other keratins that are expressed in normally differentiating skin. Inflammation results from an infiltrate of neutrophils in the epidermis and superficial dermis and an infiltrate of T lymphocytes in the dermis with a predominance of CD8+cells. T cells, dendritic cells, macrophages and keratinocytes are critically involved in the pathogenesis of psoriasis. In the dermis of psoriasis lesions, there were significantly higher numbers of Th 17 cells.





3.2.7 Types of psoriasis:

Psoriasis is clinically classified in 2 groups

A. Pustular psoriasis
B. Non-pustular psoriasis

Pustular psoriasis:

i) Generalized pustular psoriasis
ii) Impetigo herpetiformis
iii) Localized pus psoriasis
iv) Palmoplantar pustular psoriasis

Non-pustular psoriasis:

i) Psoriasis vulgaris
ii) Guttate psoriasis

iii) Erythrodermic psoriasis
iv) Palmoplantar psoriasis
v) Psoriatic arthritis
vi) Inverse psoriasis

Pustular psoriasis:

Generalized pustular psoriasis:

- Rarely seen form of psoriasis that progresses with pustules
- It is mostly frequently seen in young individuals
- It can develop secondary to abrupt withdrawal of system in steroid treatment hypocalcaemia or irritant treatment.
- It onsets suddenly on an erythematous background association with general symptoms such as high fever, lassitude, polyarthralgia

Impetigo herpetiformis:

- Also known as generalized pustular psoriasis of pregnancy
- It is characterized by erythematous lesions covered with pustules, which start and radiate from flexural regions.
- It may be seen in the last trimester of pregnancy or during puerperal period
- During its course, involvement of mucous membranes, onycholysis secondary to subungual pustules can be seen
- General health symptoms of lassitude, fever, shivering, nausea and vomiting may be present.

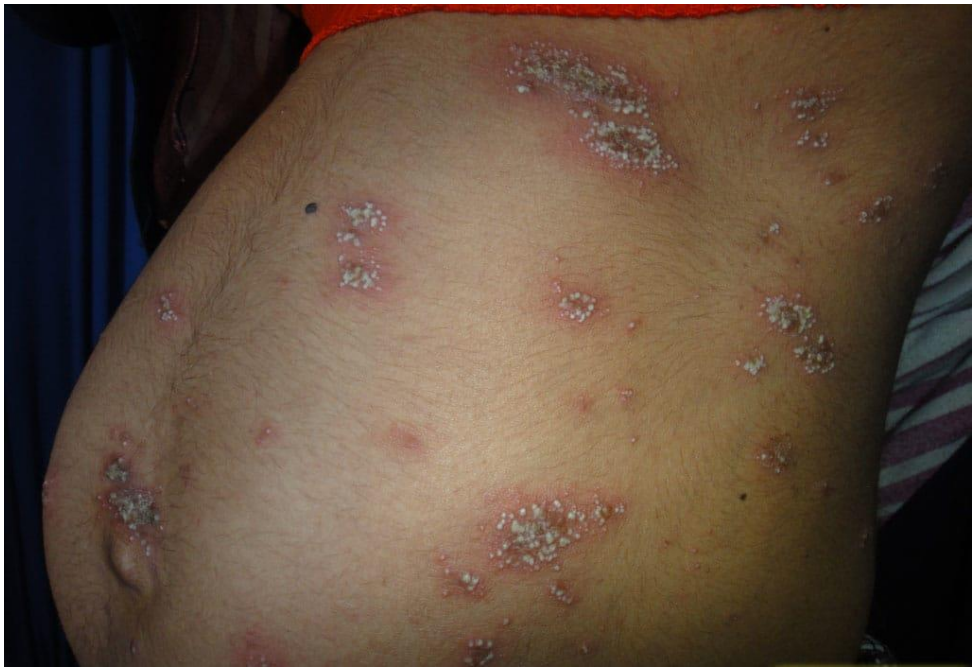


Figure 3.2.2 Impetigo herpetiformis

Localized pustular psoriasis:

Palmoplantar pustular psoriasis:

- It is a chronic recurrent form more frequently seen in women and those with a family history of palmoplantar pusulosis
- It is 2-4 mm sized pustules localized on palmoplantar region
- Smoking, tonsillitis, humidity and high temperature may activate the disease

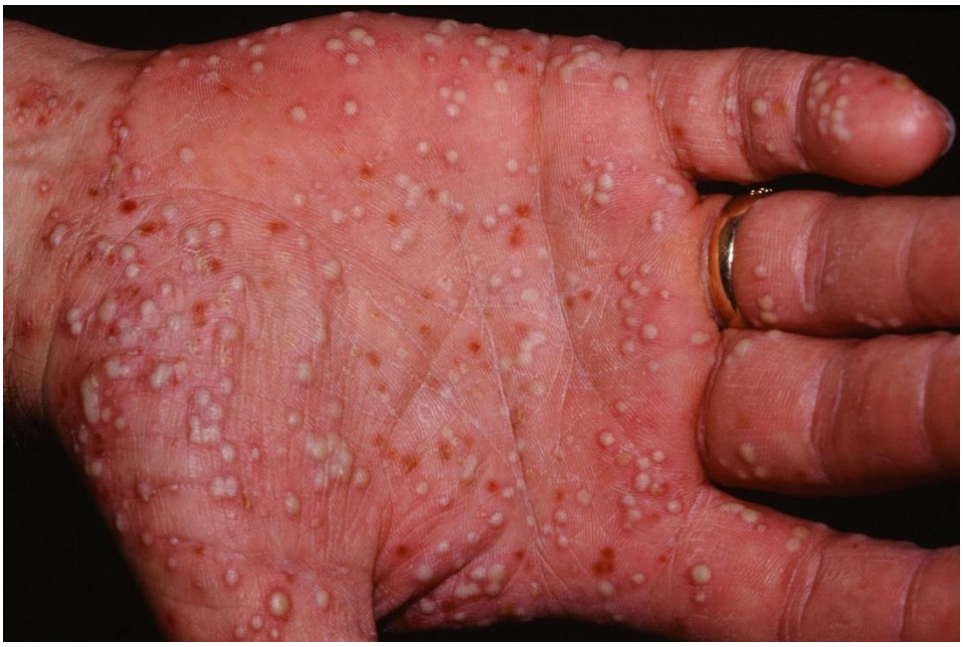


Figure 3.2.3 Palmoplantar pustular psoriasis

Non-pustular psoriasis:

Psoriasis vulgaris:

- The most frequently seen clinical form of psoriasis
- It is observed as erythematous plaques with sharp boundaries and covered with pearlescent squamae.
- Lesions demonstrate symmetric distribution they are localized on knees, elbows, scalp and sacral region.
- In the surface of psoriasis plaque is scraped with a burn scalpel, squamae fall off as layers of white lamellae that exhibit coherence after removal, much like candle wax.

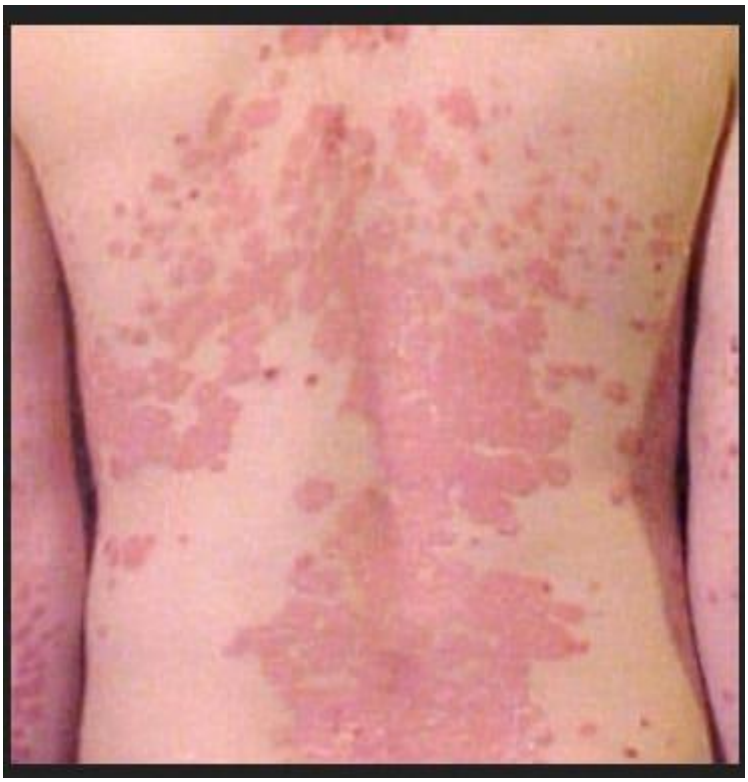


Figure 3.2.4 Psoriasis vulgaris

Guttate psoriasis:

- This type is frequently seen in children and young adults
- Lesions onset suddenly with an appearance like small droplets and less frequently as squamous psoriasis papules
- It is generally manifesting after streptococcal infections
- This form of psoriasis is most frequently associated with HLA-CW6 gene

- Lesions are generally seen on the trunk, proximal part of extremities, face and scalp.
- They generally regress with 3-4 months. Sometimes lesions enlarge and take the shape of psoriasis plaque
- Often antistreptolysin titers are elevated

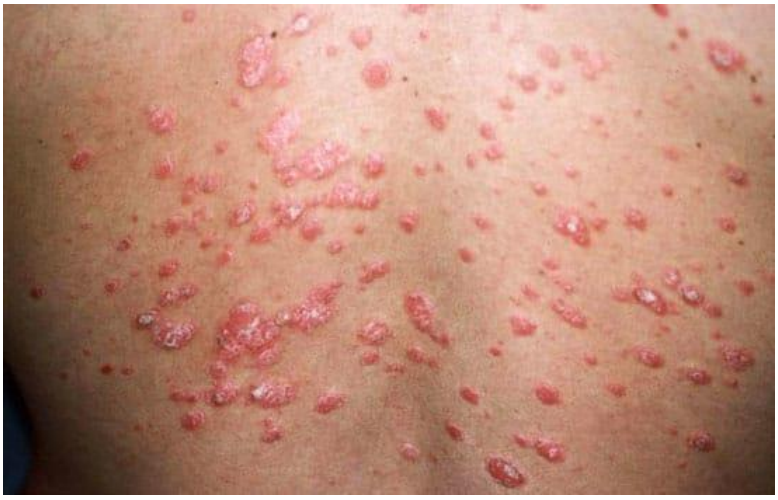


Figure 3.2.5 Guttate psoriasis

Erythrodermis psoriasis:

- It is a generalized form, affect nearly 80% of the body surface
- Erythematous lesions are seen, typical papules and plaques lose their characteristics features
- Patients have hypothermis due to widespread vasodilatation
- Desquamation may also lead to protein loss and related systemic problems such as edema of the lower extremities leads to cardiac, renal, hepatie failure
- Most frequently, it develops as a complication of psoriasis vulgaris or it can onset independently as erythrodermic psoriasis

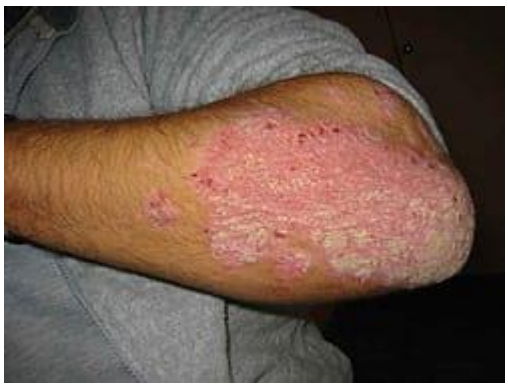


Figure 3.2.6 Erythrodermis psoriasis

Palmoplantar psoriasis:

- This type of psoriasis symmetrically involves palms of hands and soles of the feet
- Thenar regions are more frequently affected than hypothenar region
- Squamae are the predominant lesions. Thick squamae may give appearance of keratoderma.

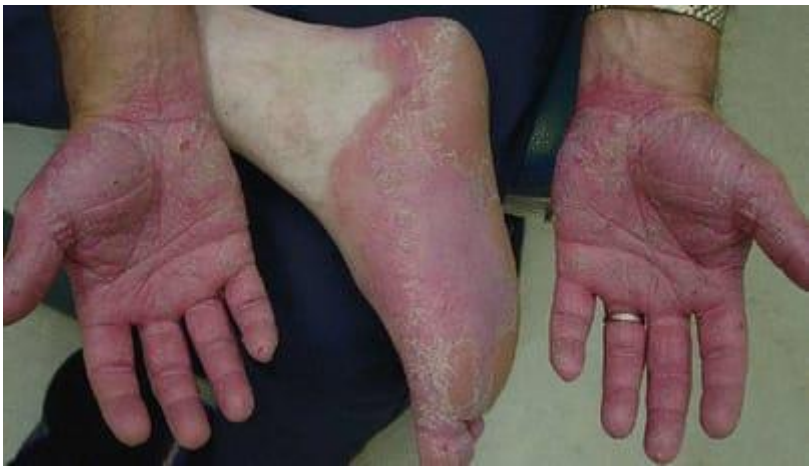


Figure 3.2.7 Palmoplantar psoriasis

Psoraissi arthritis:

- In 75% of patients with psoriasis, psoriasis onsets before appearance of arthritic symptoms, while in 15% of cases, skin lesions are seen concurrently with arthritis.
- It is characterized by a form of inflammation of the skin and joints
- The onset of psoriasis arthritis generally occurs in the fourth and fifth decades of life

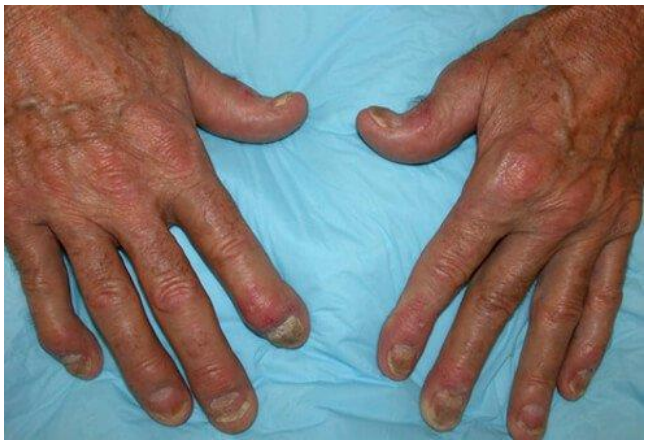


Figure 3.2.8 Psoriasis arthritis

- ❖ Symmetrical polyarthritis, asymmetric oligoarthritis, spondylitis, distal interphalangeal its are the types of psoriasis arthritis
- ❖ The arthritis frequently involves the knees, ankles and joints in the feet. The inflamed joints become painful, stiff, swollen, hot and tender.

Inverse psoriasis:

- ❖ Psoriasis that is localized in skin folds is termed flexural or inverse psoriasis
- ❖ Squamous lesions do not form due to friction & moisture in skin folds
- ❖ Lesions manifest as bright, red, symmetric, infiltrative, fissured plaques
- ❖ It is more frequently seen in obese individuals

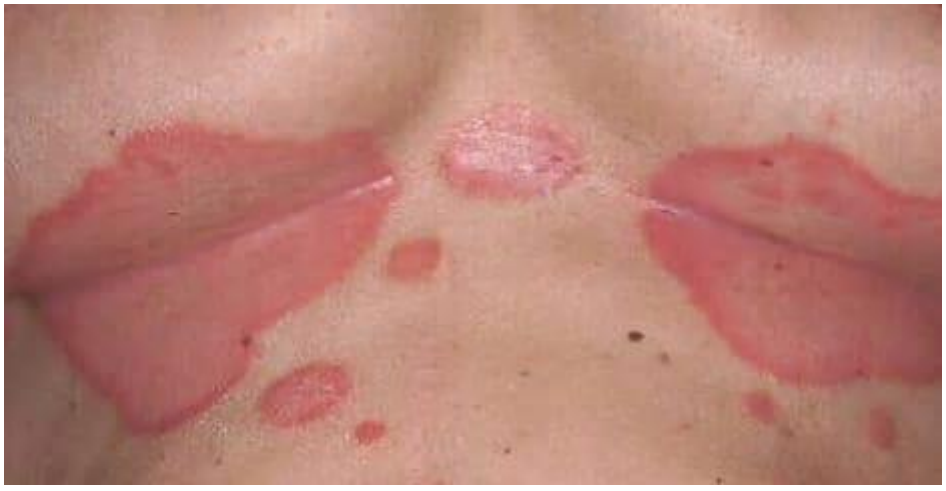


Figure 3.2.9 Inverse psoriasis

Psoriasis in nails:

- ❖ Finger & toe nails frequently involved
- ❖ Nails become pitting, subungual hyperkeratosis, onycholysis, yellowish brown spots under the nail plate is seen

3.2.8 Complications:

a) Cancer:

People with psoriasis have an increased risk of developing certain cancers, particularly nonmelanoma skin cancer, lymphoma, lung cancer. Small increase in cancer risk could be the result of psoriasis chronic inflammatory such as UV therapy and the use of immunosuppressive drugs could be linked to the cancer occurrence.

b) Cardiovascular disease:

Patients with psoriasis are at increased risk of cardiovascular disease, especially those with severe disease at an early age. The inflammatory response observed in psoriasis leads to insulin resistance, oxidative stress, endothelial dysfunction and atherosclerosis development which culminate with acute myocardial infarction or CVA.

c) Celiac disease:

The autoimmune disorder causes damage to the small intestine when gluten is consumed. More than a third of people with psoriasis have elevated antibodies to gliadin in their blood.

d) Liver disease:

Patients with psoriasis may have an increased risk for developing nonalcoholic fatty liver disease, a condition where too much fat is stored in liver cells. The steatotic liver produces proinflammatory, cytokines basicallt CRP, interleukin-6 and decreases the production of adiponectin. This increases the risk of severe disease by inflammatory burden.

e) Kidney disease:

Severe psoriatic patients are likely to develop chronic kidney disease. The risk of chronic kidney disease linked to psoriasis increases with age. The different psoriasis treatments have on the risk of chronic kidney disease. Some potential cofounders such as diabetes, hypertension & use of nephrotoxic drugs may increase the risk of renal abnormality in psoriatic patients.

f) Depression:

Having psoriasis can lead to emotional issues, such as low self-esteem and depression. Proinflammatory cytokines such as interleukin-1 and Il-6 are elevated in both psoriasis and depression. An acytokine called TNF-alpha may affect the serotonin level that could lead to depression.

3.2.9 Differential diagnosis:

i. Nunomular eczema:

Nummular eczema also known as discoid eczema, is a chronic condition that causes coin shaped spots develop on the skin. These spots are often itchy, and may ooze clear fluid or become dry and crusty. The lesions frequently develop on the arms or legs. The skin around the lesions may be red, scaly or inflamed. It often appears after a skin injury such as burn, abrasion or insect bite.

ii. Pityriasis rubra pilaris:

It is a rare condition that causes an orange-red, scaly rash on the skin with thickening and scaling of the palms and soles. There are often small scaly bumps surrounding the hair follicles. Most patients with pityriasis rubra pilaris have very thick skin on the palms and soles called palmoplantar keratoderma. This can cause painful cracks in the skin and difficulty walking. In most cases, PRP is not inherited, and the cause is not known. In some people, PRP has autosomal dominant inheritance & may be caused by mutations in CARD 14 gene.

iii. Mycosis fungoides:

It is a rare form of T-cell lymphoma of the skin. The skin becomes infiltrated with plaques & nodules that are composed of lymphocytes. The exact cause is not known. Antigen persistence, retroviruses and exposure to cancer causing substances are mostly involved. The area affected is generalized itching. Red patches scattered over the skin of the trunk and the extremities appear. Scaling present over the patches. Lympha denitis may also develop.

iv. Dermatitis herpetiformis:

It is also known as Duhring's disease. It is a chronic autoimmune blistering skin condition, characterized by blisters, that is intensely itchy. It is a cutaneous manifestation of celiac disease. Visually distributed symmetrically on extensor surfaces. Because of the intense itching patients usually scratch, which may lead to the formation of crusts. Sometimes these symptoms of coeliac disease, which typically include abdominal pain, bloating, weight loss and fatigue. Symptoms are likely to disappear if gluten ingestion is avoided.

v. Bowen's disease:

It is a very early form of skin cancer. The main sign is a red, scaly patch on the skin. It can be considered as an intraepidermal form of squamous cell carcinoma. It is gradually enlarging, well demarcated red colored plaque with a n irregular border of surface crusting or scaling. Causes of Bowen's disease include solar damage, arsenic poisoning, immunosuppression therapy, viral infection (human papillomavirus), chronic skin injury.

3.2.10 Investigations:

- There is no constantly present laboratory abnormality in uncomplicated psoriasis.
- In some patients erythrocyte sedimentation rate is unaffected.
- Modest hyperuricaemia may be found and has been attributed to enhanced epidermopoesis.
- Immunoglobulins are generally normal, but selective IgA deficiency and monoclonal IgG gammopathy are documented in asscociation with psoriasis.
- Skin biopsy is to determine the exact type of psoriasis and to rule out other disorders.

I. Auspitz sign:

It refers to the bleeding that can occur when the surface of a scaling rash has been removed. This bleeding occurs due to the thinning of the epidermis. When the epidermis is thin, the dermis is in close contact with the scale. This causes multiple tiny dots of blood to form on surface of the skin.

II. Candle greasy sign:

The removal of the scales reveals the skin with a glossy grease like appearance in psoriasis.

III. Koebner phenomenon:

It describes skin lesions which appear at the site of injury. The formation of psoriatic lesions in uninvolved skin of psoriatic patients after cutaneous trauma.

3.2.11 Treatment:

Treatment for psoriasis is divided into three main types:

1) Topical treatments
2) Photo therapy
3) Systemic medications

1) Topical treatments:

Topical applications ointments and creams that apply to skin can effectively treat mild to moderate psoriasis.

ii) Topical corticosteroids:

These are the most frequently prescribed medications. They reduce inflammation and relieve itching, long term use or overuse of strong corticosteroids can cause thinning of the skin.

ii) Vitamin D analogues:

Synthetic forms of vitamin D slow skin growth. Calcipotrience calcitriol is a cream or solution containing vitamin D analogue that treats mild to moderate psoriasis.

iii) Anthralin:

This medication helps slow skin cell growth. Also remove scales and make skin smoother.

iv) Topical retinoids:

These are vitamin A derivatives that may decrease inflammation. Most common side effect is skin irritation. They also increase sensitivity to sunlight.

v) Salicylic acid:

It promotes sloughing of dead skin cells and reduces scaling. It is found in medicated shampoos and scalp solutions to scalp psoriasis.

vi) Coal tar:

Derived from coal, it reduces scaling, itching and inflammation. It can irritate the skin.

