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INTRODUCTION

India is a land of treasures. The nation is a paradise for its unique art, culture, civilization and indigenous medicine. Even in India, the southern peninsula is believed to be the Cradle of the human race where Tamil culture popularly called Dravidian culture flourished.

Siddha System of medicine is a traditional one, with prestigious background of Tamil culture. It’s perhaps the earliest medical science that laid stress on positive health, a harmonious blending of physical, mental, social, moral, and spiritual welfare of an individual.

Birth without any deformity and life without disease is a boon to human kind. It reminds the proverb “sound mind in a sound body”. There are two classes of disease, physical and mental. Siddha system guides the way to mukthi through physical and mental well being.

The word siddha is derived from siddhi, which means perfection of great supernatural power. The siddhars were the saints who have controlled the inner aspect of mind.

The siddha system of medicine is one of the ancient system of medicine. The siddha system has been purely associated with spiritual science, philosophy and astrology etc.

Siddha system of medicine is based upon the Panchapoothas [Five elements] and mukkuttram [Thridosha] theory.

According to siddha science, the universe and the body are composed of Panchapoothas namely, Nilam [Earth], Neer [water], Thee[Fire], Vayu [Air], and Agayam [Ether]
“Tholkappiar” explained this as follows;

"முத்த மூன்று வாசகா விளம்புவாட்டுகளைச் செய்து மீண்டும் சுருக்குவாமல்
வெளிப்படையிட்டு"

The elements Vayu, Thee and Neer are primarily responsible for the formation of three humors, that is Muthatha. [Vali, Azhal and Iyam.] These are the three fundamental functional constituents of the human body and they have 1:1/2:1/4 in ratio

"முத்தாதா மருதியமார்டு"  
செய்யிப்பாக விளாம்புவாட்டு  
நன்றாகச் செய்யும் அர்த்த"

But, when this equilibrium is upset or deranged these are known as “Mukkuttram” which thereafter leads to disease.

For proper understanding of these humours in equilibrium, a reasonable knowledge about the physiology of the body is imperative. Siddha physiology involves the ‘96’ basic thathuvas of the body apart from Seven udalkattukkal, Fourteen vegams [reflexal functions], Six suvaigkal [tastes], Three malangal [excretory products], Four udal thees (Fire of the body) and some features.

The great siddhar “Theraiyar” in his famous venba described the prerequisites of the best physician as follows:-

"சிறப்புகளைச் செய்யமாற்றி சிறப்புகளின் சிறப்பமை  
சிறப்புகளைச் செய்து சிறப்பின் காலை  - காலைதலை  
சிறப்புக்களைச் செய்து சிறப்பின் காலைதலை  
சிறப்பு எழை குழப்பந்து கர்"

- பாகம் நூற்று: 636
The meaning of the above poem is that identification of the disease, and the primary causes along with knowing the factors that help the spreading of the disease and the ways of protecting the patient, without undergoing much difficulty are essential to become a great physician.

In Yugi vaidhya Chinthamani, yugi described 42 types of pitha diseases, “kirumi pitham” is one of the entity of the pitha diseases.

In this topic kirumi pitham, the author had made a thorough study which gives a detailed idea about the causes, diagnostic methods and nature of the disease.
SIDDHA PHYSIOLOGY

The science of the functions of living organisms and its components and the physical and chemical factors and processes involved is known as physiology.

The siddha physiology involves the:

- **Thathuvos** - 96 basic elements
- **Udal kattukkal** - 7 somatic compounds
- **Vegams** - 14 reflexial functions
- **Suvaigal** - 6 tastes
- **Udarthee** - 4 body fire
- **Udal vanmai** - 3 immunities

I. 96 BASIC FACTORS

1. Five basic elements - Boothams
2. Five sense organs - Gnanaentrium
3. Functions of five sense organs - Pulankal
4. Five motor organs - Kanmaentrium
5. Five motor organs of action - Kanmavidayam
6. Four intellectual faculties - Anthakaranam
7. One wisdom - Arivu
8. Ten nerves - Thasa naadigal
9. Three Humours - Uyir thathukkal
10. Five Visceral cavities - Aasayam
11. Five major system - Kosam
12. Six vital centers - Aatharam
13. Three principles of moral evil - Malam
14. Three regions - Mandalam
15. Three physical bindings - Edanai
16. Two deeds - Vinai
17. Three cosmic qualities - Gunam
18. Eight predominant passions - Raagam
19. Five status of the soul - Avathaigal

PANCHA POOTHM – FIVE BASIC ELEMENTS

The fundamental principles of siddha science involve the five basic elements namely.

1. Mann - Earth
2. Neer - Water
3. Thee - Fire
4. Vayu - Air
5. Aagayam - Ether

As per the siddha concepts, not only the universe also the human body is formed of the same above mentioned five poothas.
Characters of pancha pootham

1. Mann – Earth

All the organic living bodies and non organic substances are created by earth. Bones, muscles and tissues represent earth in body.

2. Neer – Water

It combines all the things serum, lymph, saliva etc., represent water in the body.

3. Thee – Fire

It gives colour and brightness to the thing. Digestion and circulation represent fire in the body.

4. Vayu – Air

All the spaces are filled by this pootham. Respiration and nervous system represent air in the body.

5. Aagayam – Ether

It lodges the other four poothams.

GNANENTHIRIYAM / PORI – FIVE SENSE ORGANS

1. Ear - It stands as space
2. Skin - It stands as air
3. Eye - It stands as fire
4. Tongue - It stands as water
5. Nose - It stands as earth
PULAN - FUNCTIONS OF THE FIVE SENSE ORGANS;

1. Hearing
2. Touch
3. Vision
4. Taste
5. Smell

KANMENTHIRIYAM – FIVER MOTOR ORGANS OF ACTION

Table 1

<table>
<thead>
<tr>
<th>S.No</th>
<th>Kanmenthiriyam</th>
<th>Responsible functions</th>
<th>Related poothum</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kai- upper limb</td>
<td>All manu cures</td>
<td>Vayu</td>
</tr>
<tr>
<td>2.</td>
<td>Kaal – lower limb</td>
<td>Walking</td>
<td>Thee</td>
</tr>
<tr>
<td>3.</td>
<td>Vaai – mouth</td>
<td>Speaking</td>
<td>Aagayam</td>
</tr>
<tr>
<td>4.</td>
<td>Eruvai –anal orifice</td>
<td>Defecation</td>
<td>Neer</td>
</tr>
<tr>
<td>5.</td>
<td>Karuvai – Reproductive orifice</td>
<td>Reproduction</td>
<td>Mann</td>
</tr>
</tbody>
</table>

ANTHAKARANAM – 4 INTELLECTUAL FACULTIES

1. Manam  -  The mind (or) the thinking faculty
2. puththi -  Knowledge, the power of discrimination
3. Siddham -  The deciding faculty
4. Agangarm -  Achievement faculty

ARIVU – 1

To analysis nalvinai, Theevinai (தெற்றிகள், தேவிகள் பட்டுரைப்பொருள்)
THASA NAADIKAL – 10 NERVES

These are subdivided into 10 kinds. These are.

1. Idakalai - From right big toe runs opposite side to the left nostril.
2. Pinkalai - From left big toe runs opposite side to the right nostril.
3. Sulumunai - It is situated between the idakalai and pinkalai.
4. Purudan - It acts on the nerve of the right eye.
5. Kanthari - It acts on the nerve of left eye.
6. Aththi - It controls the nerve of right ear.
7. Alambudai - It controls the nerve of left ear.
8. Sikuvai - It acts on the nerve of tongue.
9. Sanguni - It controls the nerve of Reproductive organs.
10. Gugu – It controls the nerve of rectum.

UYIR THAATHUKKAL – THREE HUMOURS

The physiological functions of the body are mediated by these three humours, which are made up of the five elements. These three functional factors maintain the integrity of the human body. According to different functions and sits each element is divided as follows.

1. Vali - 10 types
2. Azhal - 5 types
3. Iyam - 5 types
VALI

Location:
Abanan, faeces. Idakalai, pelvic bone, Spermatic cord, skin, nerves, joints, hairs and muscles.

Functions:
Pain in the whole body, twitching, pricking pain, inflammation, reddish complexion, roughness of skin, hardness of limbs, astringent sense of taste in the mouth, constipation, oliguria, blackish discoloration of skin, stool, urine and muddy conjunctive.

Types of Vali:
Based on functions and locations it is classified into 10 types.

1. Uyirkkal – Piraanan:
Piranan means the forward (or) primary air force. It is mainly responsible for respiration and it is necessary for proper digestion and utilization of the food material.

2. Keelnokkukaal – Abaan:
It expels faecal matter and urine. It constricts the anal sphincter. It also helps to spread the nutrients of digested food all over the body. Expulsion of sperm and menstrual flow is also under the control of abanan. Its derangement leads to disease of the bladder, rectum and reproductive system.

3. Paravukkaal – Viyaanan:
Viyanan means the diffusive air. It is responsible for the nutrition and movement of all movable and immovable parts of the body. It causes the feeling of sensation. It carrier the ingested food extracts to the various parts of the body.
4. Melnokkukaal – Udhaanan:

Responsible for all kinds of upward motion such as nausea, vomiting and eructation.

5. Nadukkaal – Samaanan:

Samaanan means the equalizing air. It is considered essential for proper digestion, assimilation and carries digested nutrients to each and every organ. It is derangement will cause gastro intestinal, respiratory and neurological problems.