2) Photo therapy:

This treatment uses natural or artificial ultraviolet light. The simplest and easiest form of photo therapy involves exposing your skin to controlled amounts of natural sunlight. Other forms of light therapy include the use of artificial ultraviolet A or B light.

i) Sunlight:

Exposure to ultraviolet rays in sunlight or artificial light slows skin cell turnover and reduces scaling and inflammation. Daily exposures to small amounts of sunlight may improve psoriasis, but intense sun exposure can worsen symptoms and cause skin damage.

ii) UV B phototherapy:

Controlled doses of UV B light from an artificial light source may improve the psoriasis symptoms. UV B phototherapy also called broadband UV B, can be used to treat single patches, widespread psoriasis and psoriasis that resists topical treatments.

iii) Narrow band UV B phototherapy:

Narrow band UV B phototherapy may be more effective than broadband UV B treatment. It is usually administered two or three times a week until the skin improves.

iv) Goeckerman therapy:

Combined UV B and coal tar treatment, which is known as Goeckerman treatment.

v) Psoralen plus ultraviolet A (PUVA):

This form of photochemotherapy involves taking a light-sensitizing medication before exposure to UV A light. UV A light penetrates deeper into the skin than does UV B light.

vi) Excimer laser:

This form of light therapy, used for mild to moderate psoriasis, treats only the involved skin without harming healthy skin. A controlled beam of UV B light is directed to the psoriasis plaques to control scaling and inflammation. More powerful UV B light is used.

3) Systemic medications:

i) Retinoids:

Related to vitamin A, this group of drugs may help if severe psoriasis that doesn't respond to other therapies.

ii) Methotrexate:

It helps psoriasis by decreasing the production of skin cells and suppressing inflammation. It may also slow the progression of psoriatic arthiritis.

iii) Cyclosporine:

It suppresses the immune system, but can only be taken short-term.

iv) Other medications:

Thioguanine, hydroxyurea, etanercept, infliximab, adalimumab, some drugs are given by injection.

MATERIALS & METHODS

A Study on Kalanjapadai

4. MATERIALS & METHODS

The Clinical study on Psoriasis was earned out in the Post graduate department of Sirappu Maruthuvam, Govt Siddha Medical College, and Palayamkottai. In this study 40 patients (who satisfy the inclusion criteria and exclusion criteria) were treated as OP and IP patients.

4.1 Inclusion criteria:

- Age : 15 -60 years
- Sex : Both male and female
- Silvery scaly patches
- Coin shaped lesions
- Scaling with (or) without Itching
- Patients who are willing to give specimen of blood for the investigation wherever required.
- Patient willing to sign the informed consent stating that he/she will consciously stick to the treatment but can OPD out of the trial of his/ her own conscious discretion.

The detailed history was taken from the patient about

The diagnosis was made by following Siddha diagnostic methods. Nilam, Kaalam, Poriyalaridhal, Pulanalarithal, Vinaadhal, Mukkutram, Udal Thathukal Nilai and Envagai Thervugal, and the diagnosis of Naadi nilai.

4.2 Exclusion Criteria:

- Evidence of any skin condition other than psoriasis

4.3 Assessment of Psoriasis with Symptoms:

Severe - Marked plaque elevation, Scaling (present / not present), erythema

Moderate - Moderate plaque elevation, Scaling (present / not present), erythema

Mild - Slight plaque elevation, Scaling (present / not present), erythema

Almost Clear - Intermediate between mild and clear.

Clear - No signs of psoriasis.

4.4 Investigation:

The following investigations were done in all selected patients in the laboratory at Government Siddha Medical College, Palayamkottai.

4.5 Routine Investigation

- Blood
- Hb
- ESR
- Sugar-Fasting
- Post prandial

4.6 Renal functions tests:

a. Blood urea

b. Serum creatinine

4.7 Liver function tests:

- ✓ SGOT
- ✓ SGPT
- ✓ Alk.Phosphatase
- ✓ Albumin
- ✓ Globulin
- ✓ Total Protein
- ✓ Serum Bilirubin: Total, Direct, Indirect

4.8 Urine

- ✓ Albumin
- ✓ Sugar
- ✓ Deposits

4.9 Investigation Based On Siddha System:

1. Naa
2. Niram

3. Mozhi

4. Vizhi

5. Malam

6. Moothiram - Neerkkuri, Neikkuri.

7. Sparisam

8. Naadi

4.10 Skin examination:

- Site
- Colour
- Size
- Shape
- Border

4.11 Treatment:

Vellai ennai 15ml at morning with hot water was given on the first day of treatment. All the patients were treated with the following medicines.

4.12 Medicine Name:

Internal Medicine	**:**	**KOTTAI KARANTHAI CHOORANAM**
Reference	:	GunapadamMooligai, Part I Pg. 226
Dose	:	4gm, twice a day
Adjuvant	:	Hot water
Duration	:	30 to 40 days
External Medicine	:	**SEMPARUTHI POO ENNAI**
Reference	:	The pharmacopoeia of Siddha Research medicines, Pg. No.: 117

All the patients were advised to follow dietary regimen (or) Pathiyam. Pranayama and simple Yogasana were advised as a supportive therapy. The Bio - Chemical analysis was done in the department of Bio Chemistry, GSMCH

Palayamkottai. The Pharmacological analysis was done in the Pharmacological laboratory, Arulmigu Kalasalingam College of Pharmacy, Srivilliputhur.

OBSERVATION

&

RESULTS

A Study on Kalanjapadai

5. OBSERVATION AND RESULTS

For the clinical study, 40 patients were selected and treated in PG III Sirappu Mruthuvam department, GSMC hospital, Palayamkottai. Results were observed with respect to the following criteria,

1. Gender distribution
2. Family history
3. Age distribution
4. Kalam distribution
5. Occupational distribution
6. Seasonal variation
7. Thinai
8. Socio-economic status
9. Dietary habits
10. Precipitating factors
11. Mode of onset
12. Clinical features
13. Other general clinical features
14. Disturbances of kanmenthirium
15. Derangement of vatham
16. Disburbances of pitham
17. Derangement of kabam
18. Udal kattukal
19. Envagai thervugal
20. Selection of patients
21. Effect of therapy with trial drug alone
22. Effect of therapy with trial drug along with complementary therapy
23. Comparison between effective of trial drug and trial drug with complementary therapies.
24. Overall results after treatment.

Table 5.1 Gender Distribution

Sl. No	Gender	No. of Cases	Percentage (%)
1	Male	24	60
2.	Female	16	40
	Total	40	100

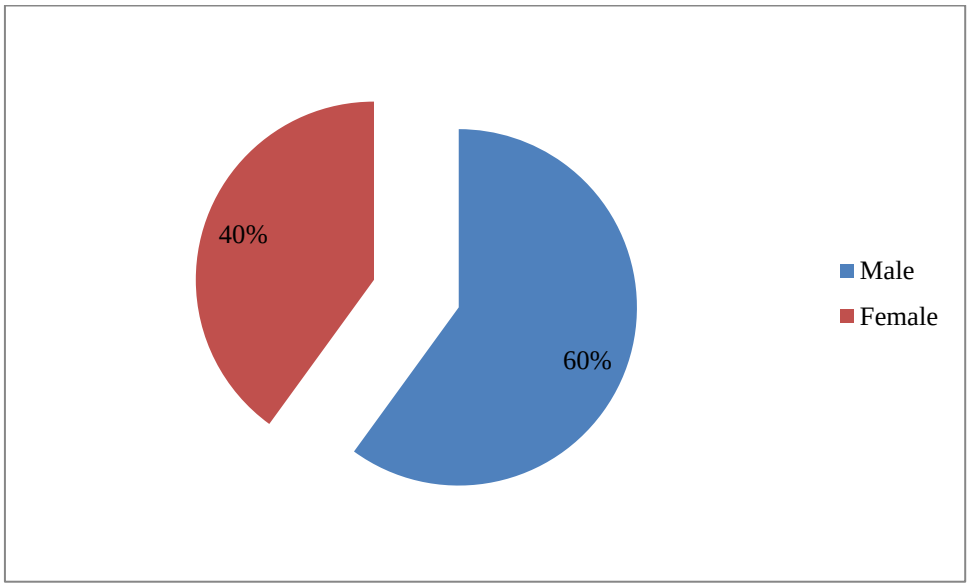


Figure 5.1 Gender Distributions (%)

Inference

About 60% of them were male and 40% of them were women

Table 5.2 Family History

Sl. No.	Criteria	No. of Cases	Percentage (%)
1	Family history (+ive)	4	10
2.	Family history (-ive)	36	90
Total		40	100

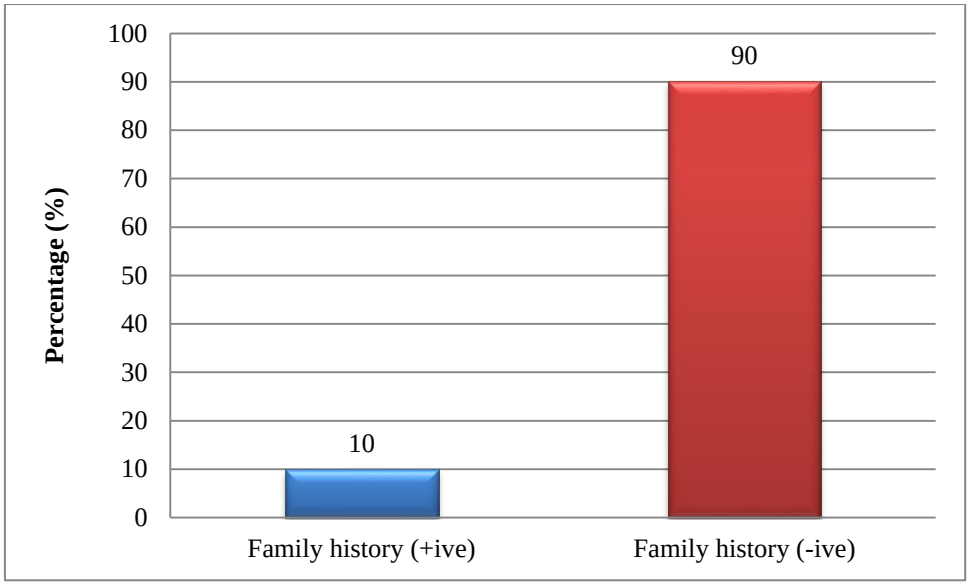


Figure 5.2 Family History

Inference

About 10 % of them had positive family history

Table 5.3 Age Distribution

Sl. No.	Age (Years)	No. of Cases	Percentage (%)
1	15 – 25	3	7.5
2.	25 – 35	4	10
3	35 – 45	7	17.5
4.	45 - 60	24	60
5	Above 60	2	5
	Total	40	100

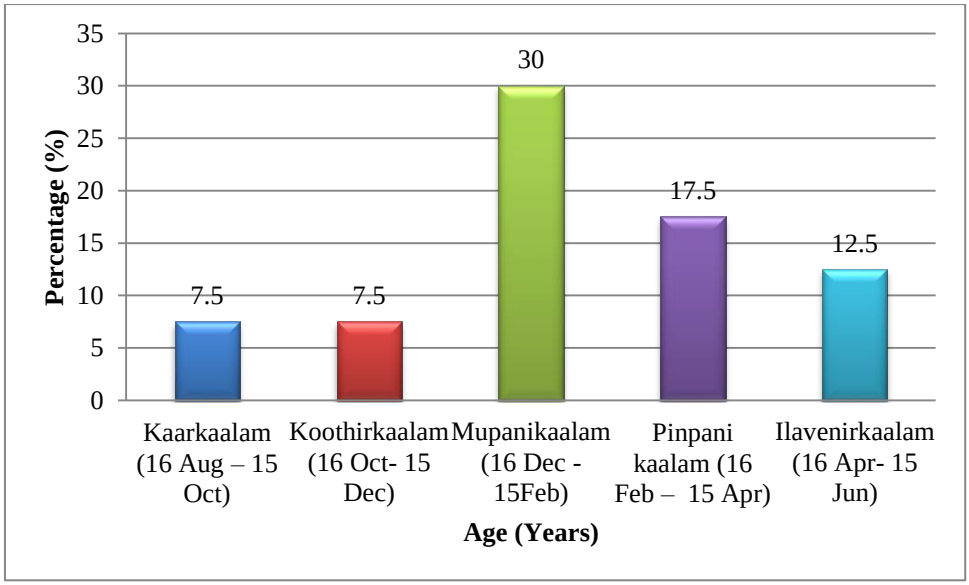


Figure 5.3 Age Distribution

Inference

The prevalence of the disease was found to be higher in the age group 45 - 60 years.

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

1. Vadham
2. Pitham
3. Kabam

The duration of each period is said to be 33 years.

Table 5.4 Kalam Distribution

Sl. No.	Kalam	No. of Cases	Percentage (%)
1	Vadha	6	15
2	Pitha	34	85
3	Kabha	0	0
Total		40	100

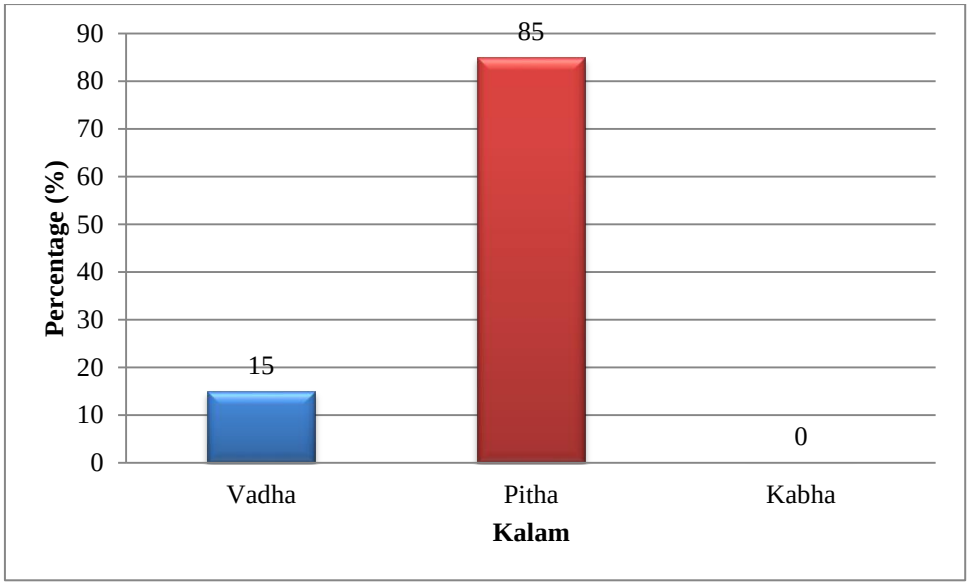


Figure 5.4 Kalam Distribution

Inference:

Out of 40 patients, 34 patients reported in Pitha kalam, 6 were in Vadha kalam and 0 patients in Kabha kalam.

Table 5.5 Occupational Status

Sl. No.	Occupation	No. of Cases	Percentage (%)
1	Farmer	8	20
2.	Business	8	20
3	Home maker	9	22.5
4.	Manual labour	10	25
5.	Teacher	2	5
6.	Students	3	7.5
Total		40	100

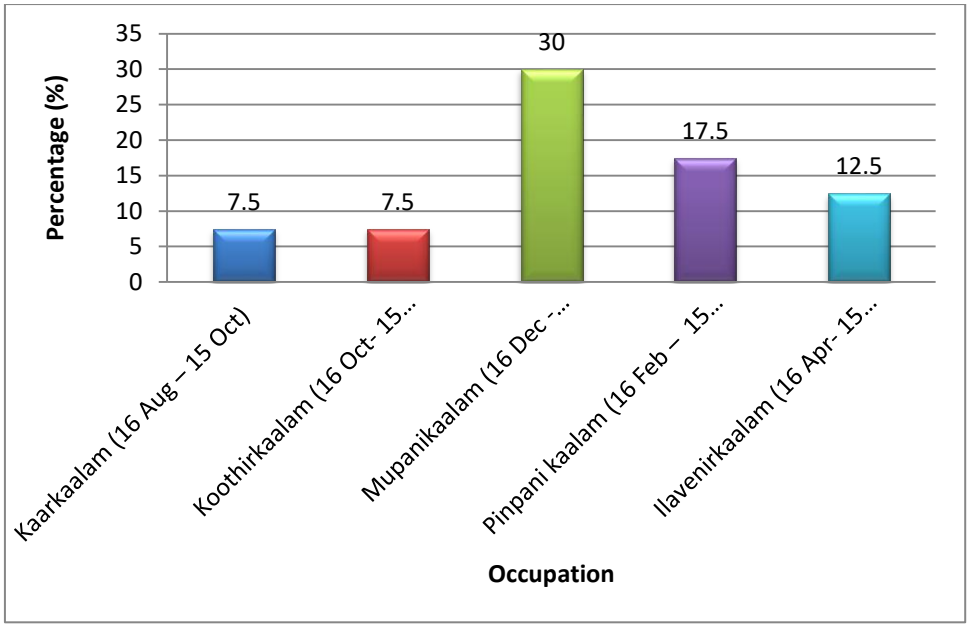


Figure 5.5 Occupational Status

Inference

Out of 40 cases, in this study the rate of incidence is higher in manual labor (25%).

Table 5.6 Seasonal Variations

Sl. No.	Seasons	No. of Cases	Percentage (%)
1	Kaarkaalam (16 Aug – 15 Oct)	3	7.5
2.	Koothirkaalam (16 Oct- 15 Dec)	3	7.5
3.	Mupanikaalam (16 Dec - 15Feb)	12	30
4.	Pinpani kaalam (16 Feb – 15 Apr)	7	17.5
5.	Ilavenirkaalam (16 Apr- 15 Jun)	5	12.5
6.	Muthuvenilkaalam (16 Jan – 15Aug)	9	22.5
Total		40	100

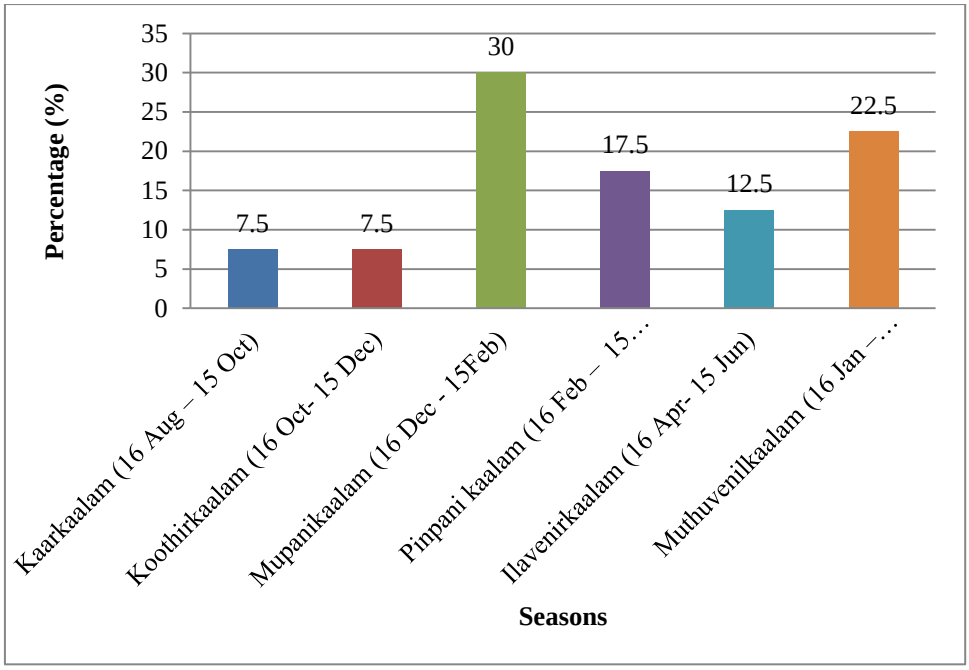


Figure 5.6 Seasonal Variations

Inference

Out of 40 patients, 12 cases (30%) were admitted in Munpanikalam, 9 patients (22.5%) were admitted in muthuvenilkalam, 7 patients (17.5%) were admitted in pinpanikalam. Subsequently, 5 cases (12.5%) were admitted in illavenirkaalam and 3 cases (7.5%) admitted in kaarkaalam and koothirkalam.

Table 5.7 Thinai

Sl. No.	Thinai	No. of Cases	Percentage (%)
1	Kurinji (Hill area)	0	0
2	Mullai (Forest area)	0	0
3	Marutham (Fertile land)	38	95
4	Neithal (Coastal area)	2	5
5	Palai (Desert land)	0	0
Total		40	100

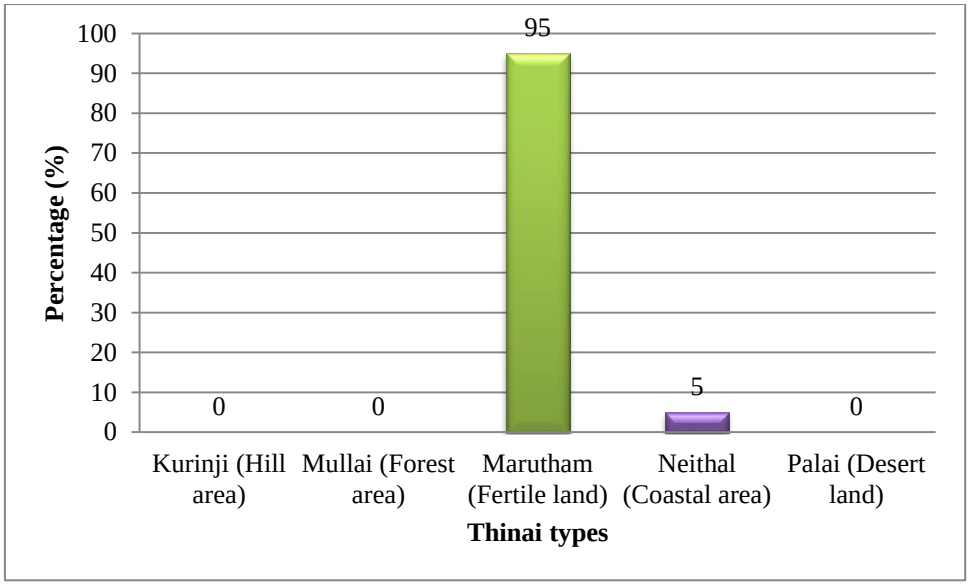


Figure 5.7 Thinai

Inference

Among the 40 patients, 38 (95%) cases were from marutham and 2 (5%) cases were from Neithal thinai.