6. Vanthikaal – Naagan:

Responsible for higher intellectual functions. Causes opening and closing of eyes.

7. Vizhikkal – Koorman:

Responsible for vision, lacrimation and yawning.

8. Thummikkaal – Kirugaran:

It is situated in the tongue, salivary and nasal secretions. Induce appetite, salivation, sneezing, concentration of mind and responsible for taste sense.

9. Kottavikkal – Devathathan:

It causes laziness, ocular movements and anger.

10. Veengukkaal – Dhananjeyan:

Resides in the cranial and produces bloating of the body after death.
AZHAL

Location:

Pirana vayu, bladder, moolagni, Heart, umbilical region, abdomen, sweating, saliva, blood, eyes and skin.

Characters:

It governs digestion, heat, visual perception, hunger, thirst, luster, complexion, understanding, intelligence, courage, softness of the body.

Types of Azhal

Azhal is the thermal life force of the body. It is subdivide into five types. They are.

1. Aakkanal - Analapitham:

   It is responsible to the digestion of food.

2. Vannayeri - Ranjaka Pitham:

   It is responsible for the colour and contents of the blood. It is also responsible for the formation of tissues.

3. Nokku Azhal - Aalosaka Pitham:

   It is responsible for the perception of vision.

4. Aatralangi - Saathaga Pitham:

   It controls the whole body and is responsible for fulfilling a purpose.

5. Olloliththe - Praasaka pitham:

   It dwells in the skin and is concerned with the shine, glow, texture and its complexion.
IYAM

Location:

Samanan, suzhumunai, vinthu, head, fat, bone marrow, blood, Nose, Colon, Joints, Chest and tongue.

Characters:

In normal conditions it governs stability, lubrication, holding the joints in position, ability to cope with hunger, thirst, worry, heat etc.,

Types of Iyam:

1. Ali Iyam - Avalambagam:
   It is situated in the lungs. It controls the heart and other four forms of Iyam.

2. Neeppi Iyam - Kiledhagam:
   Present in the stomach. It makes the food wet and helps in digestion.

3. Suvaikaan Iyam - Pothogam
   It is situated in the tongue. It helps in perception of taste.

4. Niraivu Iyam - Tharpagam :
   It lies in head and is responsible for the cooling ness of the eye.

5. Ondri Iyam - Santhigam:
   It is located in the joints and it is responsible for the free movement of the joints.
AASAYAM – FIVE VISCERAL CAVITIES

It is subdivided into five types. They are

1. Amarvasayam – stomach:
   It lodges the ingested food.

2. Pahirvasayam – liver and small intestine
   Separation and absorption of saaram from the digested food are done by this aasayam

3. salavaasayam – bladder
   Responsible for the formation and excretion of urine.

4. Malavaasayam – large intestine and rectum
   Responsible for the expulsion of undigested food parts and flatus.

5. sukkilavaasayam – Testes (or) ovary
   Place for the formation and growth of the sperm and ovum.

KOSAM – FIVE MAJOR SYSTEMS

1. Annamayakosam – digestive system
   Responsible for the digestion, separation of saaram (digestive juice) and sakkai (waste products). It nourishes all the tissues of the body.

2. Piranamayakosam – Respiratory system
   Combination of piranan and kanmendhiryam.

3. Manomayakosam – Cardio vascular system
   Combination of manam and Gnanendhiryam.
4. Vingnaanamayakosam – Nervous system
   Combination of puthi and Gnanendhiriyan

5. Anandhamaya kosam:
   Combination of piranan and suluthi.

AATHARAM – SIX VITAL CENTRES:

1. Moolatharam - perineal region
2. Swathittanum - umbilical region
3. manipooragam - epigastric region
4. Anaagatham - cardiac region
5. Visuthi - neck region
6. Aognai - glabellar region

MALAM -3 PRINCIPLE OF MORAL EVIL:

1. Aanavam - Stage of selfishness
2. kanman - Fruits of deed
3. maayai - Stage of illusion

MANDALAM -3 REGIONS:

1. Gnayirumandalam
   It is located in the cardiac region and 4 inches above the stomach.

2. Thingalmandalam:
   It is located in the head.

3. Agnimandalam:
   Situated ‘2’ inches above the moolatharam and spreads up to umbilical regions.
EDANAI – THREE PHYSICAL BINDINGS

Porul patru - Material bindings
Puthalvar patru - Off spring bindings
Uлага patru - Worldly bindings.

VINAI – TWO DEEDS:

1. Nalvinai - Good deed
2. Thevinai - Bad deed

GUNAM – THREE COSMIC QUALITIES

1. Sathuva gunam
   Godliness in all things

2. Raso gunam
   Manifestation of passion, pride, courage, zeal, jealousy, knowledge etc.,

3. Thamo gunam
   Badness in all aspect i.e. opposite to suthuva gunam

RAAGAM - EIGHT PREDOMINANT PASSIONS:

1. Kaamam - Desire
2. Krotham - Hatred
3. Lopam - Stingy
4. Moham - Lust
5. Matham - Pride
6. Maarchariyam - Internal conflict
7. Idumbai - Mockery
8. Agangaram - Ego
AVASTHAI - FIVE STATUS OF THE SOUL

1. Nanavu   -  Wakefulness
2. Kanavu   -  Dream
3. Urakkam    -  Sleep
4. Paerurakkam   -  Stage of stupor
5. Uyirpadakkam  -  Stage of Samadhi

UDAL KATTUGAL – 7 CONSTITUENT ELEMENTS OF THE BODY

It maintains the functions of different organs, systems and vital parts of the body. They play very important role in the development and nourishment of the body. They are,

1. Saram - Chyle

   It contains nutrients from digested food and nourishes all the tissues, organs and systems. It enriches the blood.

2. Chenneer - Blood

   It governs oxygenation in all tissues in vital organs. It is responsible for the nourishment, strength, vigor and colour of the body.

3. Oon – Muscle

   It gives look able contour to the body as needed for the physical activity. It performs the movements of the joints and maintains the physical strength of the body.

4. Kozuppu - Fat

   Maintains the lubrication of all tissues and give energy to the body.
5. Enbu – Bone

Support and protect the organs and is a fundamental requirement for posture, movement of the body.

6. Moolai – Bone marrow, Brain

Bone marrow nourishes the boney tissues.

Brain is the central nerves system of the body.

7. Sukkilam (or) Suronitham – Sperm (or) Ovum

Responsible for reproduction.

14 VEGAMS – REFLEXIAL FUNCTIONS:

Reflexes are essential for the normal functions of human body, they are.

1. Abana Vayu - Downward force
2. Thummal - Sneezing
3. Siruneer - Micturation
4. Malam - Defaecation
5. Kottavi - Yawning
6. Pasi - Hunger
7. Neervetkai - Thirst
8. Erumal - Coughing
9. Elaippu - Exhaustiveness
10. Thookkam - Sleep
11. Vanthi - Vomiting
12. Kaneer - Lacrimation
13. Sukkilam - Genital Secretions
14. Suvasam - Breathing
SUVAIKAL – SIX TASTES

Suvai is the peculiar sensation caused by the contact of soluble substances with the tongue. Combination of two poothas constitutes a suvai.

1. Sweet - Mann + Neer
2. Sour - Mann + Thee
3. Salt - Neer + Thee
4. Bitter - Vayu + Aagayam
5. Pungent - Vayu + Thee
6. Astringent - Mann + Vayu

UDAL AGANI – 4 BODY FIRES

The Agni –Azhal which is responsible for digestion, mediated through the samanavayu called as Udal Agni. It is classified into 4 types.

1. Samaagni
2. Vishamaagni
3. Deesagni
4. Mandhakini

UDAL VANMAI – THREE TYPES OF IMMUNITY

1. Iyarkaivanmai – Innate immunity
   The natural immunity against diseases of the body at birth.

2. Seyarkai Vanmai – Acquired immunity
   Improving health by nutritious food activities and medicines.

3. Kalavanmai – Sesonal immunity
   Developing the immunity and stamina according to the age of the person, season and environment.
SIDDHA PATHOLOGY:

Pathology is a scientific study of changes in structure and functions of the body in a diseased condition.

Basis of siddha pathology:

According to siddha pathology, the human body is made of panchaboothams. This five basic elements exists in human body as uyir thathukkal. It is of 3 types namely Vali, Azhal and Iyam. These 3 essential humours are formed by the combination of

Idakalai + Abanan – Vali
Pinkalai + Piranam – Azhal
Suzhumunai + samanan –Iyam

This uyirthathukkal is functioning as

- Creation
- Protection
- Destruction

Uyirthathukkal are responsible for udalthathukkal. These basic structures of the body system are interlinked with one another. Any alterations in this basic form results in disease

Noi – disease

Synonyms

Pini, varutham, Thunbam, Accham, Vinai, Urogam, sugavenam, Viyathi, Asowkiyam, thathuthoda Verupudu.
According to siddh aspect Noi (disease) is defined as

Various factors are responsible for occurrence of disease such as changes in dietic factors, physical activities, and environmental factors.

This is quoted in the following schematic form.

Diet (Suvaigal)  - சுவாய்கள்
Immoral activities  - பங்கும்போக்கள்
Environmental factors  - வாழ்பாடு போர்க்கள்

Changes in Five basic elements  - பதிக்கும் புத்தகம்
Changes in Three humours  - நூற்றாண் வாச்சுக்கள்

Changes in Seven physical constituents  - மூன்று நான்குகள்

Disease  - குற்றம் விளைவு

The changes in the any of the above basic structures forms the pathology of the disease
Man is thus linked with external world and any change in the elementary condition of the external world its corresponding changes in the human beings.

I. Variations in the intake of diet:

Any material that provides the nutritive requirements of an organism to maintain growth and physical well – being is called as food.

Food comprises six suvaikal in appropriate proportion. Suvaikkal are formed by the combination of panchapootham, which are responsible for the uyirthathu and seven udalkattukkal.

In ‘THIRUKKURAL” the following quotations are given regarding food and food habits.

"நோயினா உரியவும் வசாத்தும் பாதாத்தாரா காணை பத்தாயார் குரை கீற்றா

Quantity, Quality and Combination

Individual basic constitution

Nutrients should be Balanced with respect to

Any particular prevailing condition

Geographical location

Time (age, season’s time of day)
An alteration in the normal, regular diet will produce changes in the proportion of the suvaikkal resulting in diseases.

Aruusuvai – Uyirthathu – Udulthathu – Noi

Excessive intake of a particular suvai may produce hyper actives and develops some clinical manifestations. They are given below.

**Table 2:**

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Tastes</th>
<th>Diseases due to high intake</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Enippu</td>
<td>Produces obesity, excessive fat, increased mucous secretion, indigestion, diabetes, cervical adenitis, increased kabam and its diseases</td>
</tr>
<tr>
<td>2.</td>
<td>Pulippu</td>
<td>Produces nervous weakness, dull vision, giddiness, anemia, dropsy, dryness of tongue, acne, blisters etc.</td>
</tr>
<tr>
<td>3.</td>
<td>Uppu</td>
<td>Ageing, hair loss, leprosy, dryness of tongue, aged look, debility</td>
</tr>
<tr>
<td>4.</td>
<td>Kaippu</td>
<td>Increased dryness of tongue, defected Spermatogenesis, body weakness, dyspnoea lassitude, tremor, back and hip pain.</td>
</tr>
<tr>
<td>5.</td>
<td>Kaarppu</td>
<td>Dryness of tongue, generalized malaise, tremor, back pain, lassitude etc.</td>
</tr>
<tr>
<td>6.</td>
<td>Thuvarppu</td>
<td>Abdominal discomfort, chest pain, tiredness, impotency, vascular constriction constipation, dryness of tongue etc.</td>
</tr>
</tbody>
</table>
De-Arrangement of 3 humour

1. Vali – Thodam:

- Exaggerated
  - Darkness of motion
  - Body pain
  - Pricking pain
  - Constipation
  - Paralysed limbs
  - Mental distress

- Decreased
  - Difficulty in work
  - Impairment of intelligence
  - Giddiness
  - Increased iyam symptoms

2. Azhal thodam

- Exaggerated
  - Yellowish discolouration of skin, urine
  - Increased appetite
  - Increased thirst
  - Burning sensation
  - Decreased sleep

- Decreased
  - Loss of appetite
  - Indigestion
  - Cold
3. Iyam thodam

- Exaggerated
  - Chills with rigor
  - Pallor
  - Tightness
  - Cough
  - Fullness of stomach
  - Excessive sleep

- Decreased
  - Dyspnoea
  - Destruction of joint
  - Giddiness
  - Decrease iynam in all Body fluids
  - Increased sweating
  - Palpitation
## III. Alterations in udalthathukkal

### Table 3:

<table>
<thead>
<tr>
<th>S.No.</th>
<th>Udal thathukkal</th>
<th>Increased features</th>
<th>Decreased features</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Saaram</td>
<td>Loss of appetite, excessive salivation, heaviness, decreased physical constituents, dyspnoea, cough, flatulence.</td>
<td>Dryness of skin, tiredness, loss of weight, less ability in hearing.</td>
</tr>
<tr>
<td>2.</td>
<td>Senneer</td>
<td>Boils in different parts of the body, splenomegaly, tumours, pricking pain, loss of appetite, haematuria, hypertension, reddish eye and skin, leprosy, jaundice</td>
<td>Affinity to sour and cold, dryness, pallor</td>
</tr>
<tr>
<td>3.</td>
<td>Oon</td>
<td>Tubercular adenitis, venereal diseases, extra growth around neck, cheeks, abdomen, thigh, genitalia</td>
<td>Lethargic sense organs, pain in the joints, muscle wasting in chin, gluteal region, penis and thigh</td>
</tr>
<tr>
<td></td>
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<td></td>
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<tr>
<td>---</td>
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<td></td>
</tr>
<tr>
<td>4.</td>
<td>Kozuppu (fat)</td>
<td><strong>Identical features of increased oon, dyspnoea on exertion, extra musculature in gluteal region, external genitalia, chest, abdomen, and thigh</strong></td>
<td><strong>Loin pin, spleenomegaly, emaciation</strong></td>
</tr>
<tr>
<td>5.</td>
<td>Enbu (Bone)</td>
<td><strong>Excessive ossification and dentition</strong></td>
<td><strong>Joint pain, falling of teeth, falling and splitting of hairs and nails.</strong></td>
</tr>
<tr>
<td>6.</td>
<td>Moolai (bone marrow)</td>
<td><strong>Heaviness of body and eye, swollen interphalangeal joints, oliguria, non – healing ulcers.</strong></td>
<td><strong>Osteoporosis, blurred vision.</strong></td>
</tr>
<tr>
<td>7.</td>
<td>Sukkilam (or suronitham)</td>
<td><strong>Increased sexual activity, urinary calculi</strong></td>
<td><strong>Dripping of semen, vaginal fluid, pricking pain in the scrotum, inflamed and contused external genitalia</strong></td>
</tr>
</tbody>
</table>
IV. Environmental changes:

**Table 4: Seasonal changes of humours**

<table>
<thead>
<tr>
<th>Humour</th>
<th>↑</th>
<th>↑↑</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vali</td>
<td>Mudhuvenil kaalam</td>
<td>Kaarkaalam</td>
<td>Koodhirkalam</td>
</tr>
<tr>
<td>Azhal</td>
<td>Kaarkaalam</td>
<td>Koodhirkalam</td>
<td>Munpanikalam</td>
</tr>
<tr>
<td>Iyam</td>
<td>Pinpanikalam</td>
<td>Elavenikalam</td>
<td>Mudhuvenil kalam</td>
</tr>
</tbody>
</table>

↑Thannilai valarchi. ↑↑piranilai valarchi. N - thannilai adaithal.

b. Regional changes of humours:

Kurinji - kabha diseases
Mullai - pitha diseases
Neythal - vadha diseases
Marutham - no disease will occur
Paalai - mukkuttra disease

V. Effects on self – suppression of 14 vegams

Reflexes are essential for the normal physiology when there is any self suppression to those reflexes, that will lead to the pathological state.
<table>
<thead>
<tr>
<th>Vegankal</th>
<th>Diseases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Vadham</td>
<td>Heart diseases, gastritis, umbilical hernia, body pain, liver disorder, constipation, oliguria, loss of appetite.</td>
</tr>
<tr>
<td>2. Thummal</td>
<td>Headache, defect of special sensory organs and it is activities, pain over the face, hip joint pain.</td>
</tr>
<tr>
<td>5. Kottavi</td>
<td>Urinary disorders, leucorrhoea, associated with schizophrenia, abdominal diseases.</td>
</tr>
<tr>
<td>6. Pasi</td>
<td>Pricking pain all over the body, emaciation, apathetic face, painful joints</td>
</tr>
<tr>
<td>7. Neer</td>
<td>Same as that of Pasi</td>
</tr>
<tr>
<td>8. Erumal</td>
<td>Increased cough, bad breath, heart disease</td>
</tr>
<tr>
<td>9. Elaippu</td>
<td>Urinary disorder, syncope, rigor, peptic ulcer.</td>
</tr>
<tr>
<td>10. Thookkam</td>
<td>Heaviness of head, pain in the eyes, deafness</td>
</tr>
<tr>
<td>11. Vaanthi</td>
<td>Rashes, anemia, itching, eye diseases, asthma, fever, cough</td>
</tr>
<tr>
<td>12. Kanneer</td>
<td>Heart diseases, eye diseases, wounds in the scalp, upper respiratory disorders.</td>
</tr>
<tr>
<td>13. Sukkilam</td>
<td>Fever, anuria, joint diseases of upper and lower limbs, acute chest pain</td>
</tr>
<tr>
<td>14. Swasam</td>
<td>Cough, epigastric pain, venereal diseases</td>
</tr>
</tbody>
</table>
DIAGNOSTIC METHODS:

Diagnosis is the mandatory process in the treatment of a patient. Envagai thervugal which is the unique and special method having a broad and important role in diagnosing a particular diseases. It is based upon the principles of poriyaal arithal, pulanaal arithal and vinaathal.

Poriyaal arithal means understanding by the five organs of perception, nose, tongue, eyes, skin and the ears.

Pulanaal arithal means understanding by the sense objects smell, taste, vision, somatic sense and sound.

Vinaathal means interrogating the patient, learning the history and symptoms of the disease by asking questions to the patient.