Table 5.8 Socio Economic Status

Sl. No.	Socio economic status	No. of Cases	Percentage (%)
1	Poor	8	20
2	Middle class	26	65
3	Rich	6	15
Total		40	100

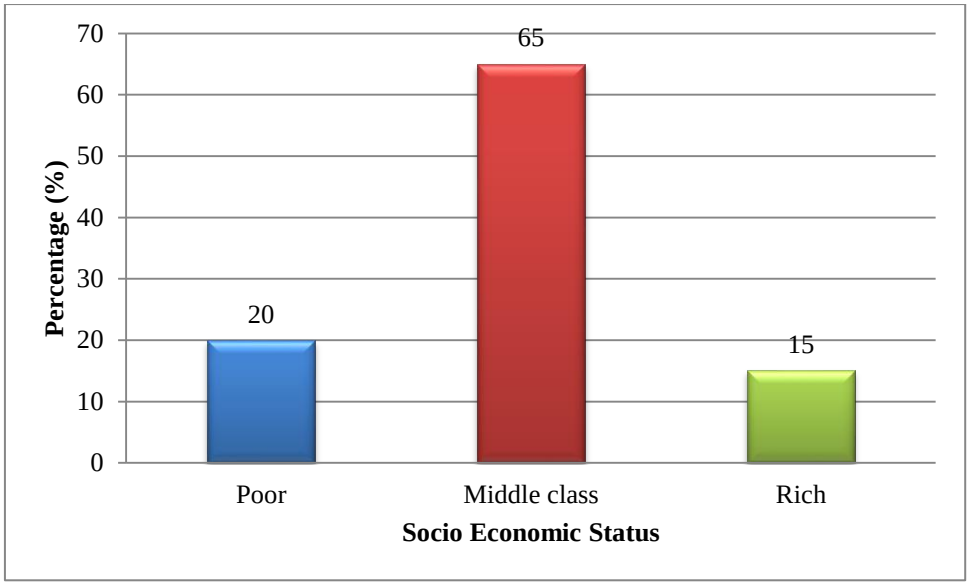


Figure 5.8 Socio Economic Status

Inference

About 65 % of the cases were from middle class socio economic status.

Table 5.9 Dietary Habits

Sl. No.	Dietary habits	No. of Cases	Percentage (%)
1	Vegetarian	3	7.5
2	Mixed diet	37	92.5
Total		40	100

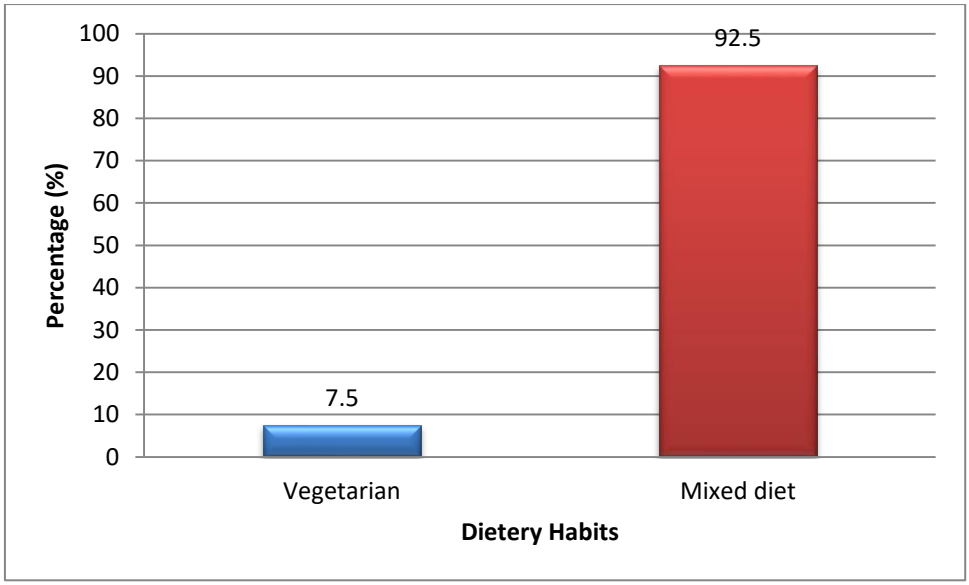


Figure 5.9 Dietary Habits

Inference

Out of all the cases only 3 patients were found to have mixed diet.

Table 5.10 Precipitating Factors

Sl. No.	Precipitating factor	No. of Cases	Percentage (%)
1	Skin Injury	2	5
2	Infection	3	7.5
3	Reaction to certain medicine	1	2.5
4	Psychomatic	7	17.5
5	Alcohol	6	15
6	Smoking	14	35
7	Unknown	7	17.5
Total		40	100

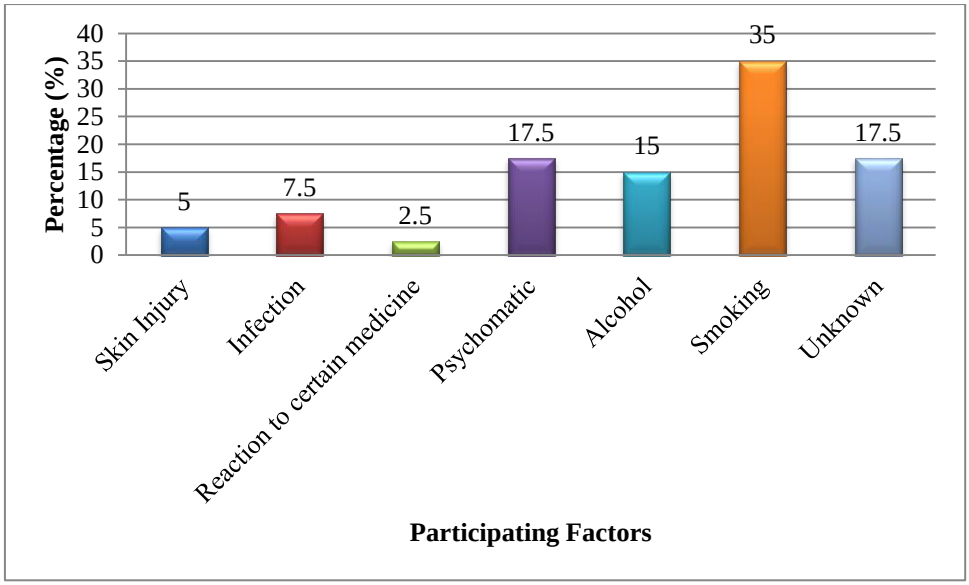


Figure 5.10 Precipitating Factors

Inference

Among the 40 patients, 14 of them (35%) were unknown, 7 of them (17.5%) had the psychomatic disorders and 7 (17.5%) cases caused by smoking, 6 of them (15%) were alcoholic.

Table 5.11 Mode of Onset

Sl. No.	Mode of Onset	No. of Cases	Percentage (%)
1	Acute	4	10
2.	Chronic	36	90
Total		40	100

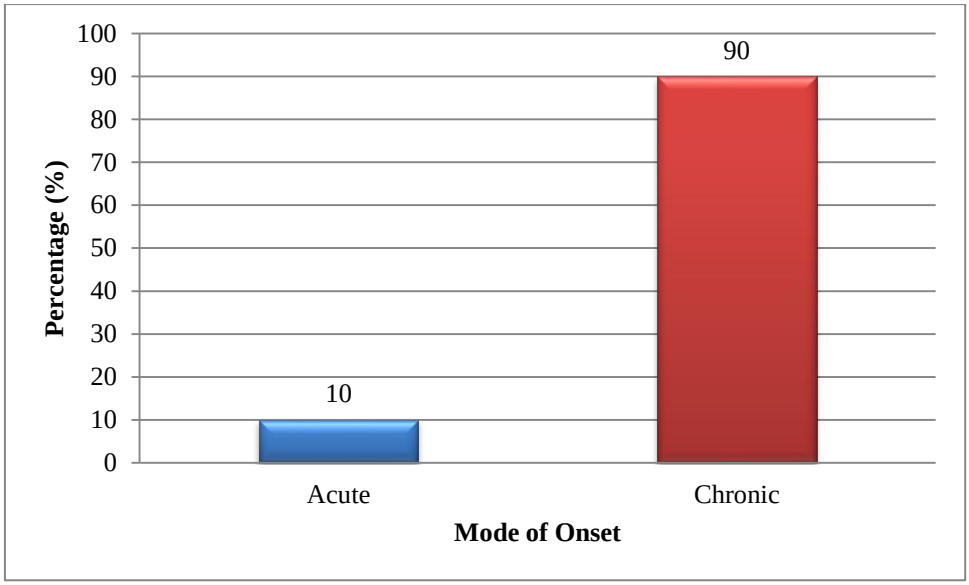


Figure 5.11 Mode of Onset

Inference

According to this study 10% of cases were regarded as acute onset and remaining 90% of cases as chronic onset.

Table 5.12 Clinical Features

Sl. No.	Clinical features	No. of Cases	Percentage (%)
1	Red patches with silvory scaling	40	100
2	Scalp lesions	24	60
3	Auspitz sign	40	100
4	Koebner's phenomenon	40	100
5	Nai changes	8	20
6	Palm and sole lesions	8	20
7	Joint involvement	22	55
8	Itching	34	85
9	Candle grease sign	14	35

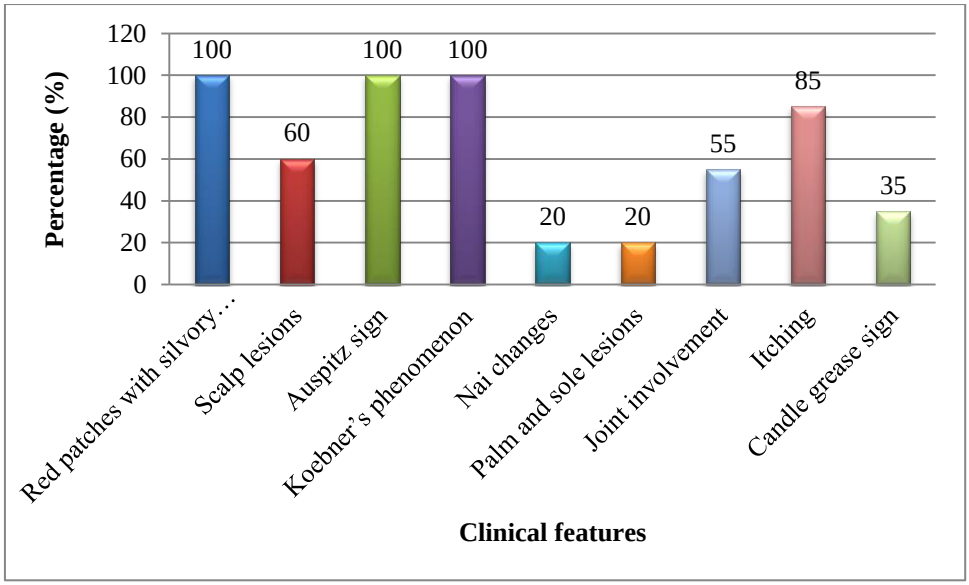


Figure 5.12 Clinical Features

Inference

Among the forty cases all of them had scaling, itching, positive auspitz sign, koebher's phenomenon, 34 patients had itching, 22 patients had joint involvement, 8 of them had nail changes, 14 of them had candle grease sign, 24 of them had scalp lesion and 8 of them had both palm & sole lesions.

Table 5.13 General Clinical Features

Sl. No.	Clinical features	No. of Cases	Percentage (%)
1	Constipation	16	40
2	Eye sight problems	1	2.5
3	Cough	2	5
4	Insomnia	17	42.5
5	Anemia	4	10
6	Epigastric pain	0	0
Total		40	100

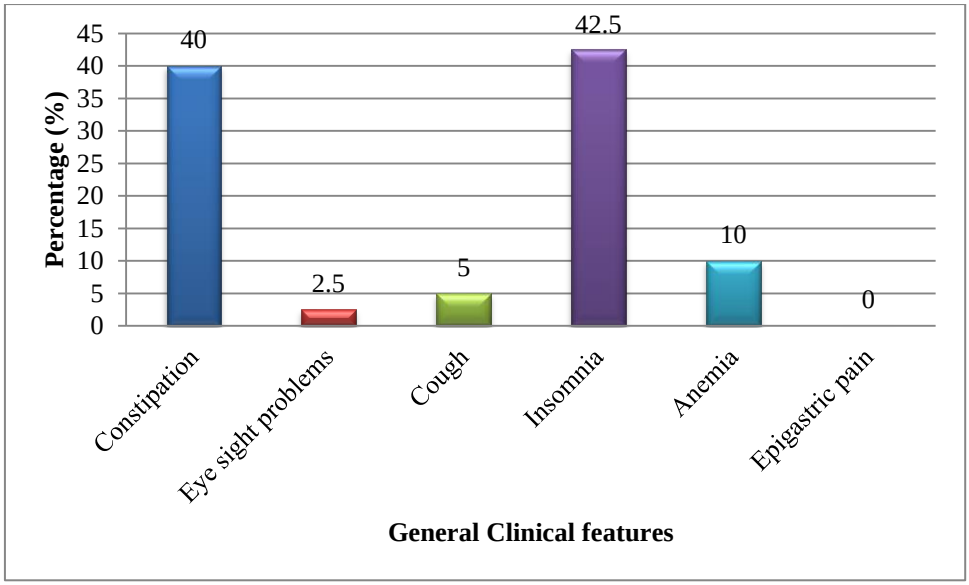


Figure 5.13 General Clinical Features

Inference

Among 40 patients, 17 had sleep disturbances (Insomnia), 16 of them had constipations, 4 of them had anemia, 2 of them had cough and 2 of them had eye sight problems.

Table 5.14 Disturbances of Kanmenthirium

Sl. No.	Kanmenthirium	No. of Cases	Percentage (%)
1	Vaai	0	0
2	Kai	12	30
3	Kaal	14	35
4	Eruvai	16	40
5	Karuvai	0	0

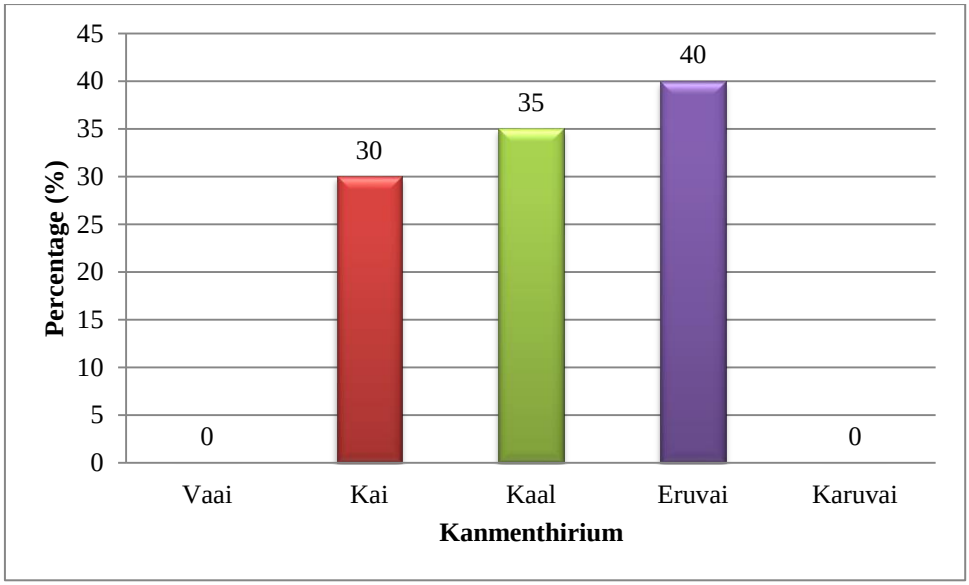


Figure 5.14 Disturbances of Kanmenthirium

Inference

Among the all the kanmenthirium (kai, kaal, vaai, eruvai, karuvai) Kaal was affected for 13 patients (32.5%) and eruvai was affected in 7 cases (17.5%) and kai was affected in 15 cases (37.5%).

Table 5.15 Derangement of Vatham

Sl. No.	Vatham	Number of cases	Percentage (%)
1.	Praanan	0	0
2.	Abaanan	16	40
3.	Viyaanan	40	100
4.	Udhaanan	0	0
5.	Samaanan	40	100
6.	Naagan	0	0
7.	Koorman	0	0
8.	Kirukaran	8	20
9.	Dhevathathan	30	75
10.	Dhananjeyan	0	0

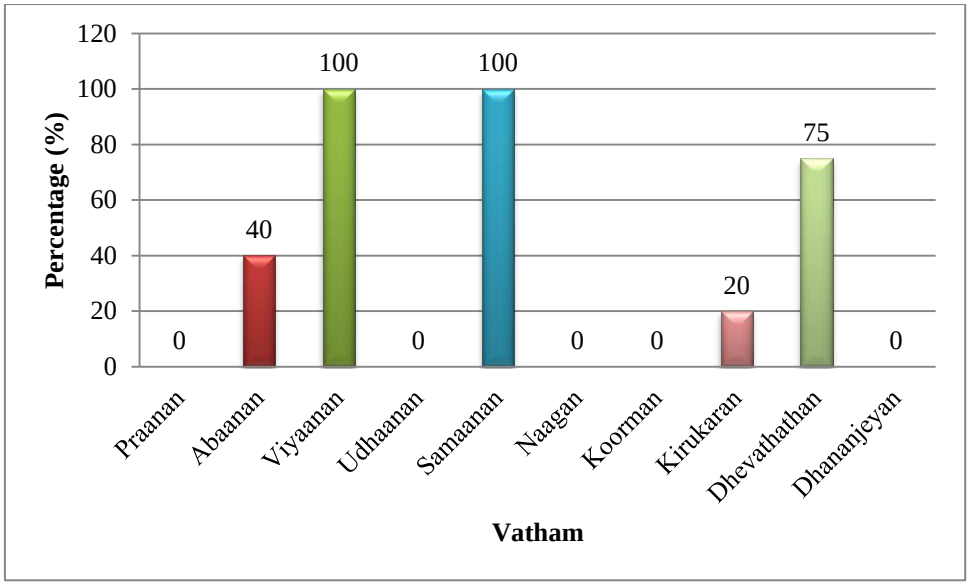


Figure 5.15 Derangement of Vatham

Inference

Among the vadham, 100% of them were affected by viyanan and samanan, 75% of them were affected by devathathan, 40% of them were affected abanan and 20% of them were affected by kirukaran.

Table 5.16 Disturbances in Pitham

Sl. No.	Pitham	Number of cases	Percentage (%)
1.	Analpitham	0	0
2.	Ranjaga pitham	40	100
3.	Saathagam	40	100
4.	Prasagam	40	100
5.	Alosagam	0	0

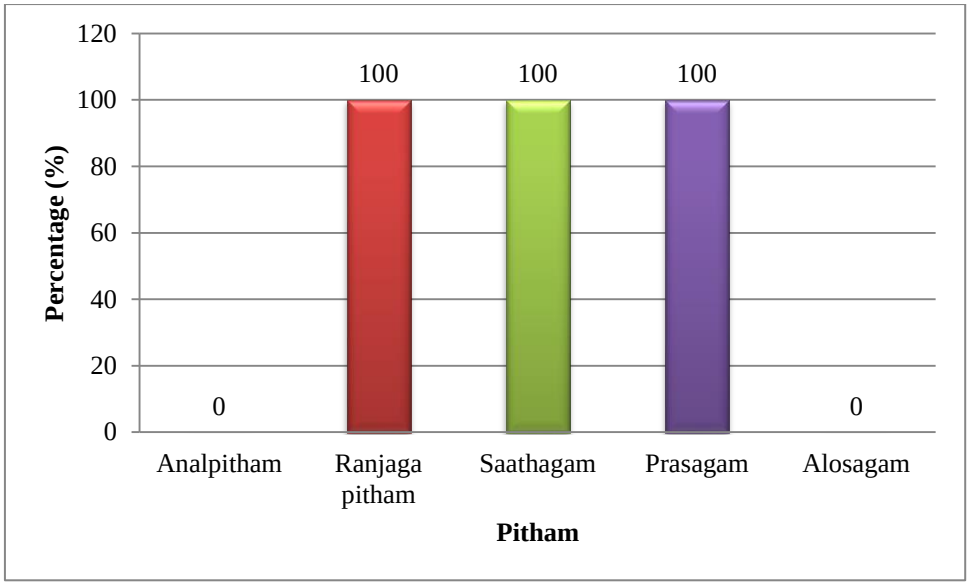


Figure 5.16 Disturbances in Pitham

Inference

Except Analpitham and Alosagam, all the other three Ranjagapitham, saathagam and prasagam were affected in all the cases.

Table 5.17 Derangement of Kabham

Sl. No.	Kabham	Number of cases	Percentage (%)
1.	Avalambagam	12	30
2.	Kilethagam	0	0
3.	Pothagam	0	0
4.	Tharpagam	0	0
5.	Santhigam	22	55

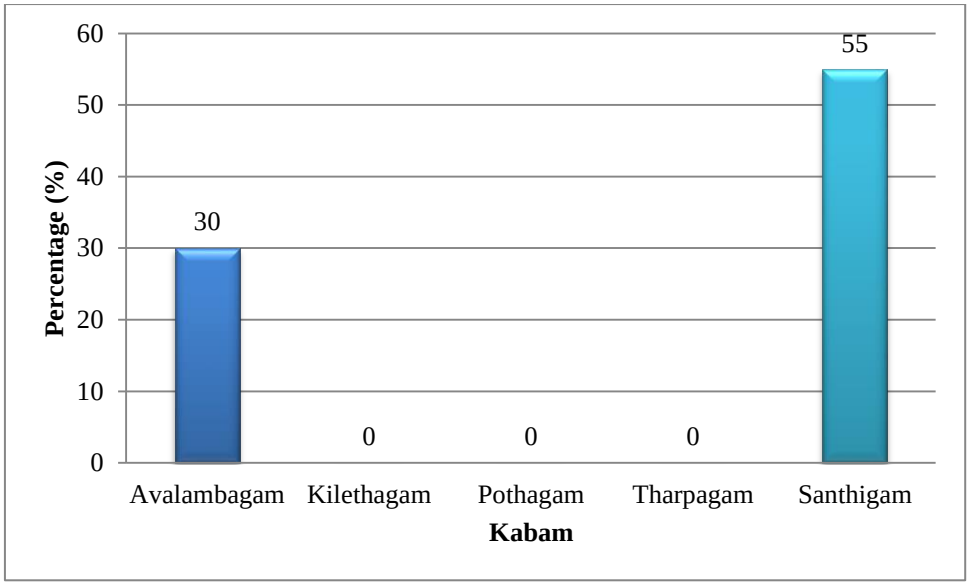


Figure 5.17 Disturbances of Kabam

Inference

Avalambagam was affected in 12 cases and Santhigam was affected in 22 cases.