Envagai thervugal:

1. Examination of tongue (ynthesis)
2. Examination of complexion ( SethuNtha)
3. Examination of voice (sivaNtha)
4. Examination of eyes (sivaNtha)
5. Examination of faeces (ManduNtha)
6. Examination of urine (sivaNtha)
7. Examination of pulse (NagaNtha)
8. Examination of touch (sivaNtha)
By interrogation feeling, seeing the symptoms and signs are heard and examined. After examining, it must be compared, excluded and at last the final diagnosis is to be arrived.

**Naa**

It reflects the disease and so it gains importance in examining. The tongue is seen for the colour, shape, size, coating, fissures, growth, surfaces, sensations of taste and also salivary secretion.

**Niram**

The normal colour of each humural body is explained. It there is any change from normal (ie) colour of eyes, tongue, mucous membrane, any erythema, hypo(or) hyper pigmentation in the skin, they are dealt under this.

**Thoni**

This not only explains the tone of speech but also the changes in modulations, pitch, sound, fluency, stammering, difficulty in articulation, repetition, listening, answering speech, associated with breathing difficulties etc.

**Vizhi**

The view on one’s eyes stretches all sides. It deals about the vision changes such as loss of vision, blurred vision, changes in visual perception, movements of eye lids & eye balls, colour of conjunctiva and growth lacrimation, dryness, contractions, congenital defects are also specified under this examination.
Malam

The metabolic end product of our food after completing its work of supplying energy is expelled from the body as faeces. And thus any change in the colour, consistency, frequency, amount; components of motion exhibit the disease.

Moothiram

Urine plays an important role in revealing the diseased state in the form of changes in colour, specific gravity, odour, frequency, froth and deposits.

“அரைந்தமலைநான் அகிழிய தோகன்
ஏன் அரைந்த அகிழிய தோகன் நச்சிற்றுக்கிருந்த தரசுக்கிழிய ஏன்காணும்?
நுழைக்குறுக்கு நச்சிற்று காணும் நேரம்
நரம்பநாயகை கையாளும் பிரியா
பிரியா நரம்பநாயகை பிரியாவில் காணும் நேர:

This is an unique and special methodology in determining the diseases. The early morning first voided urine is taken in a glass bowl. A drop of gingelly oil is let into its surface. It forms many shapes due to the surface tension exhibited by the urine. If there is any change in the body metabolism, there will be alterations in the components of urine and thus the surface tension depicting various structures.
Vali diseases – Rays of snake (பல்கல் கைகள் கீழ்வலியாம்)

Azhal diseases – As a ring (நிறைஒளி கைகள்)

Iya Disease – Stands as a pearl (ஒத்து பெறுவது)

Naadi

It is diagnostic entity and felt in the radial artery with the three fingers, fore finger (Vali), middle finger (Azhal) and ring finger tips (Iyam). Ratio is 1:1/2:1/4. It serves as a good indicator of all ill health. It has been considered for assessing the prognosis and diagnosis.

Mei

It deals all about the changes in the skin (i.e.) tactile sensation, the warmth, the chillness, sweat, numbness, fissures, plaques, papules, ulcers, inflammation etc.

Basically, siddha aims to maintain the equilibrium between the five elements despite out constant interaction with the outer world. The five elements which work as 3 vital forces in body and perform all physical and mental functions are constantly affected by time, space and nutrition.

It is regarding a sound knowledge of noi – naadal is essential to formulate therapeutic measures for various ailments.
AIM AND OBJECTIVES

The author has selected “Kirumi pitham” for the dissertation subject because it is one of the disorders, which affect the individuals in higher incidence. Its occurrence is increased in recent times due to abnormal dietary habits and poor sanitation.

So this study mainly aims to define etiology, pathology, symptomology, and diagnostic methods of ‘Kirumi pitham’ by synchronizing the evidence, found in different siddha literature and formulating them after a detailed thorough study into an acceptable and adaptable form.

The following specific objectives have been drawn to achieve the above aim.

1. To collect the ancient siddha literature about pitha disease in general and kirumi pitham in particular
2. To evaluate the siddha basic physiology.
3. To Study the Clinical course of the disease ‘kirumi pitham’ with keen observation on the etiology, clinical Features and diagnosis.
4. The diagnosis of the disease by using siddha parameters like poriyal arithal, pulanal therdhal, vinadhal, Envagai thervugal, udal kattugal and mukkutra verupadugal.
5. To make a thorough physical examination of the patient.
6. To support the study of kirumi pitham by using modern Parameters also.
7. To discuss the complication’s of kirumi pitham.
8. To have an idea about the incidence of this disease with reference to age, sex, occupational, orientation and Socioeconomic status etc.
ELUCIDATION ABOUT KIRUMI PITHAM

In Yugi Vaidhya Chinthamani kirumi pitham is mentioned under pitha roga nithanam as,

"कीरुमी पिठम्

"कीरुमी पिठम् पाल्ल्यविक्रिया विचित्रतावर्ती

पाल्ल्यविक्रिया पल्ल्यविक्रिया कीरुमी पाल्ल्य

कीरुमी पिठम् पल्ल्यविक्रिया कीरुमी पाल्ल्य

कीरुमी पिठम् पाल्ल्यविक्रिया कीरुमी पाल्ल्य

कीरुमी पिठम् पाल्ल्यविक्रिया कीरुमी पाल्ल्य

कीरुमी पिठम् पाल्ल्यविक्रिया कीरुमी पाल्ल्य"

- पुष्पी संविक्रिया कीरुमी भाषा

The meaning of the words in this poem,

पुष्प (कीरुमी) - Worm

अम्ल्रदागा - Lower abdomen

कीरुमी - Colicky Pain

वृषवन - Beauty

वृषवन - Itching

वृषवन - Pain

वृषवन - Becoming reduced.

वृषवन - Motion, urine

वृषवन - To become dry.

वृषवन - Swelling

वृषवन - Heat
The Yugi’s lines are summarized as follows,

1. Lower abdominal pain
2. Itching all over the body.
4. Constipation, and
   Reduced urine output.
5. Pain and swelling of the upper and lower limbs.
6. Worms in stool
7. Offensive odour stool.
According to siddha aspect, Azhal is said to be the protective agent of all activities of our body. So that author mentioned ‘Azhal’ as ‘Manthiri’ in the above lines.

**According to Yugi muni**

"பரந்து புனிதத்தில் கேதியே சொல்லும்
மத்திய கல்லுடன் உருவாக்கம்"

It means place of the Azhal in body is below the neck.

Azhal is formed by the Bootham Theyu (Fire). The function of Azhal is to govern all the body’s conversion processes as well as its heat and energy producing capacities.

Azhal circulates in the body system in different types and help in the digestion and absorption of food and other general physiological functions of the body. Each types of Azhal have different functions. They are
responsible for maintaining good health. When some of the environmental factors like diet and immoral activities disturb the Azhal, it loses its control which may be diminished or exaggerated. This may leads to Azhal noigal

ALTERD THRIDOSHA IN KIRUMI PITHAM

In this disease the modified Azhal may affect the functions of vali humour.

Azhal

The deranged Azhal humour results in,

- **Aakkanal (Anarpitham)**
  Derangement of anarpitham results in increased appetite in early stage.

- **Vannayeri (Ranjakapitham)**
  Derangement of (Ranjakapitham) results in tiredness

- **Aatralangi (Sathagapitham)**
  Sathaga pitham is affected in Kirumi Pitham the patients is not active because of generalized body pain.

- **Olloliththe (Pirasagapitham)**
  Pirasagam pitham is affected in this disease produces dryness and itching all over the body.

- **Nokkuazhal(Aalosagapitham)**
  In later stage kirumi pitham patients may be affected conjunctivitis and photophobia.
Vali

When Azhal humour is increased, Vali humour also get increased.

- **Uyirkkaal (Piraanan)**
  In kirumi pitham, piraanan is affected which produces impaired utilization of nutrients of the body.

- **Keelnokkuvaal (Abaanan)**
  In kirumi pitham, derangement of abaanan leads to constipation and decreased urine output will occur.

- **Paravakkaal (Viyaanan)**
  In “Kirumipitham” Viyaanan is affected produces generalized body pain.

- **Nadukkaal (Samaanan)**
  In ‘Kirumi Pitham’ Samaanan is affected digestion and absorption are affected producing indigestion.

- **Vizhikkaal (Koorman)**
  Derangement of koorman leads to conjunctivitis and photophobia.

- **Thummikkaal (Kirugaran)**
  In kirumi pitham, derangement of kirugaran leads to increased appetite in early stage.

- **Kottavikkaal (Devathathan)**
  Derangement of Devathathan leads to tiredness
Iyam

In kirumi pitham azhal and vali humour is increased and iyam humour is decreased.

- **Alliyam(Avalambagam)**
  In kirumi pitham derangement of avalambagam leads balancing is disturbed.

- **Neeppi iyam(Kilethagam)**
  kilethagam is affected which produces increased appetite in early stage.

## ALTERD UDAL KATTUKAL IN KIRUMI PITHAM

<table>
<thead>
<tr>
<th>Udal Kattukal</th>
<th>Changes when decreases</th>
</tr>
</thead>
<tbody>
<tr>
<td>Saaram</td>
<td>Fatigue</td>
</tr>
<tr>
<td>Senneer</td>
<td>Itching all over the body</td>
</tr>
<tr>
<td>Oon</td>
<td>Weakness of sense organs</td>
</tr>
<tr>
<td>Kozuppu</td>
<td>loss of energy</td>
</tr>
<tr>
<td>Enbu</td>
<td>Hair falling</td>
</tr>
<tr>
<td>Moolai</td>
<td>Reduced urine output</td>
</tr>
</tbody>
</table>

Siddha Pathology deals with the diseased condition of the human, which is due to food alteration, environmental variation and immoral activities.