Table 5.18 Condition of Udal Kattukal

Sl. No.	Udal kattukal	NUMBER OF CASES	PERCENTAGE (%)
1	Saaram	40	100
2	Senner	40	100
3	Oon	0	0
4	Kozhuppu	6	15
5	Enbu	4	10
6	Moolai	0	0
7	Sukkilam	0	0

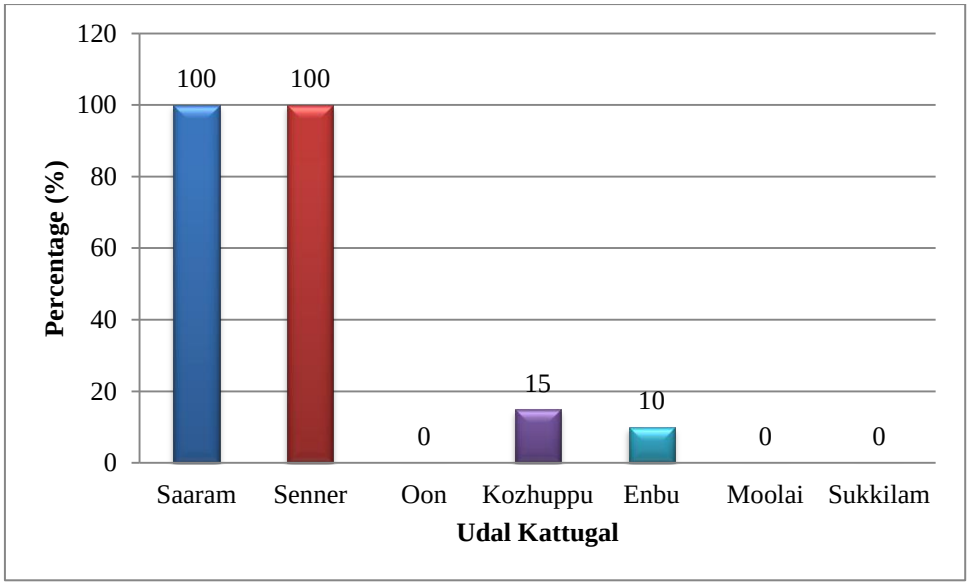


Table 5.18 Condition of Udal Kattukal

Inference

Out of all the cases, Saaram and senneer were affected (100%), kozhuppu affected in 6 (15%) cases and enbu affected in 4 (10%) cases.

Table 5.19 Envagaithervugal

Sl. No.	Envagai thervugal	Number of cases	Percentage (%)
1.	Sparisam	40	100
2.	Naa	0	0
3.	Niram	40	100
4.	Mozhi	0	0
5.	Vizhi	0	0
6.	Malam	16	40
7.	Moothiram	0	0
8.	Naadi	40	100

Naadi : Pitha vatham 14 cases (35%)

Vathapitham 16 cases (40%)

Pithakabam 10 cases (25%)

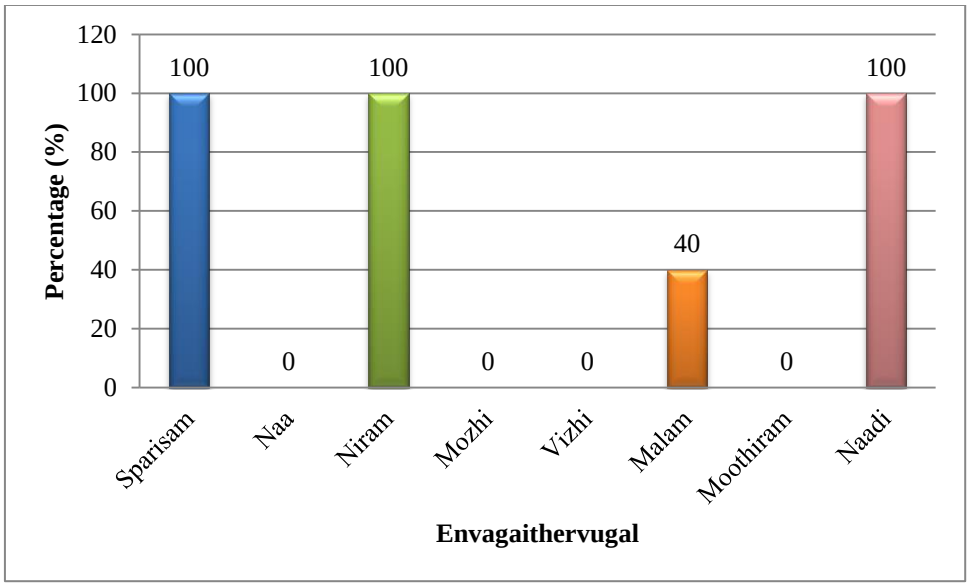


Figure 5.19 Envagaithervugal

Inference

Sparisam and niram were affected in all the 40 cases (100%) and malam was affected in all 16 cases (40%).

Table 5.20 After Treatment Results Overall

Sl. No.	Effect of Therapy	No. of patients	Percentage (%)
1	Good improvement	28	70
2	Moderate improvement	6	15
3	Mild improvement	4	10
4	No improvement	2	5

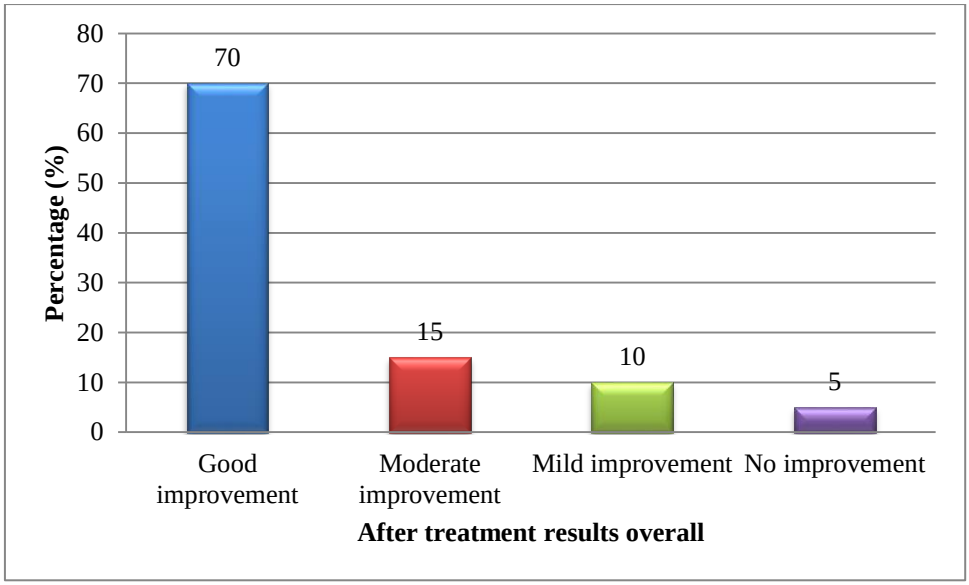


Figure 5.20 After Treatment Results Overall

Inference

Out of 40 patients considered for the study, good improvement was observed in 70% patients, moderate improvement was observed in 15% patients, mild improvement was observed in 10% patients and no improvement was observed in 5% patients.

Table 5.1 List of Out Patients & In Patients of PG-III Sirappu Maruthuvam Department

1. Kottaikaranthai Chooranam – Internal, 2. Semparuthi Poo Ennai - External

Sl. NO.	OP. NO. / IP. NO.	OP / IP	NAME	AGE / SEX	OCCUPATION	DATE OF ADMISSION	DATE OF DISCHARGE	TOTAL NO. OF DAYS	GRADE	RESULTS
1	47593	OP	Subramani	15 / M	Student	2.6.18	13.7.18	42	I	GOOD
2	47928	OP	Santhanamari	42 / M	Manual labour (Building)	2.6.18	13.7.18	42	III	MILD
3	48565	OP	Veerasami	42 / M	Manual labour (Driver)	6.6.18	19.7.18	45	I	GOOD
4	49655	OP	Chandra	45 / F	Home maker	11.6.18	19.7.18	39	II	MODERATE
5	49656	OP	Vidhiya	21 / F	Student	11.6.18	19.7.18	39	II	MODERATE
6	51668	OP	Utchimagali	60 / M	Manual labour (Driver)	18.6.18	6.8.18	50	II	MODERATE
7	51754	OP	Raja	60 / M	Manual labour (Hospital staff)	19.6.18	31.7.18	43	I	GOOD
8	52871	OP	Kalliyammal	31 / F	Manual labour (Tailor)	22.6.18	16.8.18	56	I	GOOD
9	54674	OP	Kailasam	60 / M	Manual labour	29.6.18	3.8.18	36	I	GOOD

					(Accountant)					
10	54864	OP	Murugan	56 / M	Farmer	29.6.18	3.8.18	36	I	GOOD
11	54954	OP	Sundar raj	35 / M	Manual labour (Windmill)	30.6.18	10.8.18	42	II	MODERATE
12	1684	IP	Karuppasamy	60 / M	farmer	2.7.18	31.7.18	30	I	GOOD
13	1694	IP	Chandrasekar	54 / M	Business	3.7.18	23.7.18	21	III	MILD
14	61578	OP	Chellavadivu	54 / F	Home Maker	24.7.18	6.9.18	45	I	GOOD
15	62076	OP	Sivasubramanian	53 / M	Business	26.7.18	6.9.18	43	I	GOOD
16	79681	OP	Issaki Aachari	60 / M	Manual labour (accountant)	16.8.18	25.9.18	41	I	GOOD
17	68330	OP	Saraswathi	60 / F	Home Maker	17.8.18	17.9.18	32	I	GOOD
18	70623	OP	Prema	46 / F	Business	25.8.18	22.9.18	29	I	GOOD
19	2906	IP	Balasubramanian	38 / M	Farmer	28.11.18	6.1.19	40	I	GOOD
20	102145	OP	Rahuman	49 / M	Business	10.12.18	2.2.19	55	IV	NO
21	102669	OP	Kaarthiga	24 / F	Home Maker	11.12.18	5.2.19	57	IIII	MILD

22	104691	OP	Gurusamy	60 / M	Business	18.12.18	7.2.19	52	I	GOOD
23	107385	OP	Raja	42 / M	Business	27.12.18	28.1.19	33	I	GOOD
24	944	OP	Chandrasekar	60 / M	Manual labour (accountant)	3.1.19	8.2.19	37	I	GOOD
25	4791	OP	Charles	47 / M	Farmer	11.1.19	18.2.19	31	I	GOOD
26	7689	OP	Iyappan	45 / M	Farmer	21.1.19	1.3.19	40	III	MILD
27	9114	OP	Petchiyammal	18 / F	Student	24.1.19	1.3.19	37	I	GOOD
28	9524	OP	Joylimonce	53 / F	Teacher	25.1.19	2.3.19	37	I	GOOD
29	4835	OP	Renganathan	35 / M	Farmer	1.2.19	12.3.19	40	I	GOOD
30	13652	OP	Jeyalakshmi	50 / F	Business	6.2.19	6.3.19	29	I	GOOD
31	13508	OP	Mayandi	70 / M	Farmer	6.2.19	18.3.19	41	I	GOOD
32	15288	OP	Bhagavathi	60 / F	Farmer	11.2.19	18.3.19	36	I	GOOD
33	15848	OP	Marriyammal	48 / F	Home Maker	12.2.19	13.3.19	30	I	GOOD
34	17343	OP	Ganapathy	50 / M	Business	16.2.19	26.3.19	39	I	GOOD
35	19378	OP	Thangaraj	48 / M	Teacher	22.2.19	5.4.19	43	I	GOOD
36	19873	OP	Muthulakshmi	52 / F	Home maker	23.2.19	6.3.19	12	II	MODERATE

37	19660	OP	Vaellammal	60 / F	Home maker	23.2.19	3.4.19	40	I	GOOD
38	19847	OP	mahalakshmi	38 / F	Home maker	23.2.19	6.4.19	43	II	MODERATE
39	608	IP	Saraswathi	60 / F	Home maker	8.3.19	2.4.19	26	I	GOOD
40	670	IP	Udayaar pandi	60 / F	Manual labour	14.3.19	15.4.19	33	II	MODERATE

Table 5.2 Blood Investigation of OP & IP Patients

Sl. No.	**OP. No. / IP. No.**	**WBC TOTAL**		**WBC DIFFERENTIAL COUNT (DC)**						**HB gms %**		**E.S.R. (mm)**				**BT**				**AT**			
		BT	**AT**	**BT**			**AT**			**BT**	**AT**	**BT**		**AT**		**B.S**	**B.U**	**CH**	**S.C.**	**B.S**	**B.U**	**CH**	**S.C.**
				P	**L**	**E**	**P**	**L**	**E**	**1hr**	**1hr**	½hr	1hr	½hr	1hr								
1	47593	8100	8200	63	33	4	63	32	3	10.8	10.8	8	16	8	16	89	13	160	1.3	87	13	159	1.2
2	47928	6800	6600	70	25	5	71	25	4	10.8	10.8	7	14	6	12	65	15	185	.6	66	13	154	.6
3	48565	8000	8100	50	44	6	52	43	4	13	13	8	16	8	16	65	20	190	.6	64	21	180	.4
4	49655	7000	8000	68	28	4	65	28	3	11	12	10	20	8	16	88	16	256	.8	86	17	240	.8
5	49656	6800	6800	70	25	5	70	26	4	10.8	11	7	14	6	12	65	15	185	.6	65	18	184	.5
6	51668	7000	7200	68	28	4	69	26	2	11	10.5	10	20	10	20	88	16	210	.8	89	16	200	.7

7	51754	6800	6700	59	36	5	58	36	3	12	13	31	62	15	30	94	20	179	.7	94	19	160	.8
8	52871	7000	6400	68	28	4	65	24	2	9	10	6	12	7	14	88	16	189	.8	87	16	170	.7
9	54674	7600	7500	65	30	5	64	30	4	13.2	14	6	12	3	9	122	45	180	1.2	120	42	178	..8
10	54864	8200	8300	50	40	6	52	40	4	13	12	8	16	4	12	82	20	189	.7	80	18	188	.7
11	54954	8200	8400	52	40	6	51	41	4	13	12	8	16	6	12	82	20	189	.7	80	21	187	.6
12	1684 (IP)	8500	8600	60	34	6	60	32	4	9.6	10	22	44	20	40	109	31	166	1.3	110	30	167	1.3
13	1694 (IP)	8200	8400	71	24	5	60	25	5	12.2	12.6	15	35	15	30	72	27	220	.9	72	27	210	.9
14	61578	5700	5500	60	37	4	61	37	5	12	13	10	20	10	20	94	19	162	1.2	94	20	160	1.1
15	62076	5900	6000	60	37	3	60	38	3	11	11	10	20	8	16	94	18	162	1.2	93	18	160	1.2
16	79681	8000	7800	50	44	6	48	43	5	13	13	8	16	8	16	65	20	190	.6	64	20	189	.6
17	68330	7000	7000	56	39	5	55	38	4	10.9	11	31	62	15	30	94	20	208	.7	93	20	207	.7
18	70623	7600	7800	65	32	3	64	33	3	12.1	12.1	22	44	10	20	149	19	213	1	148	18	213	1
19	2906 (IP)	7600	7500	65	32	3	58	33	3	12	13	15	30	15	30	64	23	207	.8	65	20	200	.7
20	102145	7500	7500	60	36	4	59	37	3	8.7	9	6	12	6	12	73	16	199	.6	72	16	199	.5
21	102669	6200	6300	56	41	3	56	40	2	12.3	12	7.5	15	6	12	79	22	150	.8	76	22	148	.6
22	104691	9200	9300	62	31	7	62	30	5	12.5	12	8	16	8	16	109	25	179	.8	105	24	178	.8
23	107385	6800	6700	60	37	3	60	36	2	12	13	10	20	10	20	194	21	162	.8	192	20	163	.7
24	944	8100	8200	46	49	5	50	48	4	12.4	13	10	20	8	16	150	20	155	1.1	148	19	150	.9
25	4791	7200	7000	48	32	3	49	33	3	11	12	6	12	6	12	96	22	168	.8	94	21	166	.7

26	7689	8000	8100	46	49	5	47	49	4	12.4	12.6	5	10	4	8	150	20	155	1.1	145	19	154	.9
27	9114	7200	7100	62	30	6	62	32	5	12.5	12.6	8	16	7	14	109	19	149	.8	105	18	178	.7
28	9524	7300	7400	59	37	4	59	38	3	10.3	10.5	8	16	5	10	97	22	153	.9	96	22	152	.8
29	4835	7000	7200	59	35	6	59	37	7	14.1	14	12	24	10	20	97	24	172	.4	97	24	171	.4
30	13652	8300	8300	50	47	3	49	47	3	11.3	12	7.5	15	6	12	100	28	203	.9	98	28	200	.8
31	13508	10100	10200	80	17	3	82	18	3	13.3	14	10	20	10	20	95	18	153	.6	92	18	153	.5
32	15288	7500	7600	60	34	3	62	34	3	10.2	11	12	24	10	20	74	16	199	.6	72	15	196	.4
33	15848	9400	9300	75	20	5	76	22	4	11.4	12	17.5	35	10	20	282	28	200	.7	260	28	198	.6
34	17343	7300	7400	64	30	6	66	32	5	14.3	14	20	40	10	20	95	23	147	.8	94	22	145	.7
35	19378	9600	9500	59	40	1	59	42	1	11.3	12	10	20	8	16	105	20	197	1	103	20	196	.9
36	19873	7600	7800	64	30	6	66	30	4	14.3	14.5	10	20	10	20	95	23	147	.1	95	22	146	.1
37	19660	9400	9600	75	20	5	76	22	4	11.4	12	17.5	35	10	20	92	26	179	.8	90	26	178	.7
38	19847	7400	7400	61	36	3	61	37	3	11	11.6	10	20	10	20	80	47	187	.8	80	45	186	.6
39	608 (IP)	7800	7600	61	36	3	60	38	2	10.1	11	10	20	8	16	98	26	132	.9	96	26	134	.8
40	670 (IP)	7800	7800	58	35	7	58	36	7	10.2	10.8	7	15	6	12	80	47	193	1.3	82	45	189	1.2

BT – Before Treatment, AT- After Treatment, ESR – Erythrocyte Sedimentation Rate, HB – Hemoglobin, BS – Blood sugar, BU- Blood urea

SC – Serum creatinine, P - Polymorph, L - Lymphocytes, E – Eosinophils, CH – Cholesterol

Table 5.3 Urine Analysis of OP & IP Patients

Sl. No.	O.P. No. / IP No.	IP / OP	Albumin		Sugar		Deposit	
			BT	AT	BT	AT	BT	AT
1	47593	OP	NIL	NIL	NIL	NIL	NIL	NIL
2	47928	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
3	48565	OP	NIL	NIL	NIL	NIL	NAD	NIL
4	49655	OP	NIL	NIL	NIL	NIL	NIL	NIL
5	49656	OP	NIL	NIL	NIL	NIL	Few pus cells	Few pus cells
6	51668	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
7	51754	OP	NIL	NIL	NIL	NIL	Few pus cells	Few pus cells
8	52871	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
9	54674	OP	NIL	NIL	NIL	NIL	NIL	NIL
10	54864	OP	NIL	NIL	NIL	NIL	NIL	NIL
11	54954	OP	NIL	NIL	NIL	NIL	NIL	NIL
12	1684	IP	NIL	NIL	NIL	NIL	NAD	NAD

13	1694	IP	NIL	NIL	NIL	NIL	NIL	NIL
14	61578	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
15	62076	OP	NIL	NIL	NIL	NIL	Few pus cells	NIL
16	79681	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
17	68330	OP	NIL	NIL	NIL	NIL	NIL	NIL
18	70623	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
19	2906	IP	NIL	NIL	NIL	NIL	NIL	NIL
20	102145	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
21	102669	OP	NIL	NIL	NIL	NIL	NIL	NIL
22	104691	OP	NIL	NIL	NIL	NIL	Few pus cells	NIL
23	107385	OP	NIL	NIL	NIL	NIL	Few pus cells	NIL
24	944	OP	NIL	NIL	NIL	NIL	1-2 pus cells	NAD
25	4791	OP	NIL	NIL	NIL	NIL	NIL	NIL
26	7689	OP	NIL	NIL	NIL	NIL	1-2 pus cells	NAD
27	9114	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD

28	9524	OP	NIL	NIL	NIL	NIL	NAD	NAD
29	4835	OP	NIL	NIL	NIL	NIL	1-2 pus cells	NAD
30	13652	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
31	13508	OP	NIL	NIL	NIL	NIL	Few pus cells	NIL
32	15288	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
33	15848	OP	NIL	NIL	+++	++	NAD	NAD
34	17343	OP	NIL	NIL	NIL	NIL	2-4 pus cells	NAD
35	19378	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
36	19873	OP	NIL	NIL	NIL	NIL	2-4 pus cells	NAD
37	19660	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
38	19847	OP	NIL	NIL	NIL	NIL	Few pus cells	NAD
39	608	IP	NIL	NIL	NIL	NIL	NAD	NIL
40	670	IP	NIL	NIL	NIL	NIL	Few pus cells	NIL

DISCUSSION

A Study on Kalanjapadai

6. DISCUSSION

A common, chronic, disfiguring, inflammatory and proliferative condition of the skin. The most characteristic lesions consist of red, scaly, sharply demarcated, indurated plaques, present particularly over extensor surfaces and scalp.

It can have a profound social impact of life difficulties in the work place, socialization with family members and friends, exclusion from public facilities and getting a job are some of the psycho social impact.

The major clinical features are itching, scaling, erythema, auspitz, sign with this background, the disease Psoriasis is taken for the study.

To gratifying the most important intend of this study, the trial drugs given below was used in treating the disease psoriasis. They are

1. **Kottai karanthai chooranam** as an internal medicine.
2. **Semparuthi poo ennai** as an external medicine.

A thorough study of the disease psoriasis was done and it is correlated with signs and symptoms of psoriasis indicated in the siddha literatures.

To achieve the primary goal of this, a complete open clinical trial was done by treating the disease psoriasis with trial drugs.

The clinical appraisal was done as per the protocol and the data were collected by using prescribed forms. The disease psoriasis was studied under various criteria to full-fill secondary objective of the study and the results were pragmatic and tabulated.

The assorted criteria and the results were discussed here under.

6.1. Gender distributions

Out of 40 cases, 24 cases were male and 16 were cases female. Hence it comes to interference that prevalence may be high in males. However men reported greater due to work related stress. Hence it is correlated with research studies. (MADUKKAA GUPTA 2007 VOL 34 700-703).

6.2. Age distribution

From the above study it came to know, the incidence of this disease is high in age group 45 to 60 when compared to other age groups.

Hence it infers, the result shown in my study is more or less equal to the global epidemiological studies. Paris et al. (2012), Raval 10(2):189-96.

6.3. Kaalam distribution

From the above study, it infers that the disease is highly prevalent in pitha kaalam, when compared to other kaalams.

6.4. Occupational status

From the above data it was clear that there was no connection between the occupational status and the Psoriasis incidence.

Luigi Naadi M.X et al (2007) also accepted the same result in his study.

6.5. Dietary habits

Out of the 40 patients selected, among them 3 were non vegetarian and 37 of them were vegetarian.

6.6. Seasonal variations

Among the 40 patients selected, the disease had occured in munpani kaalams when compared to other kaalams. It is evident from the book “Practice of dermatology”.

According to the above mentioned data 30% of cases came in munpanikaalam, 22.5% cases muthuvenirkaalam.

6.7. Thinai

From the above mentioned data, 38(95%) cases were from Marutham and 2(5%) cases were from Neithal thinai.

Hence the disease was studied in single area not globally, so it is difficult to come to conclusion by this above data for evaluating the thinai distribution scientifically.

6.8. Socio economic status

From the above data, 65% are from middle socio economic status, 20% were low and 15% belong to rich economic status. There are no accurate evidences for correlation between psoriasis and socio economic status but as per research evidences by exposure to antigenic surfaces result in higher prevalence of psoriasis. Therefore peoples from low socio economic status were easily exposed to antigenic exposure due to infection so they have high prevalence of psoriasis.

6.9. Mode of onset

From the above tabulation it shows that 90% of the cases were reported to have chronic onset and the remaining 10% were reported to have acute mode of onset.

6.10. Clinical features

According to this study, 85% of them had itching (which is correlated with the study and research by gerald kruegae Arch Decmatol 2001) and 55% of patients had joint involvement, 35% of them had candle grease sign and 20% had nail changes. Petty et.al.J AM Acad Decmatol 2003. Radtke AM et.al. This infers that joint involvement coincides with research studies.

6.11. Disturbances in kanmenthiriums

Among 40 patients, eruvai have been affected in 16 cases, kaal have been affected in 14 cases and 12 cases affected in kai kanmenthirium.

6.12. Distribution of three thodams

6.12.1. Vadham

From the above tabulation, samanan, viyanan are pretentious in 100% of cases and abanan were affected in 40% of cases and uthanan were affected 20% of cases.

6.12.2. Pitham

Ranjagam, Saathagam and Prasagam were affected in all 100% cases.

6.12.3. Kahbam

Santhigam was affected 22 cases and avalambagam are pretentious in 12 cases.

6.13. Udal kattugal

From the seven udal kattugal, saaram, seneer have been affected in all of the 40 cases, enbu in 10% cases and kozhuppu have been affected 15% of cases.

6.14. Envagai Thervugal

Among the 40 cases, sparisam, niram and naadi have been affected in all cases while malam have been affected in 16 patients.

In naadi, pitha vatham were present in 14 cases (35%), vadha pitham 16 were present in cases (40%) and vatha kabham were present in 10 cases (25%).

6.15. Investigations

Laboratory investigations were done in all the cases before and after treatment. The significant variation occur in parameters like ESR and HB, while other parameters have insignificant variation.

6.16. Pre-clinical studies

The biochemical study of **kottai karanthai chooranam** had revealed the presence of calcium, ferrous iron, sulphate, unsaturated compound, chloride and amino acid.

6.17. Pharmacological studies

The pharmacological studies done in **kottai karanthai chooranam** and semparuthi poo ennai revealed the presence of actions such as

1. Anti-inflammatory action
2. Anti-histamine action

The pharmacological studies done in semparuthi poo ennai revealed that it has anti-inflammatory activity.

6.18. Toxicity studies

Acute toxicity studies have done for **kottai karanthai chooranam** in rats and it is analyzed that they have no toxicity.

6.19. Line of treatment

According to our humoral pathology, three dosham are deranged in all diseases. Therefore the line of tretment starts with regularize the deranged vadham for psoriasis to normalize the deranged vadha kutram purgative had to be given. So the purgative vellai ennai – 15ml were given to all 40 patients while be beginning the treatment.

Next day trial drug **kottai karanthai chooranam** – 4g (Bd) was given along with semparuthi poo ennai (30ml) external medicine for a total of 40 patients i.e. 20 OP and 20 IP.

While 5 IP patients trial drug along with complement therapy Pranayamam, asanas were given.

During the treatment period the patients are strictly advised to follow dietary regimen to overcome the adverse effect of trial drug given and also for earlier prognosis.

6.20. Clinical outcome

The clinical outcome was assessed by signs of psoriasis (Auspitz sign, koebner's phenomenon, candle grease sign) plaques, itching, erythema, scaling and these are classified into four grades described above.

According to that gradations

1. 70% had Good improvement
2. 15% had moderately improved
3. 10% had mild improved and
4. 5% had no improvement

There is no adverse effect observed while giving the trial medicines.

SUMMARY

A Study on Kalanjapadai

7. SUMMARY

The disease psoriasis was reasonably studied with the disease kalanjaga padai with reference to its causes. Pathogenesis and clinical features.

The aim of this study is to treat the illness and sufferings of Psoriasis. psoriasis is a common and distressing skin condition. Importantly, it is not simply a cosmetic problem- even people with limited disease find the condition affect their everyday lives (stern Rs.et.al.2004-9(2) 136-39).

The trial medicines are prepared as per siddha literature.

The trial medicines were

1. **kottai karanthai chooranam** 4g (Bd)
2. semparuthi poo ennai 30ml (external)

The trial drug was given to 40 patients, for 40 days. The patients were selected based on inclusion and exclusion criteria.

While starting the treatment routine blood analysis, urine analysis, kidney function test and liver function test were done. Siddha methods like udal thathukkal, Envagai thervu, Neerkuri and Neikuri were noted in case sheet proforma.

Patients were instructed to come for next review once in 7 days.

7.1. Age

Most of the patients are from the age group (45-60)

7.2. Thinai

Most of the patients were from marutham thinai.

7.3. Occupation

The manual labours are mostly affected by Psoriasis. Stress is also a major triggering factor for Psoriasis.

7.4. Diet and Physical habits

Most of the patients were non vegetarians and smoke may also have a major impact on Psoriasis.

7.5. Udal kattugal

From the seven udal kattugal, saaram, seneer have been affected in all of the 40 cases, whereas enbu affected 10% of cases and kozhuppu have been affected with 15% of cases.

7.6. Pre-clinical studies

The pharmacological analysis of **kottai karanthai chooranam** shows that these medicines have

1. Anti-inflammatory effect
2. Anti-histaminic effect

Result the clinical outcome was assessed by gradations. Hence the result shows that 70% had good improvement. Particularly the results were marvelous when it is given trial drug along with complement therapies.

CONCLUSION

A Study on Kalanjapadai

8. CONCLUSION

KALANJAGAPADAI (PSORIASIS) is primarly due the derangement of vadham. The trial medicine "**kottai karanthai chooranam**" predominates with kaippu taste respectively neutralizes the vatham.

Preclinical studies show that these medicines have anti-inflammatory and anti-histamine, effect.

The "**kottai karanthai chooranam"** do not produce any toxicity in preclinical study. So it is not toxic and safe drug for psoriasis.

No contraindications were reported during the course of treatment.

The overall outcome of this disease is astounding. The clinical signs in this study were found to have 70% good improvement. When trial medicines are given along with complement therapy were found to have wonderful effect compared to giving trial medicines alone.

Therefore the author concluded that the trial medicine "**kottai karanthai chooranam**" and semparuthi poo ennai is very positive remedy for "Kalanjagapadai".

8.1 ASSESSMENT OF RESULTS

CLASSIFICATION OF PSORIASIS BASED ON THE SEVERITY OF SYMPTOMS

8.1.1 SYMPTOM

1	Severe	marked plaque elevation, scaling and or crythema, affecting more than 10% of the body surface.
2.	Moderate	Moderate plaque elevation, scaling and erythema /affecting 3-10% of the body surface
3	Mild	Slight plaque elevation, scaling and or erythema/affecting less than 3% of the body surface.
4	Clear	No signs of psoriasis.

- F Alzeni et al.(2011)

8.2 OVERALL RESULTS AFTER TREATMENT

Based on the outcome, all the 40 patients have been classified into 4 grades. The gradation is as follows,

Grade I (Good Improvement) – No signs of psoriasis (Post inflammatory hyper pigmentation may be present).

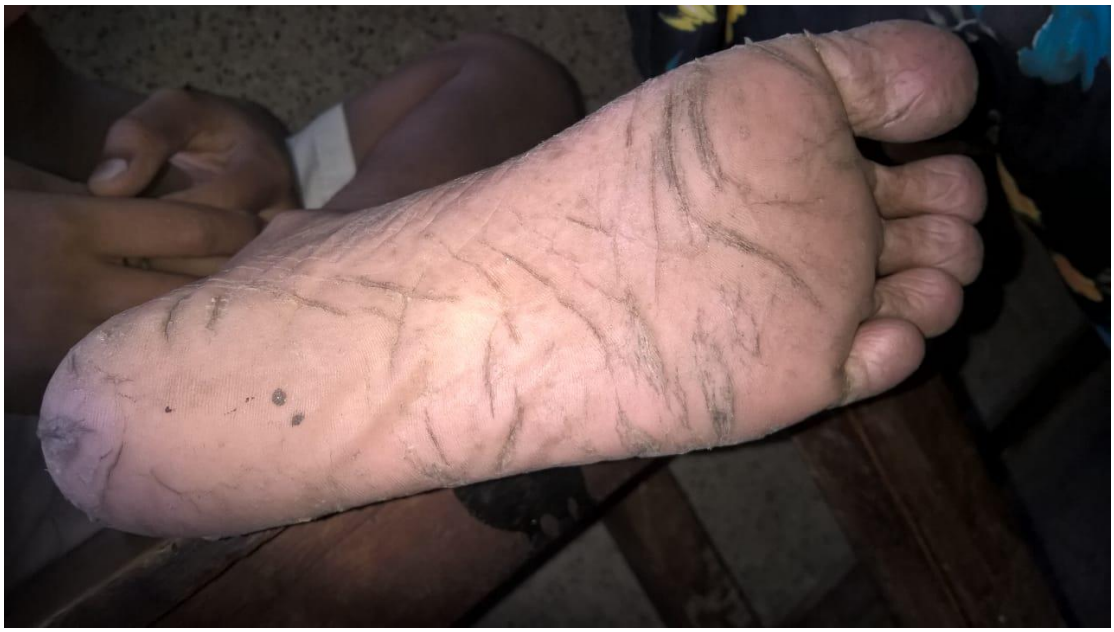
Grade II (Moderate improvement) – Slight plaque elevation reduction in size of all lesions, mild scaling. Itching and/or erythema.

Grade III (Mild Improvement) – No new lesions, moderate plaque elevation, scaling, Itching and/or erythema.

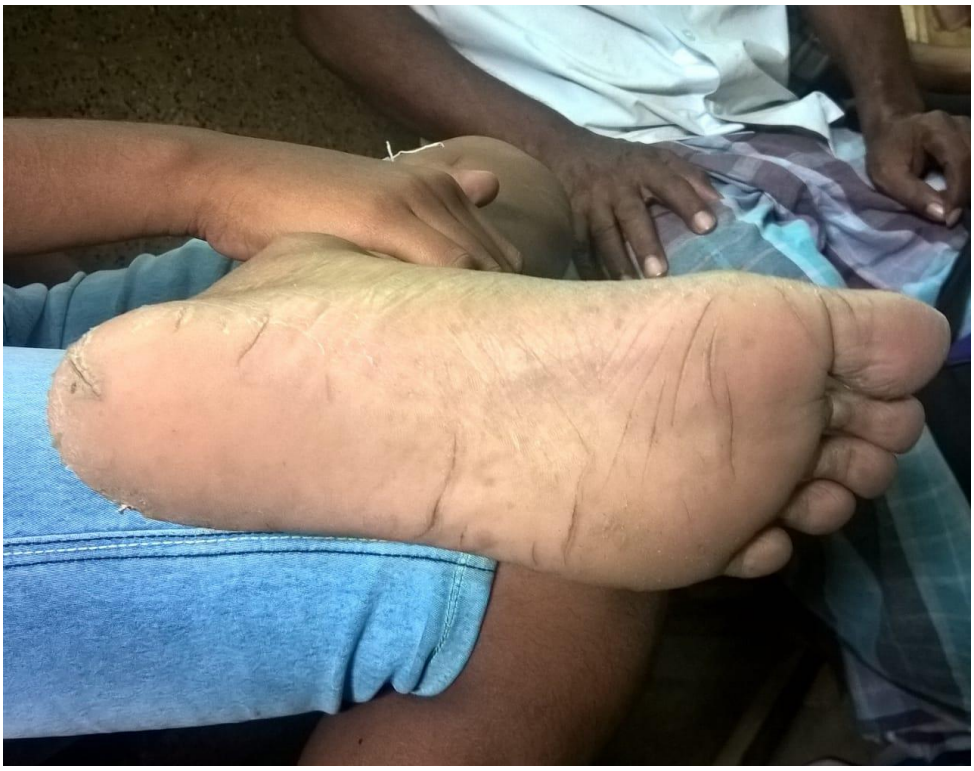
Grade IV (No Improvement) – Very marked plaque elevation, scaling, Itching and/or erythema with or without new lesions.

Patient Name: Subramani **Age**: 15 **Sex**: Male **OP No.**: 47593

Before Treatment

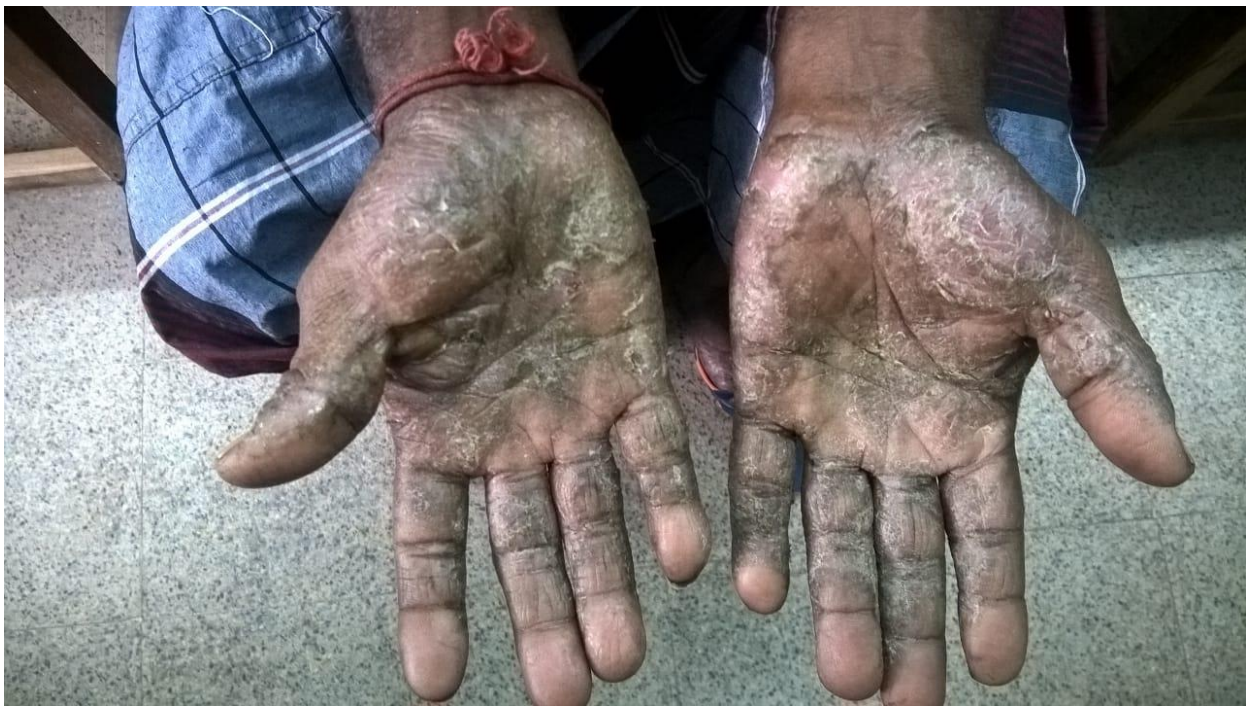


After Treatment

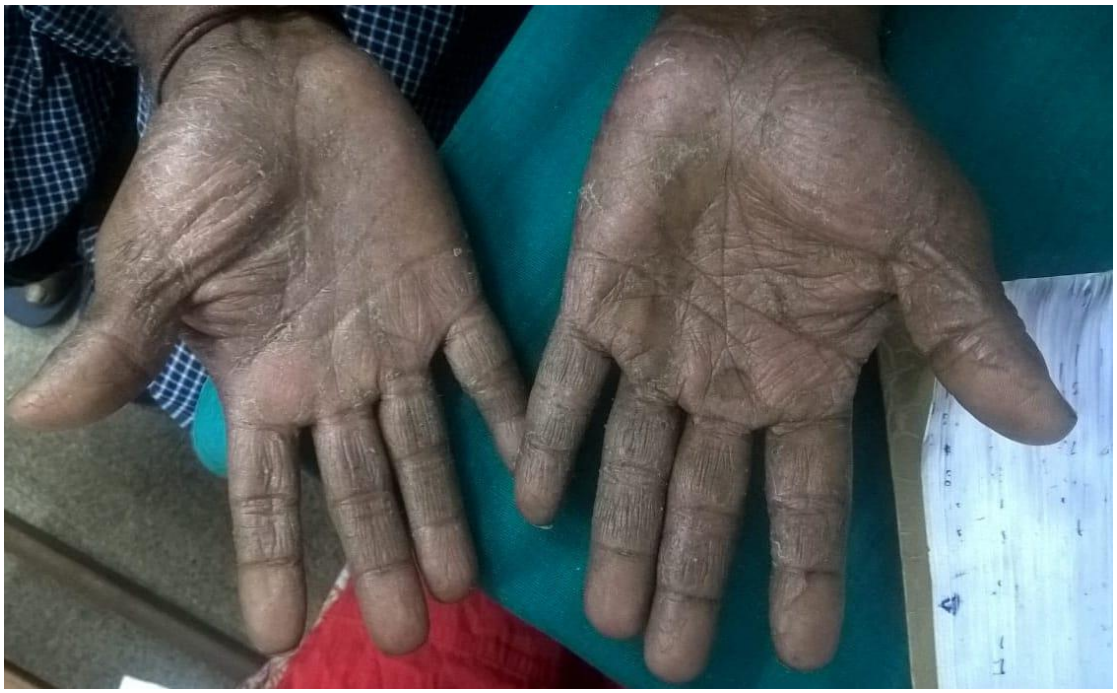


Patient Name: Sivasubramanian **Age:** 55 **Sex:** Male **OP No.**: 62076

Before Treatment



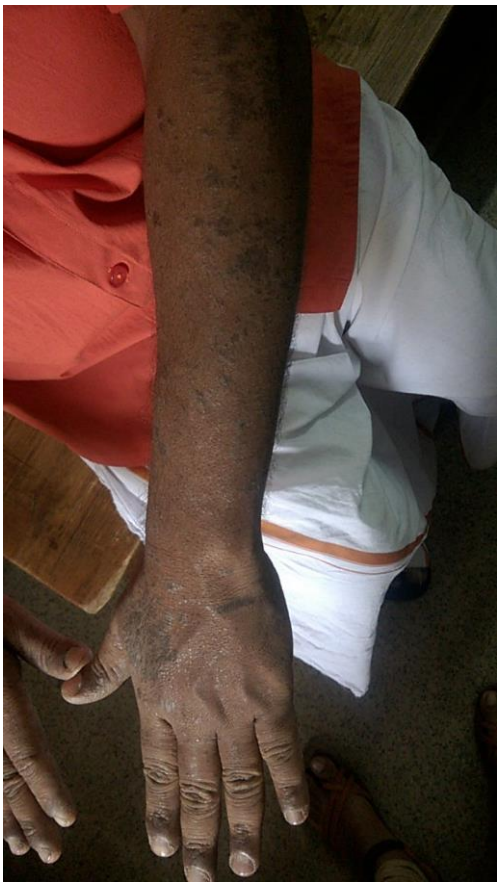
After Treatment



Patient Name: Raja **Age:** 42 **Sex:** Male **OP No.:** 107385

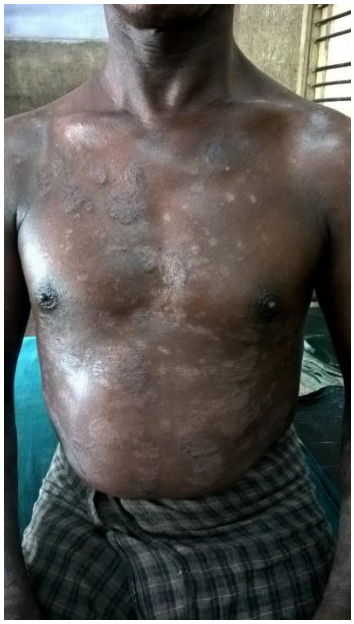
Before Treatment

After Treatment

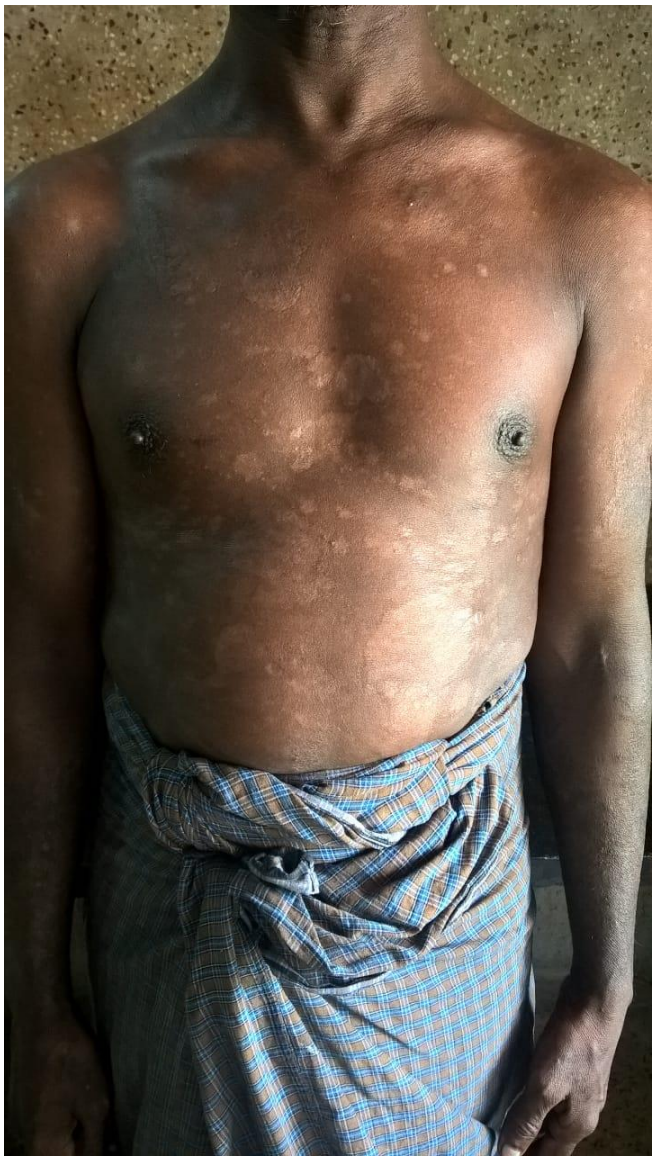


Patient Name: Balasubramanian **Age:** 38 **Sex:** Male **IP No.:** 2906

Before Treatment



After Treatment



ANNEXURES

A Study on Kalanjapadai

9.1 ANNEXURE-I

PREPARATION & PROPERTIES OF TRIAL DRUGS

Standard operating procedure for preparation of kottai karanthai chooranam (Internal) and semparuthi poo ennai (External)

9.1.1 Source of raw drugs:

The required drugs for preparation of kottai karanthai chooranam (Internal) and semparuthi poo ennai (External) are collected from farms and some drugs are purchased from reputed local vendor. The raw drugs were authenticated by medical botanist of Government Siddha Medical College, Palayamkottai. The drugs are then purified and the medicines were prepared in the gunapadam laboratory of Government Siddha Medical College, Palayamkottai.