The underling causes of kirumi pitham may be due to altered food (contaminated food and water) and improper personal hygiene. Modern medicine also stresses the same concept.
Detailed pathologic view of dissertation Topic

Modern Aspect

The small intestine is widest at its duodenal end and narrowest at the ileal end. For this reason foreign bodies may be impacted here.

“தென்பெருமையின் கிளிக்குறுநர் கருளி”

The usual Helminthic infestations are responsible for abdominal pain. The adult ascaris worms live in the upper part of the small intestine. Ascariasis causes prolonged irritation of the muscular coat of loop of intestine may cause muscular spasm. They may stimulate reflex peristalsis. For instance each time peristaltic wave travels along an overly excitable spastic gut, causing recurrent and often severe colicky pain in the abdomen.

“செருமணாண்கள் மாம் மலடையும் கிளிக்குறுநர்”

Pathology of Itching,

The eosinophils normally constitute about two percent of all the body leucocytes .Eosinophils are phagocytes, and they exhibit chemotaxis.

Eosinophils are often produced in large numbers in people with parasitic infection, and they migrate into tissues diseased by parasites. Although most of parasites are too large to be phagocytized cells, nevertheless the eosinophils attach themselves by way of special surface molecules to the parasite and release a substance that kills many of them.

Digestive and reproductive organs of ascaris lumbricoides float inside the body cavity containing an irritating fluid. The irritant action is due to the presence of a substance ascoron (or) ascarase. Allergic manifestation seen in infected individuals, and among laboratory workers dissecting the worms are due to this ascoron.
Ascariasis disturbed the small intestinal absorption. Requirement of nutrient to the body is decreased.

Difficiency of nutrients occur. It will cause generalized body discomfort (lassitude).

Constipation may be defined as decreased in frequency of bowel movements and difficult (or) painful passage of hard stool.

Prolonged irritation of the muscular coat of loop of intestine may cause muscular spasm due to the spasm the frequencies of bowel movements are reduced leading to constipation.

Ascaris lumbricoides are robbing the host nutrition. The nutritional effects are seen when the worm burden is heavy. The worms may be present in enormous numbers, sometimes exceeding 500, occupying a large part of intestinal tract. This interferes with proper digestion and absorption of food. Ascariasis may contribute to protein energy malnutrition.

Maintenance of osmotic pressure of plasma is important for the proper distribution of water between blood and tissues.

So, when the amount of plasma protein reduces, the colloid osmotic pressure decreases, because of this permeability of the capillary increases causing increased capillary filtration. So, more amount of water leaks out of the capillary. This fluid accumulates in the tissue spaces resulting edema. The edema starts in the lower extremities and later involves upper limbs.
The Ascaris worms are restless wonderers, apparently showing great inquisitiveness, in that they tend to probe insinuate themselves into any aperture they find on the way. The wondering is enhanced when the host is ill.

The worms frequently migrate and enter the stomach and coming out through body openings, such as anus, nose, mouth.
REVIEW OF LITERATURE

Kirumi Pitham also explained in various literatures such as, Thanvanthiri vaitheyam and Segarasa sekaram

The Clinical Features of KirumiDhosa are abdominal pain, motion does not passes daily and it accumulates in the intestine, accumulation of the worms in the body causes generalized body pain, the worms causes itching and pain around the anus.

The clinical features of “Kirumi Pitham” pain present in the body and limbs, persistent itching, expulsion of worms in stool, emaciation, reduced urine output, constipation and foul small in stool.
SMALL INTESTINE

The small intestine is continuous with the stomach at the pyloric sphincter and leads into the large intestine at the ileocaecal value. It is a little over 5 metres long and lies in the abdominal cavity surrounded by the large intestine. In the small intestine the chemical digestion of food is completed and most of the absorption of nutrient materials takes place.

The small intestine is described in three parts which are continuous with each other.

The duodenum is about 25 cm long and curves around the head of the pancreas. At its midpoint there is an opening, common to the pancreatic duct and the common bile duct, guarded by the hepatopancreatic sphincter.

THE JEJUNUM AND ILEUM

The mobile part of small intestine extends from the duodeno – jejunal flexure to the ileo – caecal junction, and is arranged in a series of coils which are suspended from the posterior abdominal wall by the mesentery. The coils are contained within the three and half-sided framework of the large gut.

Proximal 2/5th of the small gut forms the jejunum

And distal 3/5th is known as the ileum.

External features of jejunum:

It is an empty tube, wider, 4cm thicker and more vascular and usually occupies the umbilical region. On palpation two tubes are felt one for mucous membrane and the other for muscle wall.

LENGTH

In the living, the length is about 6 metres or 20 feet, out of which jejunum is about 8 feet and ileum is about 12 feet.
STRUCTURE OF THE SMALL INTESTINE (MOBILE PART)

It consists of four coats from without inwards

1. Serous Coat
2. Muscular Coat
3. Sub mucous Coat
4. Mucous Coat

SEROUS COAT:

It is derived from the peritoneum and invests the entire tube except the attachment of the mesentery.

MUSCULAR COAT

It consists of outer longitudinal and inner circular layers of smooth muscles, separated by the myenteric plexus of nerves (Auerbach’s plexus).

Contraction and relaxation of these muscle layers occurs in waves which push the contents of the tract onwards. This type of contraction of smooth muscle is called peristalsis. Muscle contraction also mixes food with the digestive juices. Onward movement of the contents of the tract is controlled at various points by sphincters consisting of an increased number of circular muscle fibres. They also act as valves preventing backflow in the tract. The control allows time for digestion and absorption of the food.

SUBMUCOUS LAYER

This layer consists of loose connective tissue with some elastic fibres. Within this layer there are plexuses of blood vessels and nerves, lymph vessels and varying amounts of lymphoid tissues. The blood vessels consist of arterioles, venules and capillaries. The nerve plexus is the submucosal or
Meissner’s plexus, consisting of sympathetic and parasympathetic nerves which supply the mucous membrane lining.

**MUCOSA**

This consists of three layers of tissue:

a. Mucous membrane formed by columnar epithelium is the innermost layer and has three main functions: protection, secretion and absorption.

b. Muscularis mucosa, a thin outer layer of smooth muscle that provides involutions of the mucosa layer, e.g. gastric glands, villi.

c. Lamina propria consisting of loose connective tissue which supports the blood vessels that nourish the inner epithelial layer and varying amounts of lymphoid tissue that has a protective function. The lamina supports, protects and provides nutrition to the surface epithelium.

The surface epithelium is lined by simple tall columnar cells, with occasional goblet cells resting on a basement membrane. Each columnar cell is absorptive in function and presents striated brush border on the free surface. The brush borders are produced by numerous microvillus and are covered by a glycoprotein-rich surface coat. This coat presents binding sites for specific substances that are to be absorbed.
Features in the mucous membrane of small gut:

The mucous membrane presents the following features

   a. Circular folds
   b. Villi
   c. Crypts of Lieberkuhn
   d. Solitary follicles
   e. Peyer’s patches
   f. Entero – chromaffin cells.

   a. Circular folds are permanent mucous folds about 800 in number, more large and thickly set in jejunum, and absent in proximal one inch of duodenum and distal six inches of ileum.

   b. Villi are fleshy tongue like in duodenum, leaf like in jejunum, and finger like in ileum. The villi act as little absorptive organs, present in the entire small gut except over the solitary follicles and Peyer’s patches. The villi cover the mucosal surface in a dense mat numbering 10 to 40 per mm\(^2\), each villus is about 0.5-1 mm long. The absorptive surface of the small gut is enormously increased by circular folds, villi and microvilli. The increased by circular folds is 3-fold, villi 10-fold, and microvilli 20-fold. Thus the total increase is 600-fold, exposing an area of 200 sq. metre.

   c. Crypts of lieberkuhn (or) intestinal glands

   The crypts of lieberkuhn (or) intestinal glands are simple tubular glands of intestine. The intestinal glands do not penetrate the muscularis mucosa of the intestinal wall but open into the lumen of intestine between the villi. The intestinal glands are lined by columnar cells. The lining of each gland is continuous with epithelial lining of the villi.
d. **Entero chromaffin cells.**

Interposed between columnor cells of the glands are Argentaffin cells (or) enterochromaffin cells and goblet cells. Argentaffin cells secrete the intrinsic factor, which is essential for the absorption of vitamin B12. The goblet cells secrete mucus. There is another type of cell called paneth cells, which also secrete the enzymes.

e. **Peyer’s patches**

These are scanty, present in the lower part of jejunum and mostly circular in outline. The epithelial cells covering solitary follicles or peyer’s patches are known as M-Cells which help transport of antigens.

**Functions of small intestine:**

1. **Mechanical function:**

   The mixing movements of small intestine help in the through mixing of chyme with the digestive juices like succus entericus, pancreatic juice and bile.

2. **Secretary function:**

   Small intestine secrete succus entericus, enterokinase and the gastrointestinal hormones.