9.1.2 Purification of internal medicine:

9.1.2.1 Kottai karanthai:

- Dried in shade (sarugu patham)
- Powder form

9.1.3 Preparation of trial drugs

9.1.3.1 Internal medicine

- Kottai karanthai chooranam

Ingredients:

- Kottai karanthai-Sphaeranthus indicus (35gm)

Preparation:

The above drug is purified and powdered into fine and coarse powdered form. Then it is filtered using pure white cloth. And the same is preserved it in an airtight container.

Dosage:

- 4 grams – morning and night

Indication:

It is indicated internally for psoriasis

Drug storage:

The trial drug is stored in clean dry air tight container and it is dispensed to patients in packets.

Figure 9.1.1 Kottai karanthai (Internal Medicine)

9.1.3.2 External medicine:

- Semparuthi poo ennai

Ingredients:

Figure 9.1.2 Semparuthi Poo

Figure 9.1.3 Coconut Oil

Figure 9.1.4 Suraipattai

Figure 9.1.5 Vaembadaipattai

Figure 9.1.6 Semparuthi Poo Ennai

- Semparuthi poo – hibiscus rosasinensis – ¼ to ½ Kg
- Coconut oil – cocus nucifera – 1 to 1.5 Kg
- Surai pattai – ziziphus oenoplia – 17.5 grams
- Vaempadampattai – ventilago maderaspatana – 17.5 gram

Preparation:

The flowers are kept soaked in the coconut oil for 10 to 20 days and then filtered. The drugs 3 and 4 are subjected to powdered form are then added to the filtered oil. Then it is exposed to the sun for 3 days and it decanted and preserved in a bottle.

Indication:

It is indicated externally for psoriasis.

Drug usage:

The trial drug is stored in a clean, dry, air tight container as narrow bottles.

9.1.4 Properties of trial drugs

9.1.4.1 Internal medicine:

a) Kottai karanthai – கொட்டை கரந்தை

- Botanical name – spaeranthus indicus
- Family – asteraceae
- சுவை - கைப்பு
- தன்மை – வெப்பம்
- பிரிவு - கார்ப்பு
- Part used – whole plant

Action:

- Alterative
- Demulcent
- Stomachic
- Anthelmintic
- Depurative
- Refrigerant
- Tonic

குணம்:

“கொட்டைக் கரந்தைதனைக் கூசாம லுண்டவர்க்கு

வெட்டை தணியுமதி மேகம் போந் – துட்டச்

சொறி சிரங்கு வன்கரப்பான் றோற்றாது நாளும்

மறிமலமுந் தானிறங்கு மால்”

விளக்கம்:

இதனால், ஒளுக்கு வெள்ளை, கரப்பான், சொறி, சிரங்கு இவை தீருவதல்லாமல், மறிபட்ட ஏருவுங்களிவும் மேலும் வளி, சொறி, சினைப்பு முதலியவையும் ஓழியும் தோற்பிணியும் போம்

Chemical constituents:

Flower heads:

- 3 eudesmanolides
- 11α, 13 dihydro 3α, 7α - dihydroxyfrullanolide
- 11α, 13 dihydro 7α, 13 - dihydroxyfrullanolide
- 11α, 13 dihydroxy - 7α – hydroxyl – 13 methoxyfrullanolide

Whole plant contains:

- Shgmasterol
- B-sitosterol
- Sesquiterpene lactone
- Sesquiterpine glycoside
- Sphaeranthanolide
- Aerial part contains:
- 7α-eudesmanolide
- Sphaeranthine
- 5 hydroxy-7-methoxy-b-c-glycosylflavone
- Hentriacontane

Therapeutic uses:

- Powder form of dried flowers of sphaeranthus indicus act as a coolant
- Take half teaspoon powdered root of sphaeranthus indicus. It helps in expulsion of intestinal worms
- Powder the dried leaves of sphaeranthus indicus, to skin diseases
- Grind dried sphaeranthus indicusplant. Add little water and apply on the affected part in syphilitic ulcer

Pharmacological activity:

- Immunomodulatory activity
- Antioxidant activity
- Anti-inflammatory activity
- Analgesic activity
- Antihyperglycemic activity
- Hepatoprotective activity
- Antimicrobial activity
- Antihyperlipidemic activity
- Neuroleptic activity

9.1.4.2 External medicine:

a) செம்பருத்தி பூ – semparuthi poo

- Botanical name: Hibiscus rosa sinensis
- Family: malvaceae
- சுவை – இனிப்பு
- தன்மை – தட்பம்
- பிரிவு - இனிப்பு

Parts used:

- Leaf
- Flower
- Root

Action:

- Laxative
- Aphrodisiac
- Emmenagogue
- Emollient
- Demulcent
- Refrigerant

குணம்:

“செம்பரத்தை மேகவெட்டை தீராப் பிரமியொடு

வம்பிரத்த வெள்ளை வழவழப்பும் – வெம்பும்

பெரும்பாடு ரத்தபித்த பேதம் அகற்றும்

கரும்பா மொழிமயிலே! காண்”.

விளக்கம்:

இதனால் வெள்ளை, குருதிவெள்ளை, பெரும்பாடு, குருதியழல் நோய் இவை நீங்கும்.

Chemical constituents:

- It contains tannins, anthraquinones, quinines, phenols, flavanoides, alkaloids, terpenoids saponins, cardiac glycosides, mucilage, steroids, essential oils
- Cyclopropanoids methylsterculate methyl-2-hydroxy sterculate malvalate β-sitosterol

The major anthocyanin in the flower:

- Cyaniding 3-sophoroside
- The flowers contained 4 types of flavonoids:
- Rutin
- Quercetin
- Kaempterol
- Myricetin

Pharmacological activity:

- Antioxidant
- Anti-inflammatory
- Antipyretic
- Analgesic
- Immune modulatory

- Antimicrobial activity
- Dermatological activity
- Anti haemolytic activity
- Antidiabetic activity

b) தேங்காய் எண்ணெய் – coconut oil

- Botanical name: cocus nucifera
- Family: arecaceae
- சுவை – இனிப்பு
- தன்மை – தட்பம்
- பிரிவு - இனிப்பு

Action:

- Nutritive
- Refrigerant
- Diuretic
- Demulcent
- Laxative

Chemical constituents:

a. **Saturated fatty acids:**
    - Lauric acid
    - Myristic acid
    - Caprylic acid
    - Caproic acid
    - Stearic acid
    - Palmitic acid
    - Vitamins:
    - Vitamin E
    - Vitamin K

b. **Unsaturated fatty acids:**
    - Oleic acid

- Linoleic acid
- Linolenic acid

Pharmacological activity:

- Antihelminthic
- Anti-inflammatory
- Antioxidant
- Antifungal
- Antimicrobial
- Antitumor activity

Medicinal uses of coconut oil:

- Coconut oil raises HDL cholesterol and lower risk of heart disease
- It can be used as a skin moisturizer because of its vitamin E content and its antioxidant action in the body
- Coconut oil has lauric acid, it contains antifungal, antiviral, anti bacterial properties.
- It makes hair shinier, stronger because it penetrates better than other oils.

c) சூரைப்பட்டை: suraipattai

- Botanical name: ziziphus oenoplia
- Family: Rhamnaeae
- சுவை – இனிப்பு
- தன்மை – தட்பம்
- பிரிவு - இனிப்பு

Action:

- Aphrodisiac
- Nutritive

குணம்:

“மந்தம் அதிகரிக்கும் வன்சீதளசேரும்

உந்து குடல்வலியும் உண்டாங்காண் – முந்துநவில்

காரைப் பழத்தில் சுதித்த்தொரு பேதமுமாஞ்

சூரைப் பழத்திற்குச் சொல்”

விளக்கம்:

இதனால் மந்தம், ஐயபெருக்கு, குடவலி உண்டாகும்.

Chemical constituents:

a. **Bark:**
    - β-sitosterol
    - B-sitosteryl-β-D-glycoside
    - Luteolin
    - Quercetin

Pharmacological activity:

- Woundhealing activity
- Anti microbial activity
- Anti-analgesic activity
- Immunomodulator effect
- Anthelmintic activity
- Antioxidant activity

d) வேம்பாடம்பட்டை: vaempadampattai

Botanical name: ventilago maderaspatana

- Family: rhamnaceae
- சுவை – இனிப்பு
- தன்மை – தட்பம்
- பிரிவு - இனிப்பு

Action:

- Carminative
- Astringent
- Stomachic

Pharmacological activity:

- Anti-microbial and anti-bacterial activity
- Anti-inflamatory activity
- Antioxidant activity
- Antidiabetic activity
- Hepatoprotective activity

Therapeutic uses:

- The powder of stem bark mixed with gingerly oil is applied externally to treat skin diseases.
- The bark paste of this plant is used in the treatment of bone fracture
- Latex of this plant is used to cure oedema
- Tender branches of this plant is used to treat vertigo
- Seeds mixed with milk or water has showed anti-diabetic activity

Chemical constituents:

- Root bark shows secondary metabolites such as various anthraquinones, including ventione A & B, chrysophanol, physcion, emodin, islandicin, xanthorin and xanthorin – 5 – methyl ether.
- Benziso-chromanquinones, ventilaquinones A, B, C, D, E, F, G & H
- Whole plant contains isofurano naphthaquinones,ventilone – C, ventiloquinones E and G, Jelenthrin

9.2 ANNEXURE – II

BIO-CHEMICAL ANALYSIS

BIOCHEMICAL ANALYSIS OF MONOHERBAL DRUG KOTTAI KARANTHAI CHOORANAM

Preparation of extract:

5 grams of the drug is accurately weighed and placed in a 250ml clean beaker. Dissolve the drug using 50ml of distilled water and bring it to boil for about 10 minutes. Allow it to cool and filter out into a 100ml volumetric flask. Bring the solution to 100ml by adding distilled water. The final solution is taken for analysis.

Qualitative analysis

Sl. No.	Experiment	Observation	Inference
1	**Test for calcium:** 2ml of the above prepared extract is taken in a clean test tube and to this add 2ml of 4% Ammonium oxalate solution	White precipitate is formed	**Indicates the presence of calcium**
2	**Test for sulphate:** 2ml of the extract is added to 5% Barium chloride solution	A white precipitate is formed	**Indicates the presence of sulphate**
3	**Test for chloride:** The extract is treated with silver nitrate solution	White precipitate is formed	**Indicates the presence of chloride**
4	**Test for carbonate:** The extract is treated with concentrated Hydrochloric Acid	No brisk effervescence is formed	Absence of carbonate
5	**Test for starch:** The extract is added with weak iodine solution	Absence of blue color formation	Absence of starch
6	**Test for ferric iron:** The extract is acidified with glacial acetic acid and potassium ferro cyanide	No blue color is formed	Absence of ferric iron

7	**Test for ferrous iron:** The extract is treated with concentrated nitric acid and ammonium thiocyanate solution	Blood red color is formed	**Indicates the presence of ferrous iron**
8	**Test for phosphate:** The extract is treated with molybdate and concentrated nitric acid	No yellow precipitate is formed	Absence of phosphate
9	**Test for albumin:** The extract is treated with Esbach's reagent	No yellow precipitate is formed	Absence of albumin
10	**Test for tannic acid:** The extract is treated with ferric chloride	No blue black precipitate is formed	Absence of tannic acid
11	**Test for unsaturation:** Potassium permanganate is added to the extract	Decolorization occurs	**Presence of unsaturated compound**
12	**Test for reducing sugar:** 5ml of benedict's qualitative solution is taken in attest tube and allowed to boil for 2 minutes and add 8 to 10 drops of the extract and boil it again for 2 minutes	No color change	Absence of reducing sugar
13	**Test for amino acid:** One or two drops of the extract is placed on a filter paper allow it to dry. After drying 1% Ninhydrin is sprayed over the same and again dry	Violet color is formed	**Presence of amino acid**
14	**Test for zinc:** The extract is treated with potassium ferro cyanide	No white precipitate is formed	Absence of zinc

Inference:

The given sample of "kottai karanthai chooranam" contains calcium, sulphate, chloride, ferrous Iron, unsaturated compound and amino acid.

9.3 ANNEXURE – III

FTIR SPECTROSCOPY ANALYSIS

Fourier Transform Infra-Red analysis (FTIR) on Siddha monoherbal formulation of kottai karanthai chooranam

Aim

To standardize the Siddha monoherbal drug kottai karanthai chooranam through FTIR.

Introduction

FTIR is an important analytical technique to identify the functional groups which in turn represents the quality and consistency of the given sample.

Materials & methods

The ingredient kottai karanthai is purified and finely powdered as per Siddha literature Gunapadam Mooligai. The drug was analyzed using FTIR spectroscopy.

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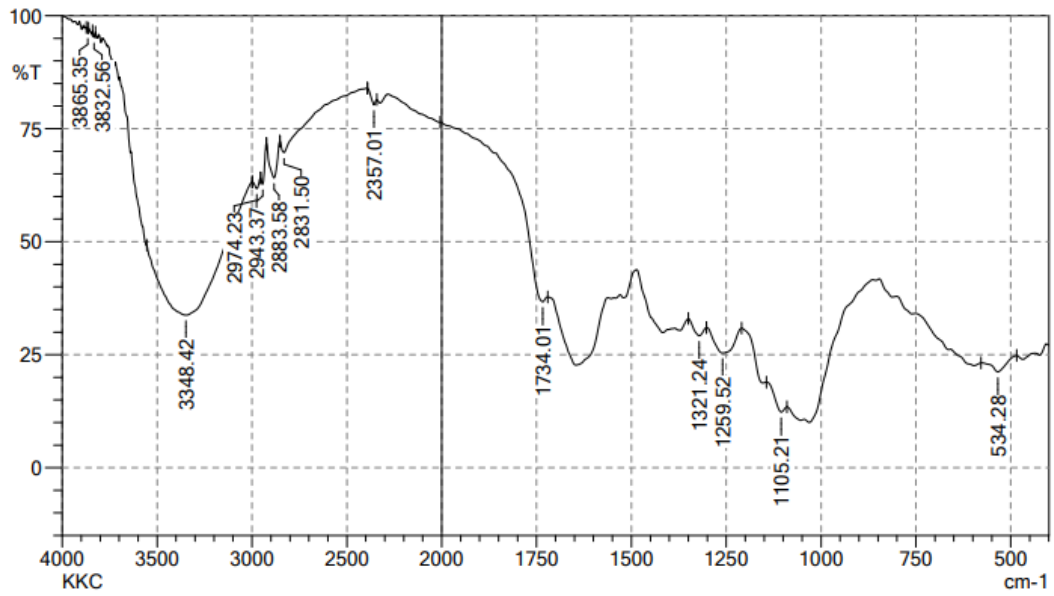


Figure 9.3.1 FTIR Spectrum

Table 9.3.1 FTIR Spectrum values

	Peak	Intensity	Corr. Intensity	Base (H)	Base (L)	Area	Corr. Area	Comment
1	534.28	21.18	2.77	578.64	484.13	7288.480	105.895	
2	1105.21	12.32	2.71	1143.79	1089.78	4588.068	62.502	
3	1259.52	25.38	5.56	1301.95	1209.37	6702.645	308.572	
4	1321.24	29.17	2.64	1350.17	1301.95	3349.059	70.680	
5	1734.01	36.72	2.89	2007.90	1720.50	10126.406	-2194.228	
6	2357.01	80.25	2.01	2391.73	2341.58	910.897	44.750	
7	2831.50	69.72	3.06	2852.72	2391.73	9819.892	-273.103	
8	2883.58	64.11	7.92	2924.09	2852.72	2337.712	338.909	
9	2943.37	62.74	4.22	2954.95	2924.09	1060.972	70.783	
10	2974.23	61.74	1.99	2999.31	2954.95	1654.717	43.289	
11	3348.42	33.75	20.68	3554.81	2999.31	31320.164	7008.441	
12	3832.56	95.21	1.31	3840.27	3824.84	64.143	10.482	
13	3865.35	96.23	1.07	3873.06	3861.49	36.904	5.881	

Results

In Fourier Transform Infra-Red (FTIR) spectra analysis, kottai karanthai chooranam exhibit the peak value at 3865.35, 3832.56, 3348.42, 2974.23, 2943.37, 2883.58, 2831.50, 2357.01, 1734.01, 1321.24, 1259.52, 1105.21, 534.28 having C-Br stretching, C-O stretching, S=O stretching, C=O stretching, O-H stretching, C-H Stretching, N-H stretching.

This indicated the presence of organic functional groups such as halo compound, aliphatic ether, aromatic ester, sulfone, aldehyde, carboxylic acid, alkane, alcohol, secondary amine.

9.4 ANNEXURE – IV

PHARMACOLOGICAL STUDY

Anti-Inflammatory Activity of Kottai Karanthai Chooranam

The anti-inflammatory activities of **Kottai karanthai chooranam** at 100 mg/kg doses & 200 mg/kg were evaluated using carrageenan-induced paw edema method. The inflammation was readily produced in the form of edema with the help of irritant such as carrageenan. Carrageenan is a sulphated polysaccharide obtained from sea weed (Rhodophyceae) and when injected cause the release of prostaglandins by the way it produces inflammation and edema.

REQUIREMENTS

Animal : Albino rat (180-200 g)

Drugs and chemicals : Carrageenan (1%w/v), Diclofenac sodium (standard),

Carboxy methyl cellulose (1%w/v), Plethysmo meter.

Test compounds : Kottai karanthai chooranam

METHOD

Anti-inflammatory activity was performed by the following procedure of Bhandri et al(1) The animals were divided into 4 groups each having six animals. A freshly prepared suspension of carrageenan (1% w/v, 0.1 ml) was injected to the planter region of left hind paw of each rat. One group was kept as control and the animals of the other groups were pretreated with the Kottai karanthai chooranam. The test Compounds dissolved with 2 ml sterile water given through orally 30 min before the carrageenan treatment. The paw volumes of the test compounds, standard and control groups were measured at 60,240,360 minutes of carrageenan treatment with the help of plethysmometer. Mean increase in paw volume was measured and the percentage of inhibition was calculated.

% Anti-inflammatory activity = (Vc-Vt / Vc) x 100

Where, *Vt*-mean increase in paw volume in rats treated with test compounds,

Vc-mean increase in paw volume in control group of rats.

TABLE 9.4.1 Anti-Inflammatory Activity of Kottai Karanthai Chooranam

Treatment	**Dose (mg/kg)**	**Paw volume(ml) as measured by mercury displacement at 6 hour**	**Percentage inhibition of paw edema**
Group I Normal saline	10ml/kg orally	5.70±0.96	-
Group II Std	10mg/kg I.P.Diclofenac sodium	2.20±0.40	61.40%*a
Group III KOTTAI KARANTHAI CHOORANAM	100mg/kg.Orally.	2.56±0.48	55.08%*a
Group IV KOTTAI KARANTHAI CHOORANAM	200mg/kg.Orally.	2.40±0.52	57.89%*a

* Data are expressed as Mean ± S.E.M.

*Data were analyzed by one way ANOVA followed by Newman's keul's multiple range tests, to determine the significance of the difference between the control group and rats treated with the test compounds.

*a Values were significantly different from normal control at P< 0.01.

Results

Anti- inflammatory activity

Kottai karanthai chooranam, at doses 100mg/kg & 200mg/kg were tested for their Anti- inflammatory activity by using carrageenan Induced rat paw edema method and the results are tabulated in table no 1. The results reveals that both extracts of Kottai karanthai chooranam 100mg/kg & 200mg/kg doses possesses significant Anti- inflammatory activity when compared to control group at $p<0.01$.