3. **Hormonal functions:**

   The gastrointestinal hormones secreted by small intestine are secretin, enterogastrone and cck – pz [cholecystokinin – pancreozymin]. These hormones regulate the secretary activities of small intestine and pancreas. These hormones also control the movements of gastro intestinal tract.
4. **Digestive function:**

Though the digestion of various food substances commence in mouth and stomach it is completed only in small intestine. The digestive functions of small intestine are carried out by the enzymes of succus entericus secreted in small intestine.

5. **Activation function:**

The enterokinase secreted by small intestine activates trypsinogen with trypsin. Trysin, in turn activates other enzymes.

6. **Hemopoietic function:**

The intrinsic factor present in the small intestine is necessary for absorption of vitamin B12 from gastrointestinal tract into the blood.

7. **Hydrolytic function:**

Succus entericus of small intestine provides water, which helps in all the hydrolytic processes of enzymatic reaction involved in digestion of various food stuffs.

**Absorptive functions:**

The presence of villi and microvilli in small intestinal mucosa increases the surface area of the mucosa. This facilitates the absorptive functions of intestine.

The digested products of foodstuffs, proteins, carbohydrates, fats, and other nutritive substances like vitamins, minerals, and water are absorbed mostly in small intestine. From the lumen of intestine, these substances pass through lacteal of villi, cross the muscosa and enter the blood directly (or) through lymphatics.
Absorption of carbohydrates:

Glucose is absorbed into blood and drained into portal vein. Absorption of glucose occurs by sodium co-transport.

Absorption of proteins:

The dextro-amino acids are absorbed by simple diffusion and most of levo-amino acids are transported actively by sodium-co-transport system.

Absorption of fats:

Most of the fats are absorbed in upper port of small intestine. Presence of bile is essential for fat absorption.

Absorption of water and minerals:

- In small intestine, sodium is absorbed actively.
- Calcium is actively absorbed mostly in upper part of small intestine.
- Water moves in (or) out of the intestinal lumen until the osmotic pressure of intestinal contents become equal to that of plasma.

Absorption of vitamins:

Most of vitamins are absorbed in upper part of small intestine.
ASCARIS LUMBRICOIDES

“Infectious diseases will last as long as huminity excists”

Definition: Infection of A. Lumbricoides in man is known as ascariosis.

Causative Organism:

Kindom-Animalia
Phylum-Nematoda
Class-Secemenda
Family-Ascarididea
Genus-Ascaris
Species-Ascaris lumbricoides

It is the common and longest intestinal nematode commonly known as round worm.

Geographical Distribution:

It is cosmopolitan, having a world-wide distribution, being especially prevalent in the tropics, such as China, India and South-East Asia. It occurs in person with unhygienic habits.

Incidence:

The incidence of Ascariosis is very high in rural areas with poor sanitation. It is more frequent in children as well as adult males and females. It occurs repeatedly in persons belonging to the same family.
**Habitat:**

The adult worm lives in the lumen of the small intestine (jejunum) of man where it moves freely and maintains its position by its muscle tone.

**Morphology:**

**Adult worm:**

It resembles an ordinary earthworm and is the largest intestinal nematode parasitising man. When fresh from the intestine, it is light brown or pink in colour but is gradually changes to white. In shape it is rounded and tapers at both ends, the anterior end being thinner than the posterior. The mouth opens at the anterior end and possesses three finely toothed lips, one dorsal and two ventral. The digestive and reproductive organs float inside the body cavity containing an irritating fluid. The irritant action is due to the presence of a substance, ascaron or ascarase which is probably of the nature of primary albumoses (proteose). Allergic manifestations seen in infected individuals and amongst laboratory workers dissecting the worms are due to this ascaron.

**Male :**

It measures about 15 to 25cm in length with a maximum diameter of 3 to 4 mm. The tail-end of the male is curved ventrally in the form of a hook having a conical tip. The genital pore opens into the cloaca from which two curved copulatory spicules protrude. The anus opens with the ejaculatory duct into the cloaca.
Female:

It is longer and stouter than the male and measures 25 to 40 cm in length with a maximum diameter of 5mm. The posterior extremity is neither curved nor pointed but is conical and straight. The anus is sub terminal and opens directly on the ventral aspect in the form of a transverse slit. The vulva opens at the junction of the anterior and the middle thirds of the body on the midventral aspect; this section of the worm is narrower and is called the vulvar waist. The egg-laying capacity of a mature female Ascaris has been found to be enormous, liberating about 2,00,000 eggs daily.

Eggs:

The eggs liberated by a fertilized female pass out of the human host with the faeces. The characteristics of a fertilised female pass out of the human host with the faces. Are as follows.

- Round or oval in shapes (60 to 75 µm in length by 40 to 50 µm in breadth.
- Always bile-stained and brownish (golden brown) in colour.
- Surrounded by a thick smooth translucent shell with an outer albuminous coat which is thrown into rugosities or mammillations: this outer coat is sometimes lost (decorticated egg).
- Contains a very large conspicuous unsegmented ovum (the nucleus is concealed by a large amount of coarse yolk granules). There is a clear crescentic area at each pole.
- Floats in saturated solution of common salt.
The female, even if not fertilised, is capable of liberating eggs. The characteristics of this unfertilised egg are as follow.

- Narrower, longer (80 μm in length by 55 μm in breadth) and more elliptical.
- Brownish in colour (bile – stained).
- Has a thinner shell with an irregular coating of albumin.
- Contains a small atrophied ovum with a mass of disorganised, highly refractile granules of various sizes.
- Does not float in salt solution (heaviest of all helminthic eggs.)

Fertilised and unfertilised eggs may be found in a sample of stool but if a specimen shows only the unfertilised eggs, it signifies that the host is harbouring the female Ascaris.

**Resistance of eggs**

Round worm eggs are adversely affected by excessive heat and drying as caused by direct exposure to sun. However, they are remarkably resistant to most other environmental conditions.

Laboratory studies have revealed that the egg can survive and continue maturation even when immersed in 2% formalin, potassium dichromate and 50% solutions of Acidic, Nitric, Hydrochloric and Sulphuric acids. This factor adds to the longevity of the eggs in the environment.

**Incubation period**

The incubation period from infection of the swallowed eggs to the first appearance of the eggs in stool is 60-70 days. In larval Ascariasis, pulmonary symptoms occur with in 4-16 days and intestinal symptoms occur with in 2 months.
Life – span

The worm has a life span of 10-12 months; the eggs have to longevity of 3-7 years

Life Cycle:

The worm passes its life cycle in one host and no intermediate host is required. Continuance of the species is maintained by transference from one individual to another. Man is the only known definitive host of A.lumbricoides. The various stages in the life cycle are described below.

Stage: 1

Eggs in Faeces; Fertilised eggs containing the unsegmented ovum are passed with the faeces. They are not infective to man when freshly passed.

Stage: 2

Development in Soil. A rhabditiform larva is developed from the unsegmented ovum within the egg shell in 10 to 40 days time, depending on the atmospheric temperature and humidity. This takes place in the soil (that is outside the human host). The ripe egg containing the coiled-up embryo is infective to man before hatching, the larva undergoes moulting.

Stage: 3

Infection by ingestion and Liberation of Larva. When ingested with food, drink or raw vegetables, the embryonated eggs pass down to the duodenum where the digestive juices weaken the egg-shell and stimulate the enclosed larvae into activity. Splitting of egg-shell occurs and rhabditiform larvae measuring 0.25mm in length by 14um in breadth are liberated in the upper part of the small intestine.
Stage: 4

**Migration through the Lungs.** The larvae liberated in the small intestine do not directly develop into mature worms. The newly hatched larvae burrow their way through the mucous membrane of the small intestine and are carried by the portal circulation to the liver: here they live for a period of 3 to 4 days. Finally they pass out of the liver and via right heart enter the pulmonary circulation. While in the lungs they grow much bigger and increase in length from 0.2 mm to 2mm and moult twice (first- on the fifth or sixth day and the second- after the tenth day). Breaking through the capillary wall they reach the lung alveoli. The time taken for such migration is on an average 10 to 15 days.

Stage: 5

**Re-entry into the stomach and the small Intestine.** From the lung alveoli the larvae crawl up the respiratory tract, they are propelled into the larynx and pharynx and are once more swallowed. The larvae pass down the esophagus to the stomach and localize in the upper part of the small intestine, their normal abode. Another moulting occurs between the twenty-fifth and the twenty-ninth day of infection.

Stage 6:

**Sexual Maturity and Egg Liberation.** The larvae on reaching their habitat grow into adult worms and become sexually mature in about 6 to 10 weeks time. The gravid females begin to discharge eggs in the stool within about two months from the time of infection. The cycle is again repeated.

**Note:** Four moultings of the larva occur – one outside while within the egg-shell, two in the lungs and one in the intestine.
RESERVOIR OF INFECTION

Man is the only reservoir

MODE OF INFECTION.

Infection is affected by swallowing ripe Ascaris eggs (embryonated eggs) with raw vegetables cultivated on a soil fertilised by infected human excreta. Water-supplies may be contaminated and infection may occur by drinking water. Where soil-pollution is common, the eggs may directly be conveyed to the mouth by dirty fingers.

Infection may also occur by inhalation of desiccated eggs in the dust reaching the pharynx and swallowed.

Factors favoring the spread of the transmission:

1. Simple life cycle.
2. Enormous egg production (2,00,000 eggs/day)
3. These eggs are highly resistant to ordinary disinfectants (due to the ascroside.)
4. The eggs may remain viable for several years.
5. Social customs and living habits.
6. Disposal of faeces is unsuitable.

Immunology.

A partial immunity may be acquired by man, induced by the migrating larvae. Antigens are liberated during the moulting period of the larvae and produce protective antibodies which lower the worm burden and play a part in the immune response. A severe allergic reaction (urticaria and fall of blood pressure) occurs when the larvae reach the small intestine for the second time. Eosinophil count is increased at the time of tissue invasion.
Specific antibodies (complement-fixing and precipitating) can be demonstrated in Ascaris infection. Hypersensitivity to ascaris is determined by skin test.

**Pathogenesis:**

Majority of the infections (about 86%) are symptomless. But the presence of even a few worms can be potentially dangerous. The worm inhibits the upper part of small intestine. The severity of the symptoms depends both on the number of eggs ingestible and on the previous infection history. The adult worm may produce its pathogenic effects in the following ways.

1. Migrating larvae
2. Adult worm
3. Toxins released from the worms

**Symptoms produced by migrating larvae:**

Pathogenic effects of larval migration are due to allergic reactions and not the presence of larvae as such. Therefore the initial exposure to larvae is usually asymptomatic except when the larvae load is very high. But when reinfection occurs, subsequently there may be intense cellular reaction to the migrating larvae in the lungs. This may cause symptoms like pneumonia.
Loeffler’s syndrome

In heavy pulmonary infection typical symptoms such as
Fever,
cough,
dyspnoea,
cyanosis,
urticaria,
pain over the chest,
mucoid and bloody sputum are present.

The sputum may contain charcot–leydon crystals. The larvae may occasionally be found in sputum. But are seen more often in gastric washings. The clinical features generally clear in one (or) two weeks. Though it may sometimes be severe, it is rarely fatal. Loffler’s syndrome can also be caused by hypersensitivity to other agents, both living and non living.

In general circulation

Larvae pass beyond the pulmonary capillaries and reach the general circulation and they may reach other organs of the body such as liver, spinal cord, and kidneys, very rarely the larvae may occlude a small vessel in the heart and brain.

Symptoms due to adult worms:

Clinical manifestations due to adult worms vary from asymptomatic infection to severe and even total consequences. It is not unusual to find children apparently unaffected in spite of heavy infestation with the worms.
The pathological effects present are caused by

1. Spoliative action
2. Toxic action
3. Mechanical effects

**Spoliative action:**

Ascaris lumbricoides robbing the host of its nutrition. It is otherwise called as nutritional effects, are usually seen when the worm burden is heavy. The worms may be present in enormous numbers, sometimes exceeding 500, occupying a large part of intestinal tract. This interferes with proper digestion and absorption of food. Ascariasis may contribute to protein energy malnutrition and vitamin A deficiency.

Patients have loss of appetite and are often restless abnormalities of jejunal mucosa are often present, including broadening and shortening of villi, elongation of crypts and round cell infiltration of laminapropria.

**Toxic action:**

These are due to the hypersensitivity to the worm antigens and may manifested as

- Fever
- Urticaria
- Wheezing
- Conjunctivitis

These are more often seen in persons who come into contact with the worm occupationally, as in laboratory technicians.
Mechanical effects:

These are the most important manifestations of Ascaris lumbricoides. Mechanical effects can be due to the masses of worm causing luminal occlusion (or) even a single worm infiltrating into a vital area.

The adult worms live in the upper part of the small intestine, where they maintain their position due to their body muscle tone. They may stimulate reflex peristalsis, causing recurrent and often severe colicky pain in the abdomen. The worms may be clumped together into a mass, filling the lumen of intestine leading to intussusceptions, i.e., intestinal obstruction.

The worms are restless wonderers apparently showing great inquisitiveness, in that they tend to probe and insinuate themselves into any aperture they find on the way. The wandering is enhanced when the host is ill, particularly when febrile with the temperature above 39°F.

The male worm is more responsive to illness of the host, than the female. The worm may wonder up (or) down along the gut, going up it may enter the opening of the biliary (or) pancreatic duct causing acute biliary obstruction (or) pancreatitis. It may enter the liver parenchyma where it may leads to abscesses. The worm may go up to the esophagus and come out through the mouth (or) nose.

It may crawl into the trachea and the lung causing respiratory obstruction (or) lung abscesses. Migrating downwards the worm may cause obstructive appendicitis. It may cause peritonitis when it perforates the intestine generally at week spot such as typhoid (or) tuberculous ulcers (or) through suture lines. The tendency makes necessary to preoperative deworming before gastrointestinal surgery in endemic areas.
Ectopic ascariasis

The worms frequently migrate and enter the stomach and may pass up through the esophagus at night and coming out through the body openings such as nose, mouth, anus and vagina etc.. When migration occurs through respiratory system, may produce suffocation and asphyxia.

Symptoms due to sensitation

The metabolizes of ascaris, both during the period of biological incubation and after the worm mature in small bowels may produce sensitation phenomenon of allergic manifestation such as.

Skin - Urticaria
Nose - Rhinitis
Lungs - Bronchial Asthma
Intestinal tract - constipation
Eye - conjunctivitis and photophobia
Excretory system - haematuria

Diagnosis

In this condition, diagnosis can be done by two ways (or) methods.

1. Direct evidence
2. Indirect evidence
Direct evidence:

This may be possible in the following situations.

1. When worms passed in the faeces particularly after the treatment when the parasite gets paralyzed and get propelled by peristalsis.
2. When the worm is vomited out.
3. On radiological examination this may be particularly obvious when to worms are lying parallel like “Trolley car lines”.

Demonstration of eggs:

Each female worm produces and lays massive number of eggs per day. One are two direct wet mounts are usually sufficient to diagnose and infection with even a small number of worms. There are three techniques, to demonstrate the eggs.

These are

1. Concentration technique.
2. Sedimentation technique.
3. Floatation technique.

All type of eggs as described above can be seen in the stool sample. The eggs can also be demonstrated on duodenal aspiration of the bile.

Sputum Examination:

In pulmonary involvement of sputum may reveal eosinophils, charcoal laydon crystals and occasionally larvae of the parasite.

In Direct evidence:

1. Eosinophilia seen on blood examination in initial stages.
2. Dermal allergic reaction positively using powdered Ascaris antigen.
Prevention:

Ascariasis can be eliminated only if faecal contamination of soil can be prevented. The ascaris egg is highly resistant. Therefore the use of night soil as manure will lead to spread of the infection unless destruction of eggs in ensured by proper composting. Soak the vegetables and other garden crops containing iodine 200 ppm for 15 minutes which kills the eggs and larvae of ascaris and other helminthes.

Personal protection:

1. Water:

   Drinking water should be boiled up to 100°F and filtered to prevent infection through ingestion of infected cyclops. Especially in area with high endemicity of these infections.

2. Food:

   Under ground (or) fresh vegetables used for making salads should be thoroughly cleaned and preferably peeled before use. Pork, beef and fish should be cooked well to destroy the infective form of the parasite embedded in the flesh.

3. Skin:

   The children should be encouraged to wear shoes while playing in the field which are likely to be contaminated with infected faeces.

   They should not be allowed run bare feet in the open field.
Health education:

Personal hygiene:

1. The habit of washing hands after defaecation as well as before and taking food with antiseptic soaps should be encouraged.
2. Nails should be cut and cleaned daily.

Publicity:

The information on the mode of infection with the helminthes, methods of prevention and treatment should be widely disseminated.

1. Proper disposal of human stools.
2. Treatment of the affected individuals.
3. Education to children for sanitation and personal hygiene.
EVALUATION OF DISSERTATION TOPIC

Materials and methods

The clinical study on the disease kirumi pitham was carried out at the post graduate department of Noi Naadal in government siddha medical college, palayamkottai.

Case selection and supervision

The author have selected 10 cases of similar symptoms of Kirumi pitham under the supervision and monitoring by faculties and head of the department of post graduate Noi Naadal. All the cases were thoroughly examined and routine investigations performed.

Out of this 7 cases were selected for the study on Noi Naadal aspect of kirumi pitham. The clinical signs and symptoms of Kirumi pitham were taken from yugi Vaithiya Chindamani – 800).

1. Evaluation of clinical parameters:

The detail history and clinical features of the patients were taken carefully.

a. The clinical history contains.

1. Diet habits
2. Occupation
3. Sanitary status
4. Personal habits
5. Family history
6. Past history
7. Socio economic status
8. History of infectious disease
9. History of previous illness

were collected from the patient.

b. Clinical features of kirumi pitham are

1. Lower abdominal pain
2. Itching all over the body
3. Generalised body pain (Discomfort)
4. Constipation
5. Pain and swelling in upper and lower limbs.
6. Worms in stools
7. Stools offensive in nature

were taken as criteria for selection of patients.

2. Diagnosis:

The diagnosis is made on the basis of interpretation of the following siddha principles.

1. Envagai Thervugal
   a. Poriyaal therthal
   b. Pulanal arithal
   c. Vinaadtal
2. Mukkutru nilai
3. Udal thathukkal nilai
3. Investigation:

Clinical investigation such as

Routine haematological examination
a. Total Count
b. Differential Count
c. Haemoglobin
d. Erythrocyte Sedimentation rate.
e. Blood sugar
f. Blood Urea

Routine urine analysis
a. Albumin
b. Sugar
c. Deposits

Examination of stool:

Stool samples of affected patients by kirumi pitham were tested macroscopically for colour, quantity, nature (solid, semisolid, watery) odour and irugal.