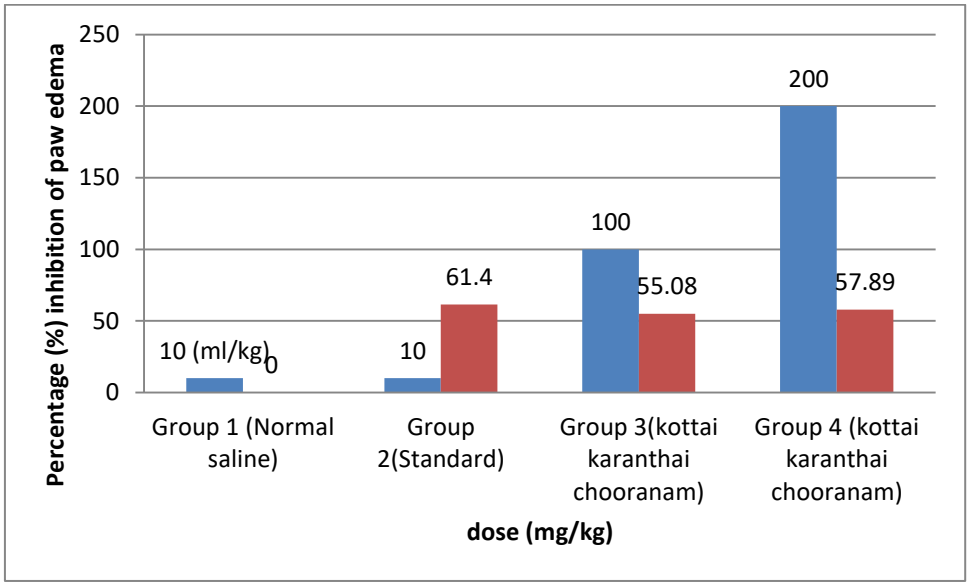


Figure 9.4.1 Anti-Inflammatory Activity of Kottai Karanthai Chooranam

Anti-histamine activity of Kottai karanthai chooranam

Experimental Animals

Wister rats (175-200 g) of either sex housed in standard conditions of temperature (22 ± 2°C), relative humidity (55 ± 5%) and light (12 hrs light/dark cycles) were used. They were fed with standard pellet diet and water *ad libitum*. The experimental protocol was approved by Institutional Animal Ethical Committee as per the guidance of CPCSEA, Histamine and acetylcholine induced bronchospasm in rats of either sex were divided into two groups of six animals each and exposed to 0.1% w/v of histamine dihydrochloride aerosol in histamine chamber. The progressive dyspnea was observed in animals when exposed to histamine aerosol. The end point, preconvulsion dyspnea (PCD) was determined from the time of aerosol exposure to the onset of dyspnoea leading to the appearance of convulsion. As soon as PCD commenced, the animals were removed from chamber and placed in fresh air. PCD of this time was taken as day 0 value. Both groups of rats were given KK *drugs* at the dose of 100 mg/kg, and 200 mg/kg, p.o. respectively, once a day for 7 days. On the 7 day 2 h after the last dose, the time for the onset of PCD was recorded as on day 0. Same procedure was followed in another set of animals (n = 6) for acetylcholine induce bronchospasm study using 0.5% acetylcholine chloride. The percentage increased in time of PCD was calculated using following formula. Percentage increased in time of PCD = $(1\text{-}T_1/T_2) \times 100$

where T = time for PCD onset on day 0, T = time for PCD onset on day 7

Table 9.4.2 Preconvulsive Dyspnea

PRECONVULSIVE DYSPNEA (SEC)						
Treated Group	**HISTAMINE – induced Bronchospasm**			**Acetylcholine - induced Bronchospasm**		
KK	Before treatment (control)	After treatment	% increase	Before treatment (control)	After treatment	% increase
100		282.42 ± 3.11*			202.20 ± 2.06*	

mg/kg, p.o	105.60 ± 2.30		62.60	145.06 ± 1.12		28.25
200 mg/kg, p.o	115.01 ± 1.88	530.01 ± 4.52*	78.30	136.02 ± 0.20	252.02 ± 3.06*	46.06

Mast Cell Degranulation Studies

Histamine -Induced Mast Cell Degranulation in Rats

Procedure

Guinea RAT were divided in four groups, (n=5). The seven days drug treatment schedule was followed.

Group-I received Distilled water (10 ml /kg p.o.)

Group-II was treated with sodium cromoglycate (0.5mg/kg, intraperitonialy).

Groups-III was treated with KK (100mg/kg), p.o

Groups- IV were treated with KK (200 mg/kg, p.o) respectively

On 7th day, 2 hours after the assigned treatment mast cells were collected from the peritoneal cavity (Lakashmana et al, 2001, Lakadawala et al 1980).The RAT were anesthetized with ether and were injected 10 ml of normal saline solution into peritoneal cavity. The abdomen was gently massaged for 90 seconds. The peritoneal cavity was carefully opened and the fluid containing mast cells were aspirated and collected in siliconised test tube containing 7 to 10 ml of RPMI-1640 Medium (pH 7.2- 7.4). The mast cells were then washed three times by centrifugation at low speed (400-500 rpm) and the pallet of mast cells was taken from the medium. Then 1% solution of arachodonic acid was added to the mast cell suspension (approximately 1 x 10 6 /ml) and incubated at 37ºC in a water bath for 10 min. Later they were stained with 1 % Toludine blue (Dye) and observed under high power microscope field (400 X). A total 100 cells were counted from different visual areas and percent protection against - induced mast cell degranulation was calculated

Table 9.4.3 Mast Cell Percentage

MAST CELL PERCENTAGE				
Group	**Treatment**	**Intact**	**Disrupted**	**% Protection**
1	Distilled water (10 ml/kg, p.o)	23.7 ± 0.45	86.3 ± 0.45	-
2	Sodium cromoglycate (0.5mg/kg, i.p)	73.20 ± 6.25**	26.80 ± 6.25**	86.03
3	KK – (100mg/kg, p.o)	49.02 ± 0.23**	50.98 ± 0.23**	50.71
4	KK – (200 mg/kg, p.o)	40.05 ± 50.01**	59.95 ± 50.01**	59.68

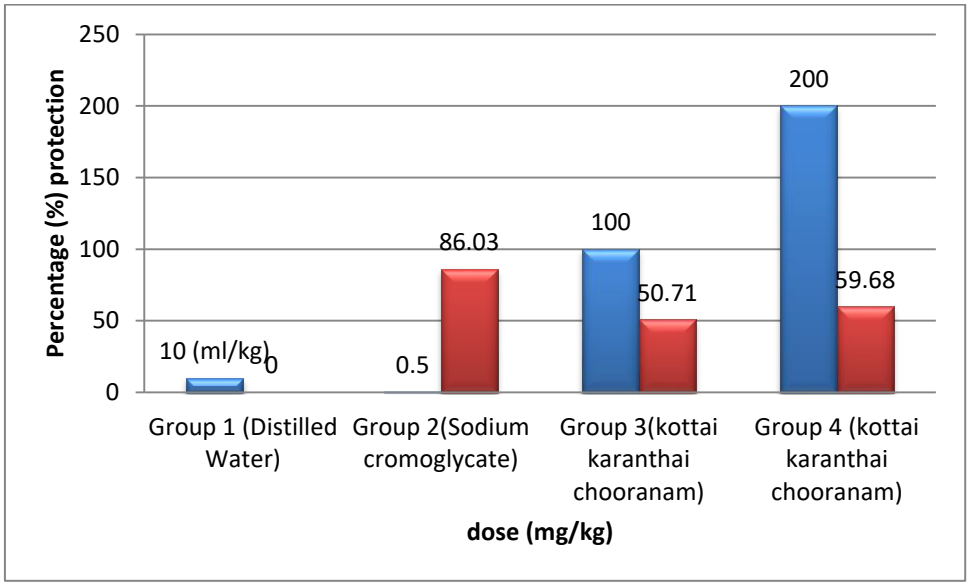


Figure 9.4.2 Mast Cell Percentage

Acute Anti-Inflammatory Study on Semparuthi Poo Ennai

(Externally)

By Hindpaw Method in Albino Rats

Procedure

Anti-inflammatory study of Semparuthi poo ennai was studied in healthy albino rats. Six rats were selected and divided in to three groups. To the first group distilled water was given and kept as control. The second group was given the standard drug diclofenacat a dose of 5 mg/kg body weight. The third group was treat with the test drug extermelly.Before the application of the drug the kind paw volume of all rats was measure .This was done by dipping the kind paw upto the tibio dorsal junction in a mercury plethysmography. Subcutaneous injection of 0.1 ml of 1%w/v carrageenin in water was made in to planter surface of both the kind paw of each rat. Three hours after injection the kind paw volume was measured once again. The difference between the initial and final volume would show the amount of inflammation.

Taking the volume in the control group as 100% of inflammation the inflammatory or anti-inflammatory effect of the test group is calculated, injection of 0.1 ml of 1%w/v of carrageenin in water was made into planter surface of both the hind paw if each rat. Three hours after carrageenin injection, the hind paw volume was measured once again. Difference between the initial and final value were noted and compared.

The method is more suitable for studying anti-inflammatory activity on acute inflammation.

The result of the drug is compared with the standard as well as control group in table 9.4.4.

Table 9.4.4 Study of Acute –Inflammatory By Hind Paw Method

Serial no	Name of drugs/groups	Dose/100 gram body weight	Initial reading average	final reading average	Mean difference	Percentage inflammation	Percentage inhibition	remarks
1	Water	2 ml	0.7	1.4		100		
2	Diclofenac	5 mg/kg	0.9	1.2	0.3	25	75	
3	Semparuthi poo ennai		0.9	1.0	0.1	10	90	

9.5 ANNEXURE - V

ACUTE TOXICITY STUDY

Effect of Acute Toxicity Study (14 Days) of *KOTTAI KARANTHAI CHOORANAM*

Table 9.5.1 Physical and Behavioral Examinations.

Group no.	Dose(mg/kg)	Observation sign	No. of animal affected.
Group-I	5mg/kg	Normal	0 of 3
Group- II	50mg/kg	Normal	0 of 3
Group-III	300mg/kg	Normal	0 of 3
Group-IV	1000mg/kg	Normal	0 of 3
Group-V	2000mg/kg	Normal	0 of 3

Table 9.5.2 Home cage activity

Functional and Behavioural observation	Observation	5mg/kg Group (G-I)	50mg/kg (G-II)	300mg/kg (G-III)	1000mg/kg (G-IV)	2000mg/kg (G-V)
		Female n=3	Female n=3	Female n=3	Female n=3	Female n=3
Body position	Normal	3	3	3	3	3
Respiration	Normal	3	3	3	3	3
Clonic involuntary Movement	Normal	3	3	3	3	3

Tonic involuntary Movement	Normal	3	3	3	3	3
Palpebral closure	Normal	3	3	3	3	3
Approach response	Normal	3	3	3	3	3
Touch response	Normal	3	3	3	3	3
Pinna reflex	Normal	3	3	3	3	3
Tail pinch response	Normal	3	3	3	3	3

Table 9.5.3 Hand held observation

Functional and Behavioral observation	**Observation**	**Control**	**5 mg/kg (G-I)**	**50 mg/kg (G-II)**	**300mg/kg (G-III)**	**1000 mg/kg (G-IV)**	**2000 mg/kg (G-V)**
		Female n=3	**Female n=3**	**Female n=3**	**Female n=3**	**Female n=3**	**Female n=3**
Reactivity	Normal	3	3	3	3	3	3
Handling	Normal	3	3	3	3	3	3

Palpebral closure	Normal	3	3	3	3	3	3
Lacrimation	Normal	3	3	3	3	3	3
Salivation	Normal	3	3	3	3	3	3
Piloerection	Normal	3	3	3	3	3	3
Pupillary reflex	Normal	3	3	3	3	3	3
Abdominal tone	Normal	3	3	3	3	3	3
Limb tone	Normal	3	3	3	3	3	3

Table 9.5.4 Mortality

Group no	Dose no(mg/kg)	Mortality
Group-I	5(mg/kg)	0 of 3
Group-II	50(mg/kg)	0 of 3
Group-III	300(mg/kg)	0 of 3
Group-IV	1000(mg/kg)	0 of 3
Group-V	2000(mg/kg)	0 of 3

Result

From acute toxicity study it was observed that the administration of ***KOTTAI KARANTHAI CHOORANAM*** at a dose of 2000 mg/kg to the rats do not produce drug-related toxicity and mortality. So No-Observed-Adverse-Effect-Level (NOAEL) of ***KOTTAI KARANTHAI CHOORANAM*** is 2000 mg/kg.

Discussion

KOTTAI KARANTHAI CHOORANAM was administered single time at the dose of 5mg/kg, 50mg/kg, 300mg/kg, 1000mg/kg and 2000mg/kg to rats and observed for consecutive 14 days after administration. Doses were selected based on the pilot study and literature review. All animals were observed daily once for any abnormal clinical signs. Weekly body weight and food consumption were recorded. No mortality was observed during the entire period of the study. Data obtained in this study indicated no significance physical and behavioural signs of any toxicity due to administration of ***KOTTAI KARANTHAI CHOORANAM*** at the doses of 5mg/kg, 50mg/kg , 300mg/kg, 1000mg/kg and 2000mg/kg to rats.

At the 14th day, all animals were observed for functional and behavioral examination. In functional and behavioral examination, home cage activity, hand held activity were observed. Home cage activities like Body position, Respiration, Clonic involuntary movement, Tonic involuntary movement, Palpebral closure, Approach response, Touch response, Pinna reflex, Sound responses, Tail pinch response were observed. Handheld activities like Reactivity, Handling, Palpebral closure, Lacrimation, Salivation, Piloercetion, Papillary reflex, abdominal tone, Limb tone were observed. Functional and behavioral examination was normal in all treated groups. Food consumption of all treated animals was found normal as compared to normal group.

Body weight at weekly interval was measured to find out the effect of ***KOTTAI KARANTHAI CHOORANAM*** on the growth rate. Body weight change in drug treated animals was found normal.

Interpretation

KOTTAI KARANTHAI CHOORANAM was administered single time at the dose of 5mg/kg, 50mg/kg, 300mg/kg, 1000mg/kg and 2000mg/kg to rats and observed for consecutive 14 days after administration. Doses were selected based on the pilot study and literature review. All animals were observed daily once for any abnormal clinical signs. Weekly body weight and food consumption were recorded. No mortality was observed during the entire period of the study. Data obtained in this study indicated no significance physical and behavioural signs of any toxicity due to administration of ***KOTTAI KARANTHAI CHOORANAM*** at the doses of 5mg/kg, 50mg/kg , 300mg/kg, 1000mg/kg and 2000mg/kg to rats.

At the 14th day, all animals were observed for functional and behavioral examination. In functional and behavioral examination, home cage activity, hand held activity were observed. Home cage activities like Body position, Respiration, Clonic involuntary movement, Tonic involuntary movement, Palpebral closure, Approach response, Touch response, Pinna reflex, Sound responses, Tail pinch response were observed. Handheld activities like Reactivity, Handling, Palpebral closure, Lacrimation, Salivation, Piloercetion, Papillary reflex, abdominal tone, Limb tone were observed. Functional and behavioral examination was normal in all treated groups. Food consumption of all treated animals was found normal as compared to normal group.

Body weight at weekly interval was measured to find out the effect of ***KOTTAI KARANTHAI CHOORANAM*** on the growth rate. Body weight change in drug treated animals was found normal.

9.6 ANNEXURE – VI

SUB-ACUTE TOXICITY STUDY

Sub-Acute Toxicity Study in Wistar Rats to Evaluate Toxicity Profile of Kottai Karanthai Chooranam

Table 9.6.1 Effect of Sub- Acute Dose (28 Days) of Kottai Karanthai Chooranam on Body Weight in Gram

GROUP	CONTROL	LOW	MID	HIGH
1st day	122.3±1.03	125±1.543	124.3±2.231	126.3±2.23
7th day	132.3±1.03	131.3±1.343	131±2.113	137±2.11
14th day	134.1±1.004	102.3±1.12	102.4±2.012	103.4±2.012
21st day	103.3±2.120	110.2±1.501	104±1.131	105±1.13
28th day	113.3±1.041	112.3±1.202	143±2.0405	146±2.040

Values are expressed as mean ± SEM Statistical significance (p) calculated by one way ANOVA followed by Dennett's (n=6); $^{ns}p>0.05$, *p<0.05, **p<0.01, ***p<0.001, calculated by comparing treated groups with control group.

Table 9.6.2 Effect of Subacute Dose (28 Days) of Kottai Karanthai Chooranam on Organ Weight (Physical Parameter) in Gram

GROUP		CONTROL	LOW	MID	HIGH
HEART		0.43±0.02	0.64±0.04	.41±0.11	0.41±0.02
LIVER		2.31± 0.23	2.33±0.23	2.20±0.01	2.23± 0.23
LUNGS		1.31±0.10	0.31±0.14	0.50±0.24	1.43±0.10
KIDNEY	L	0.43±0.02	1.52±0.03	0.43±0.02	0.41±0.02
	R	0.41±0.024	0.4-±0.02	0.41±0.024	0.42±0.024

Values are expressed as mean ± SEM Statistical significance (p) calculated by one way ANOVA followed by Dennett's (n=6); $^{ns}p>0.05$, *p<0.05, **p<0.01, ***p<0.001, calculated by comparing treated groups with control group.

Table 9.6.3 Effect of Sub- Acute Dose (28 Days) of *Kottai Karanthai Chooranam on* Haematological Parameters

Drug treatment	RBC million cells/mm^3	WBC cells/mm^3	Haemoglobin gm %	Differential count %			
				Neutophils	Eosinophils	Monocyte	Limpocyte
Control	6.21±0.40	4252.41±23.32	14.40±0.45	31.27±1.20	1.53±0.11	0.45±0.15	23.13±3.32
LOW	4.47±0.20	4334.04±23.22	12.20±0.43	25.54±1.41	2.10±0.14	0.52±0.30	23.22±3.51
MID	5.33±0.21	4304.25±32.35	14.11±1.03	30.32±2.22	1.44±0.12	0.62±0.40	23.13±3.32
HIGH	6.26±0.21	4889.25±32.35	13.11±1.03	28.32±2.22	1.50±0.12	0.74±0.40	24.13±3.32

Values are expressed as mean ± SEM Statistical significance (p) calculated by one way ANOVA followed by Dennett's (n=6); $^{ns}p>0.05$, *p<0.05, **p<0.01, ***p<0.001, calculated by comparing treated groups with control group.

Table 9.6.4 Effect of Sub- Acute Dose (28 Days) of *Kottai Karanthai Chooranam* on Biochemical Parameters

Drug Treatment	SGPT (IU/L)	SGOT(IU/L)	ALP(IU/L)	Urea (mg/dl)	Creatinine (mg/dl)
Control	42.14±3.02	42.24±4.31	243.12±11.32	35.35±3.00	0.64±0.03
LOW	42.13±3.22	41.23±4.01	251.11±12.42	40.53±2.42	0.50±0.04
MID	40.21±4.44	44.31±2.21	245.45±4.14	39.12±2.22	0.45±0.04
HIGH	42.21±4.44	40.31±2.21	234.45±4.14	40.12±2.22	0.66±0.04

Table 9.6.5 Effect of Sub- Acute Dose (28 Days) of *Kottai Karanthai Chooranam* Biochemical Parameters

GROUP	CONTROL	KOTTAI KARANTHAI CHOORANAM(200mg/kg)	KOTTAI KARANTHAI CHOORANAM(400mg/kg)	KOTTAI KARANTHAI CHOORANAM (600mg/kg)
TOTAL BILIRUBIN (mg/dl)	0.6±.0.9	0.88±0.7	0.88±0.6	0.74±0.19

Values are expressed as mean ± SEM Statistical significance (p) calculated by one-way ANOVA followed by Dennett's (n=6); $^{ns}p>0.05$, *p<0.05, **p<0.01, ***p<0.001, calculated by comparing treated groups with control group.

Table 9.6.6 Effect of Sub-Acute Dose (28 Days) of *Kottai Karanthai Chooranam* on Food Intake in Gram

GROUP	CONTROL	low	mid	high
1st DAY	18.33±13.5110	19.1672±14.3	12.10±21.71	17.5±7.62
7th DAY	15.5±11.	10.863±12.67	16.73±9.853	11.17±14.41
14th DAY	18.83±8.72	10.83±14.28	10±13.96	19.72±8.981
21st DAY	11.87±12.4	15±8.466	15.88±9.43	19.17±8.02
28th DAY	12.10±11.38	18.38±11.50	10±8.90	10±7. 27

Values are expressed as mean ± SEM Statistical significance (p) calculated by one-way ANOVA followed by Dennett's (n=6); $^{ns}p>0.05$, *p<0.05, **p<0.01, ***p<0.001, calculated by comparing treated groups with control group

Table 9.6.7 Effect of Sub-Acute Dose (28 Days) of Kottai Karanthai Chooranam on Water Intake in ml

GROUP	CONTROL	KOTTAI KARANTHAI CHOORANAM (200mg/kg)	KOTTAI KARANTHAI CHOORANAM (400mg/kg)	KOTTAI KARANTHAI CHOORANAM (600mg/kg)
1st DAY	98.8±13.50	89.72±14.26	102.10±21.7199	67.5±7.3
7th DAY	85.5±11.38	100.863±12.770	76.3±9.36	81.67±14.40
14th DAY	58.83±8.77	90.63±14.22	80±13.92	89.72±8.81
21st DAY	91.87±12.49	85±8.42	65.88±9.450	89.17±8.702
28th DAY	82.10±11.340	88.38±11.504	80±8.961	70±7.573

Values are expressed as mean ± SEM Statisticalsignificance (p) calculated by one-way ANOVA followed by Dennett's(n=6); $^{ns}p>0.05$, *p<0.05, **p<0.01, ***p<0.001, calculated by comparing treated groupswith control group

Table 9.6.8 Effect of Sub Acute Doses (28 Day) of Kottai Karanthai Chooranam on Electrolytes

GROUP	CONTROL	KOTTAI KARANTHAI CHOORANAM	KOTTAI KARANTHAI CHOORANAM	KOTTAI KARANTHAI CHOORANAM

		(200mg/kg)	(400mg/kg)	(600mg/kg)
Sodium (mg/dl)	163.90±0.5	164.0±0.2	161±0.1	171.70±0.60
Calcium(mg/dl)	12.0±0.89	13.0±0.3*	14.7±0.19*	16.0±0.1*
Phosphorus (U/L)	8.8±0.17	8.10±0.15^{ns}	8.0±0.091^{ns}	8.7±0.2*

Values are expressed as mean ± SEM Statistical significance (p) calculated by one-way ANOVA followed by Dennett's (n=6); NS- non-significant, *p<0.05, **p<0.01, ***p<0.001,

Results

Clinical Signs

All animals in this study were free of toxic clinical signs throughout the dosing period of 28 days.

Mortality

All animals in control and in all the treated dose groups survived throughout the dosing period of 28 days.

Body weight

Results of body weight determination of animals from control and different dose groups exhibited comparable body weight gain throughout the dosing period of 28 days.

Food consumption

During dosing and the post-dosing recovery period, the quantity of food consumed by animals from different dose groups was found to be comparable with that by control animals.

Organ Weight

Group Mean Relative Organ Weights (% of body weight) are recorded in Table No.22 Comparison of organ weights of treated animals with respective control animals on day 29 was found to be comparable similarly.

Hematological investigations

The results of hematological investigations conducted on day 29 revealed following significant changes in the values of different parameters investigated when compared with those of respective controls; however, the increase or decrease in the values obtained was within normal biological and laboratory limits or the effect was not dose dependent.

Biochemical Investigations

Results of Biochemical investigations conducted on the day 29th and recorded in Table no 24, 25 revealed the following significant changes in the values of hepatic serum enzymes studied. When compared with those of respective control. However, the increase or decrease in the values obtained was within normal biological and laboratory limits.

Interpretation

1) All the animals from control and all the treated dose groups up to 15ml/kg survived throughout the dosing period of 28 days.

2) No signs of toxicity were observed in animals from different dose groups during the dosing period of 28 days.

3) Animals from all the treated dose groups exhibited comparable body weight gain with that of controls throughout the dosing period of 28 days.

4) Food consumption of control and treated animals was found to be comparable throughout the dosing period of 28 days

5) Haematological analysis conducted at the end of the dosing period on day 29th, revealed no abnormalities attributable to the treatment.

6) Biochemical analysis conducted at the end of the dosing period on day 29^{th}, no abnormalities attributable to the treatment.

7) Organ weight data of animals sacrificed at the end of the dosing period was found to be comparable with that of respective controls.

9.7 ANNEXURE - VII

ANTI-MICROBIAL STUDY

Aim

To study the anti-microbial action of "**kottai karanthai chooranam**" against Staphylo coccus aurenus, pseudomonas aeruginosae.

Medium

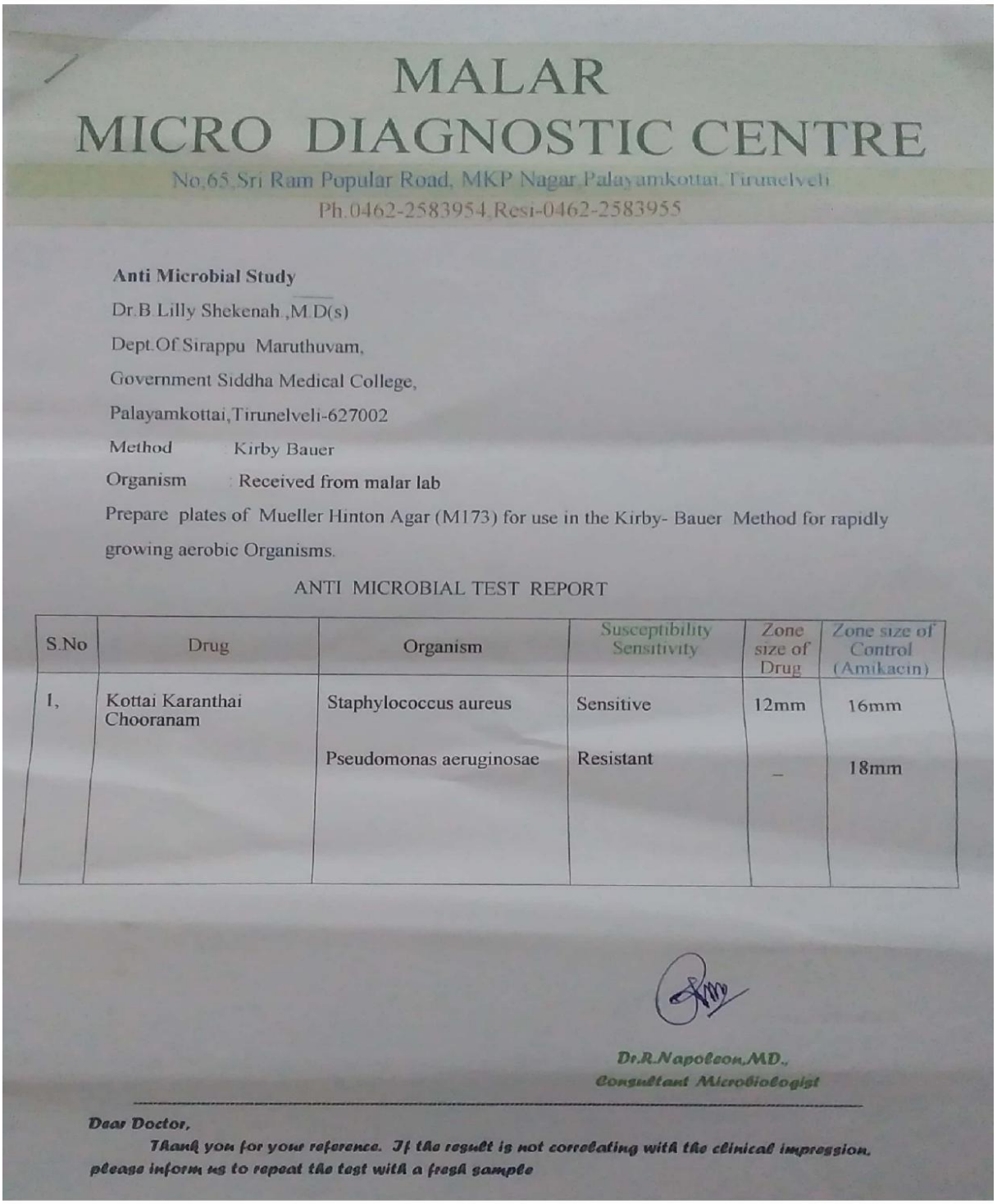
Muller Hinton agar

Components of medium

Beef extract	- 300gms/lit
Agar	- 17gms/lit
Starch	- 1.5gms/lit
Casein Hydrpxylate	- 17.5gms/lit
Distilled water	- 1000ml
PH	- 7.6

Procedure

The media was prepared from the above components and poured and dried on a petridish. The organism was streaked on the medium and the test drug (1gm drug in 250ml of water) was placed on the medium. This is incubated at 37°C for one overnight and observed for the susceptibility shown up clearance around the drug.



MALAR
MICRO DIAGNOSTIC CENTRE

No.65,Sri Ram Popular Road, MKP Nagar,Palayamkottai, Tirunelveli
Ph.0462-2583954,Resi-0462-2583955

Anti Microbial Study

Dr.B.Lilly Shekenah.,M.D(s)
Dept.Of Sirappu Maruthuvam,
Government Siddha Medical College,
Palayamkottai,Tirunelveli-627002

Method : Kirby Bauer

Organism : Received from malar lab

Prepare plates of Mueller Hinton Agar (M173) for use in the Kirby- Bauer Method for rapidly growing aerobic Organisms.

ANTI MICROBIAL TEST REPORT

S.No	Drug	Organism	Susceptibility Sensitivity	Zone size of Drug	Zone size of Control (Amikacin)
1,	Kottai Karanthai Chooranam	Staphylococcus aureus	Sensitive	12mm	16mm
		Pseudomonas aeruginosae	Resistant	–	18mm

Dr.R.Napoleon,MD.,
Consultant Microbiologist

Dear Doctor,

Thank you for your reference. If the result is not correlating with the clinical impression, please inform us to repeat the test with a fresh sample

Figure 9.7.1 Anti-Microbial Test Report

Figure 9.7.2 Anti-microbial Culture dish

9.8 ANNEXURE - VIII

DERMAL TOXICITY STUDY

Evaluation of Acute Toxicity Study of *Dm 3*

Test Method

Preparation of the test item

The test item was applied as such onto the skin of rats. Test item was prepared under dark conditions. Test Procedure A range finding study using a male and a female rat at dose 2000 mg/Kg b.w. was carried out in order to establish the dose levels for the main study. Approximately, 24 hours before the treatment, around 10% dorsal skin area of each rat was clipped free of hair, without any abrasion. The appropriate amount of the test item was applied uniformly over the clipped area of each rat. After the application, the test item was held in contact with the skin for a period of 24 hours, using a porous gauze dressing (Modern Health Care, B. No.: 141, Expiry: October 2017) and bandaged with non-irritating adhesive tape. After 24 hours, the residual test item was wiped gently from the skin using wet cotton, soaked in water. Neck collar was used to prevent the ingestion of the test item from the application site. No mortality was observed for 4 days in the range finding study at 2000 mg/Kg b.w. Based on the results from the range finding experiment, limit test was chosen. In the limit test, 3 male and 3 female rats were exposed to 2000 mg/Kg b.w.

Effect of Acute Toxicity Study (14 Days) of *DM 3*

Table 9.8.1 Mortality

Group no	Dose (mg/kg)	Mortality
Group-I	5(mg/kg)	0 of 3
Group-II	50(mg/kg)	0 of 3
Group-III	300(mg/kg)	0 of 3
Group-IV	1000(mg/kg)	0 of 3
Group-V	2000(mg/kg)	0 of 3

Table 9.8.2 Effect of Sub- Acute Dose (28 Days) of *Dm 3 on* Body Weight in Gram

GROUP	CONTROL	LOW	MID	HIGH
1st day	120.3±1.03	123±1.543	120.3±2.231	120.3±2.23
7th day	131.3±1.03	130.3±1.343	130±2.113	136±2.11
14th day	133.1±1.004	131.3±1.12	131.4±2.02	132.4±2.02
21st day	122.3±2.120	129.2±1.501	123±1.131	124±1.13
28th day	124.3±1.041	116.3±1.202	118±2.05	116±2.040

Table 9.8.3 Effect of Skin Reaction

SKIN REACTION	Observation	Control	5 mg/kg (G-I)	50 mg/kg (G-II)	300mg/kg (G-III)	1000mg/kg (G-IV)	2000mg/kg (G-V)
		Female n=3	Female n=3	Female n=3	Female n=3	Female n=3	Female n=3
ERYTHEA	Normal	-	-	-	-	-	-
EDEMA	Normal	-	-	-	-	-	-
SCALING OF EPIDERMIS	Normal	-	-	-	-	-	-

Discussion

DM 3 was administered single time at the dose of 5mg/kg, 50mg/kg , 300mg/kg, 1000mg/kg and 2000mg/kg to rats and observed for consecutive 14 days after administration. Doses were selected based on the pilot study and literature review. All animals were observed daily once for any abnormal clinical signs. Weekly

body weight and food consumption were recorded. No mortality was observed during the entire period of the study.

Body weight at weekly interval was measured to find out the effect of DM 3 on the growth rate. Body weight change in drug treated animals was found normal.

Interpretation

DM 3 was administered single time at the dose of 5mg/kg, 50mg/kg, 300mg/kg, 1000mg/kg and 2000mg/kg to rats and observed for consecutive 14 days after administration. Doses were selected based on the pilot study and literature review. All animals were observed daily once for any abnormal clinical signs. Weekly body weight recorded. No mortality was observed during the entire period of the study. Data obtained in this study indicated no significance toxicity due to administration of DM 3 at the doses of 5mg/kg, 50mg/kg, 300mg/kg, 1000mg/kg and 2000mg/kg to rats.

Body weight at weekly interval was measured to find out the effect of DM 3on the growth rate. Body weight change in drug treated animals was found normal.

Results

Clinical Signs

All animals in this study were free of toxic clinical signs throughout the dosing period of 28 days.

Mortality

All animals in control and in all the treated dose groups survived throughout the dosing period of 28 days.

Body weight

Results of body weight determination of animals from control and different dose groups exhibited comparable body weight gain throughout the dosing period of 28 days.

Interpretation

1) All the animals from control and all the treated dose groups up to 15ml/kg survived throughout the dosing period of 28 days.

2) No signs of toxicity were observed in animals from different dose groups during the dosing period of 28 days.

3) Animals from all the treated dose groups exhibited comparable body weight gain with that of controls throughout the dosing period of 28 days.

9.9 ANNEXURE - IX

ASSESSMENT FORMS

FORM I	:	Screening of Selection Proforma
FORM II	:	Consent Form (Tamil and English)
FORM III	:	History Proforma on Enrollement
FORM IV	:	Clinical Assessment Form
FORM V	:	Laboratory Investigations Form
FORM VI	:	Drug Compliance Form
FORM VII	:	Adverse Drug Reaction Form
FORM VIII	:	Withdrawal Form

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

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FORM-I

(SCREENING AND SELECTION PROFORMA)

1. OPD/IPD No.:_____2. Date: _____

3. SI. No.: _____4. Name: _____5. Age: _____

6. Gender: _____7. Phone No.:_____

INCLUSION CRITERIA:

Age: 15 -60 years

Sex: Both male and female

- Silvery scaly patches
- Coin shaped lesions_____
- Scaling with (or) without Itching
- Patients who are willing to give specimen of blood for the investigation wherever required.
- Patient willing to sign the informed consent stating that he/she will consciously stick to the treatment but can OPD out of the trial of his/ her own conscious discretion.

EXCLUSION CRITERIA:

- Evidence of any skin condition other than psoriasis

WITHDRAWAL CRITERIA:

- Intolerance to the drug and development of adverse reactions during drug trial.
- Poor patient compliance and defaulters
- Patient turned unwilling to continue in the course of clinical trial
- Occurrence of any serious illness

DATE:

STATION:

Signature of the Investigator

Signature of the Guide/HOD

அரசினர் சித்த மருத்துவக் கல்லூரி மற்றும் மருத்துவமனை

பாளையங்கோட்டை

பட்டமேற்படிப்பு சிறப்பு மருத்துவத்துறை

கொட்டைக் கரந்தை சூரணம் மற்றும் செம்பருத்தி பூ எண்ணெய், யோகா ஆகியவற்றின் பரிகரிப்பு திறனைக் கண்டறியும் மருத்துவ ஆய்வு ஒப்புதல் படிவம் ஆய்வாளரால் சான்றளிக்கப்பட்ட்து.

நான் இந்த ஆய்வைக் குறித்த அனைத்து விபரங்ளையும் நோயாளிக்கு புரியும் வகையில் எடுத்துரைத்தேன் என உறுதியளிக்கிறேன்

தேதி:

இட்ம்:

ஆய்வாளர் கையொப்பம் துறைத்தலைவர் கையொப்பம்

பெயர் பெயர்

நோயாளியின் ஒப்புதல்

என்னிடம் இந்த மருத்துவ ஆய்வின் காரணத்தையும் மருந்தின் தன்மை மற்றும் மருத்துவ வழிமுறையைப் பற்றியும் தொடர்ந்து எனது உடல் இயக்கத்தை கண்காணிக்கவும், அதனைப் பாதுகாக்கவும் பயன்படும் மருத்துவ ஆய்வுக்கூட

பரிசோதனைகள் பற்றியும் திருப்தி அளிக்கும் வகையில் ஆய்வு மருத்துவரால் விளக்கிக் கூறப்பட்டது.

நான் இந்த மருத்துவ ஆய்வின் போது காரணம் எதுவும் கூறாமல் எப்பொழுது வேண்டுமானாலும் இந்த ஆய்விலிருந்து என்னை விடுவித்துக் கொள்ளும் உரிமையை தெரிந்திருக்கின்றேன்.

நான் என்னுடைய சுதந்திரமாகத் தேர்வு செய்யும் உரிமையைக் கொண்டு காளாஞ்சகப்படை என்னும் நோய்க்கான கொட்டைக் கரந்தை சூரணம் மற்றும் செம்பருத்தி பூ எண்ணெய், யோகா ஆகியவற்றின் பரிகரிப்பு திறனைக் கண்டறியும் மருத்துவ ஆய்விற்க்கு என்னை உட்படுத்திக் கொள்ள ஒப்புதல் அளிக்கிறேன்.

தேதி: கையொப்பம்

இட்ம்: பெயர்

சாட்சிக்காரர் கையொப்பம்

பெயர்

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FORM-II

CONSENT FORM

Certificate by Investigator

I certify that I have disclosed all details about the study in the terms readily understood by the Patient.

Date: ……..

Signature of the Investigator Signature of the Guide/HOD

Name: …….. Name: ……

Consent by Patient

I have been informed to my satisfaction, by the attending physician, the purpose of the clinical trial, and the nature of drug treatment and follow-up including the laboratory investigations to be performed to monitor and safeguard my body functions.

I am aware of my right to withdraw from the trial at any time during the course of the trial without having to give the reasons for doing so.

I, exercising my free power of choice, hereby give my consent to be included as a clinical trial of *KOTTAIKARANTHAI CHOORANAM [INTERNAL], SEMPARUTHI POO ENNAI [EXTERNAL] AND YOGA THERAPY FOR THE TREATMENT OF KALANJAGAPADAI [PSORIASIS]*.

Date:…….. Name: …… Signature: ……

Date:……..Name:……Signature of Witness: …….

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FORM III

HISTORY PROFORMA ON ENROLLMENT

1. Serial No of the case: _____ 2. OPD/IPD No:_____

3.Name: _____ 4. Gender: ☐

5. Age (years): _____ DOB ☐☐ ☐☐ ☐☐☐☐

Date Month Year

---

6. Address: -

---

7. A. Occupation: ---------- B. Income ----------

8. Educational Status: A) Illiterate ☐ B)Literate ☐

9. Height: ---------- cms 10.Weight:---------- kg

11. Complaints and Duration:

12. Past History

Hypertension _____

Diabetes mellitus _____

Asthma _____

PT _____

Other _____

13. HABITS

A) Smoking: 1. Yes ☐ duration _____ years; Number - _____ 2. No ☐

B) Alcoholism: 1. Yes ☐ duration _____ years; Quantity- ____ ml 2. No ☐

C) Tobacco chewing: 1. Yes ☐ duration _____ years 2.No ☐

D) Betel chewing : 1. Yes ☐ duration _____ years 2.No ☐

14. Dietary style: A. Pure vegetarian ☐ B.Non-vegetarian ☐ C. Mixed diet ☐

15. Drug history: Had the patient been treated before with allopathy drug?

A) Yes ☐ 2) No ☐

16 Marital status : 1.Married ☐ 2.Unmarried ☐

17. Family history :

Whether this problem runs in family? 1. Yes ☐ 2.No ☐

(If yes, mention the relationship)

18. Bowel habits & micturition:Normal ☐ Abnormal ☐

(Details of an abnormality)

19. Psychological state:Normal ☐ Anxiety ☐ Depression ☐

Signature of the Investigator **Signature of the Guide/HOD**

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FORM IV

CLINICAL ASSESSMENT ON ENROLLMENT AND ON VISITS

1. S.No: _____ 2. OPD/IPD No : _____

3. Name: _____ 4. Gender: _____

5. Date of assessment: _____

SIDDHA SYSTEM OF EXAMINATION

1.NILAM: [LAND WHERE PATIENT LIVED MOST]

Kurinji ☐ Mullai ☐ Marutham ☐ Neithal ☐ Palai ☐

(Hilly terrain) (Forest range) (Plains) (Coastal belt) (Arid regions)

2. KAALAM:

Kaarkalam - Pinpanikalam -_____

Koothirkalam - Ilavenil - _____ -

Munpanikalam _____ Muthuvenil _____

3. THEGI:

4. GUNAM:

Sathuvam-___ Rasatham -_____ Thamasam -_____

5.IMPORIGAL (SENSORY ORGANS) :

Mei (Skin):

Vai (Buccal Cavity):

Kan(Eyes) :

Mooku(Nose):

Sevi(Ears) :

6.KANMENDRIYAM (MOTOR ORGANS) :

Kai (Upper limb):

Kaal(Lower limb):

Vai(Buccal Cavity):

Eruvai(Excretory organs):

Karuvai(Reproductive organs):

7.UYIR THATHUKKAL:

A)VATHAM:

Pranan:

Abanan:

Viyanan:

Udhanan:

Samanan:

Nagan:

Koorman:

Kirukaran:

Devathathan:

Dhananjeyan:

B)PITHAM:

Analpitham:

Ranjagam:

Sathagam:

Prasagam:

Aalosagam:

C)KABAM:

Avalambagam:

Kilaethagam:

Pothagam:

Tharpagam:

Santhigam:

8.UDAL THATHUKKAL:

Saaram[Chyme]:

Senneer[Blood]:

Oon[Muscle]:

Kozhuppu[Fat]:

Enbu[Bone]:

Moolai[Bone Marrow]:

Sukkilam/Suronitham

[Genital Discharges] :

9.ENVAGAI THERVUGAL:

Naadi:

Sparisam:

Naa:

Niram:

Mozhi:

Vizhi:

Malam:

Moothiram:

10.NEER KURI:

Niram:

Manam:

Nurai:

Edai:

Enjal:

11.NEI KURI:

GENERAL EXAMINATION:

Conscious level:

Body weight:

Height:

BMI:

Built:

Nourishment:

Temperature:

Blood Pressure:

Pulse rate:

Heart rate:

Respiratory rate:

Anaemia:

Jaundice:

Clubbing:

Cyanosis:

Pedal oedema:

Significant Lymphadenopathy:

SYSTEMIC EXAMINATIONS:

Central Nervous System:

Cardio Vascular System:

Respiratory System:

Gastro Intestinal System:

Genito Urinary System:

CLINICAL EXAMINATION OF SKIN:

RIGHT LEFT

Site

COLOUR

SHAPE

Irregular Coin shaped dispensed

SCALING

Mild moderate severe

ITCHING

No Mild moderate severe

ERYTHEMA

Absent present

BLEEDING

Absent present

CRUSTING

Absent present

LICHENIFICATION

Absent present

OOZING

No Mild moderate severe

AUSPITZ SIGN

Absent present

KOEBNER'S PHENOMENON

Absent present

CANDLE GREASE REGION

Absent present

ULCERATION

MACULE/PAPULE/PUSTULE/BLISTER/VESICLE

PIGMENTATION

Absent /hype /hyper

EXAMINATION OF NAIL

PITTING

Absent present

THICKENING

Absent present

COLLECTION OF HYPERKERATOTIC DEBRIS

Absent present

EXAMINATION OF JOINTS

Joint involvement: yes no

If yes ……..

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AN OPEN CLINICAL STUDY TO EVALUATE THE THERAPEUTIC EFFICACY OF SIDDHA MONOHERBAL MEDICINE KOTTAIKARANTHAI CHOORANAM [INTERNAL], SEMPARUTHI POO ENNAI [EXTERNAL] AND YOGA THERAPY FOR THE TREATMENT OF KALANJAGAPADAI [PSORIASIS]

FORM V

LABORATORY INVESTIGATION FORM

SI. No:

OPD/IPD No:

Name:

Age/Sex:

I.BLOOD

		Before Treatment	**After Treatment**
1	TC (cells/mm)		
2	DC (%)		
	a)Neutrophils		
	b)Lymphocytes		

	c)Monocytes		
	d)Eosinophils		
3	ESR(mm)		
	a)1/2 hour		
	b)1 hour		
4	Haemoglobin		
5	Blood glucose		
6	Blood urea/ creatinine		
7	Serum cholesterol		

II. URINE

		Before Treatment	**After Treatment**
1	Albumin		
2	Sugar		

3	Epithelial cells		
4	Pus cells		
5	Red blood cells		
6	Casts/Crystals		

Date

Station

Signature of the Investigator Signature of the Guide/HOD

GOVERNMENT SIDDHA MEDICAL COLLEGE & HOSPITAL

PALAYAMKOTTAI, TIRUNELVELI DISTRICT

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FORM VI

DRUG COMPLIANCE FORM

OPD/ IPD No: _____ DOA : _____

Name: _____

Age/Sex: _____ Sl. No: _____

Name of the Drug : **KOTTAIKARANTHAI CHOORANAM**

DATE:

SIGNATURE OF THE INVESTIGATOR **SIGNATURE OF THE GUIDE/HOD**

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FORM VII

ADVERSE DRUG REACTION FORM

Name: _____OPD/ IPD No: _____

Age: _____ Gender: _____

Date of trial commencement: _____

Date of withdrawal from trial: _____

Description of adverse reaction: _____

_____

___

Date:

Station:

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FORM VIII

WITHDRAWAL FORM

Name: _____ OPD/ IPD Number: _____

Age : _____ Gender : _____

Date of trial commencement: _____

Date of withdrawal from trial: _____

Reasons for withdrawal:	YES	NO
Long absence in without reporting		
Irregular treatment		
Shift of locality		
Increase in severity of symptoms		
Development of severe adverse drug reactions		

Date:

Station:

SIGNATURE OF THE INVESTIGATOR SIGNATURE OF THE GUIDE/HOD

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