Microscopical examination of stool for the presence of ova and cyst of ascaris lumbricoids were carried out.

4. Cases sheet proforma:

The signs and symptoms of kirumi pitham were properly recorded in separate proforma.
OBSERVATION AND RESULTS

1. Results are observed with respect to the following aspects:
   
i. Age and Sex reference.

   ii. Mukkutranilai

   iii. Udal Thathukkal

   iv. Envagai Thervugal

   v. Clinical Features

   vi. Laboratory Findings.

i. Age and Sex reference:

<table>
<thead>
<tr>
<th>Age</th>
<th>Sex</th>
<th>Total No. of Cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Male</td>
<td>Female</td>
</tr>
<tr>
<td>Up to 10 yrs</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>10 – 20 yrs</td>
<td>5</td>
<td>1</td>
</tr>
<tr>
<td>20 – 50 yrs</td>
<td>1</td>
<td>-</td>
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</tbody>
</table>
### Table 6: Derangement of Vali

<table>
<thead>
<tr>
<th>S. No</th>
<th>Types of Vali</th>
<th>No of cases affected</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Pranaan</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>2.</td>
<td>Abanaan</td>
<td>4</td>
<td>Constipation</td>
</tr>
<tr>
<td>3</td>
<td>Viyanaan</td>
<td>7</td>
<td>Generalised body pain</td>
</tr>
<tr>
<td>4</td>
<td>Uthanaan</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Samanaan</td>
<td>7</td>
<td>Reduced appetite</td>
</tr>
<tr>
<td>6</td>
<td>Nagaan</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Koorman</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>8</td>
<td>Kirukaran</td>
<td>6</td>
<td>Reduced appetite</td>
</tr>
<tr>
<td>9</td>
<td>Devathathan</td>
<td>7</td>
<td>Tiredness</td>
</tr>
<tr>
<td>10</td>
<td>Denanjeyan</td>
<td>-</td>
<td>-</td>
</tr>
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</table>

### Table 7: Derangement of Azhal

<table>
<thead>
<tr>
<th>S. No</th>
<th>Types of Azhal</th>
<th>No of cases affected</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Anar pitham</td>
<td>6</td>
<td>Reduced appetite</td>
</tr>
<tr>
<td>2</td>
<td>Ranjagam</td>
<td>3</td>
<td>Tiredness</td>
</tr>
<tr>
<td>3</td>
<td>Sadhagam</td>
<td>7</td>
<td>Difficulty to do their work</td>
</tr>
<tr>
<td>4</td>
<td>Aalosagam</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Prasagam</td>
<td>7</td>
<td>Itching all over the body</td>
</tr>
</tbody>
</table>
Table 8: Derangement of Iyam

<table>
<thead>
<tr>
<th>S. No</th>
<th>Types of Iyam</th>
<th>No of cases affected</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Avalampagam</td>
<td>6</td>
<td>Blanching function disturbed</td>
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<tr>
<td>2</td>
<td>Kilethagam</td>
<td>6</td>
<td>Reduced appetite</td>
</tr>
<tr>
<td>3</td>
<td>Bothagam</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>4</td>
<td>Thorpagam</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Santhigam</td>
<td>-</td>
<td>-</td>
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</tbody>
</table>

iii. Udal Thathukkal:

Table 9:

<table>
<thead>
<tr>
<th>S. No</th>
<th>Udal Thathukkal</th>
<th>No of cases affected</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Saaram</td>
<td>7</td>
<td>Fatigue</td>
</tr>
<tr>
<td>2</td>
<td>Senneer</td>
<td>7</td>
<td>Itching all over the body</td>
</tr>
<tr>
<td>3</td>
<td>Oon</td>
<td>7</td>
<td>Tiredness</td>
</tr>
<tr>
<td>4</td>
<td>Kozhuppu</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>5</td>
<td>Enbu</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Moolai</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Sukkilam/Sornitham</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>
### iv. The Picture of Envagai Thervugal:

**Table 10:**

<table>
<thead>
<tr>
<th>Case No</th>
<th>Naa</th>
<th>Niram</th>
<th>Mozhi</th>
<th>Vizhi</th>
<th>Malam</th>
<th>Moothiram Neerkuri</th>
<th>Naadi</th>
<th>Sparisam</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>A</td>
<td>A</td>
<td>NA</td>
<td>NA</td>
<td>A</td>
<td>NA</td>
<td>PV</td>
<td>A</td>
</tr>
<tr>
<td>2</td>
<td>A</td>
<td>A</td>
<td>NA</td>
<td>NA</td>
<td>A</td>
<td>NA</td>
<td>PV</td>
<td>A</td>
</tr>
<tr>
<td>3</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>A</td>
<td>NA</td>
<td>PV</td>
<td>A</td>
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<tr>
<td>4</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>NA</td>
<td>A</td>
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<td>NA</td>
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<td>NA</td>
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<td>A</td>
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<td>6</td>
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<td>NA</td>
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<td>A</td>
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<td>NA</td>
<td>A</td>
<td>A</td>
<td>NA</td>
<td>VP</td>
<td>A</td>
</tr>
</tbody>
</table>

A – Affected  
PV – Pitha Vatham  
NA – Not Affected  
VP – Vatha Pitham

**Moothiram**

**Table 11:**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Neikuri</th>
<th>No. of Cases</th>
<th>Picture</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Mellena Paraval</td>
<td>4</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Aravil Mothiram</td>
<td>2</td>
<td><img src="image1" alt="Image" /></td>
</tr>
<tr>
<td>3</td>
<td>Mothirathil Aravam</td>
<td>1</td>
<td><img src="image2" alt="Image" /></td>
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</table>
v. Clinical Features:

Table 12:

<table>
<thead>
<tr>
<th>S. No</th>
<th>Clinical Features</th>
<th>No of cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Lower abdominal pain</td>
<td>7</td>
</tr>
<tr>
<td>2</td>
<td>Itching all over the body</td>
<td>7</td>
</tr>
<tr>
<td>3</td>
<td>Generalized body pain</td>
<td>7</td>
</tr>
<tr>
<td>4</td>
<td>Constipation</td>
<td>4</td>
</tr>
<tr>
<td>5</td>
<td>Reduced urine output</td>
<td>-</td>
</tr>
<tr>
<td>6</td>
<td>Swelling and pain in the upper and lower limbs.</td>
<td>-</td>
</tr>
<tr>
<td>7</td>
<td>Expulsion of worms in stool</td>
<td>-</td>
</tr>
</tbody>
</table>
### vi. Laboratory Findings

#### Table 13

<table>
<thead>
<tr>
<th>Cases No</th>
<th>Blood</th>
<th>Bio-Chemical</th>
<th>Urine</th>
<th>Motion</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TC cells / cumm</td>
<td>DC cells</td>
<td>ESR</td>
<td>Sugar msg%</td>
</tr>
<tr>
<td>1</td>
<td>10200</td>
<td>70 22 6</td>
<td>10 16</td>
<td>66</td>
</tr>
<tr>
<td>2</td>
<td>8100</td>
<td>55 40 5</td>
<td>8 16</td>
<td>65</td>
</tr>
<tr>
<td>3</td>
<td>9000</td>
<td>49 38 13</td>
<td>- -</td>
<td>80</td>
</tr>
<tr>
<td>4</td>
<td>9200</td>
<td>60 30 10</td>
<td>5 10</td>
<td>75</td>
</tr>
<tr>
<td>5</td>
<td>7200</td>
<td>54 36 10</td>
<td>10 20</td>
<td>80</td>
</tr>
<tr>
<td>6</td>
<td>9500</td>
<td>59 30 11</td>
<td>5 10</td>
<td>78</td>
</tr>
<tr>
<td>7</td>
<td>9800</td>
<td>50 40 10</td>
<td>6 12</td>
<td>60</td>
</tr>
</tbody>
</table>

AOP : Ascaris Ova Present
STATISTICAL ANALYSIS OF KIRUMI PITHAM

Study subjects were analysed by the statistics mean median and percentages. The inference about the etiology was obtained by use the test of significance ‘Z’ proportion of single sample.

Observation and results:

The variations are related to kirumi pitham diseases where observed and assigned, under the rule of heading of the respective variations and phenomena.

Age

Age is one of the crucial factor of incidences of kirumipitham. Since the disease are occurring among the youngest than the aged. The incidence of the disease was analysed in the basis of age is tabulated as follows.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Age group</th>
<th>No of cases</th>
<th>%</th>
<th>Mean</th>
<th>Median</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>10 – 14</td>
<td>4</td>
<td>57.2</td>
<td>NS</td>
<td>16.4</td>
<td>13</td>
</tr>
<tr>
<td>2.</td>
<td>15 – 19</td>
<td>2</td>
<td>28.5</td>
<td>NS</td>
<td>Years</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>35 -39</td>
<td>1</td>
<td>14.3</td>
<td>NS</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Total</td>
<td>7</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 14:
The above table clearly shows the study subjects characteristics in terms age. The mean age is 16.4±8.6 years. The median age 13 years. Fifty percent of the study subjects are below the age of 13 years. The incidence of the kirumi pitham the age group of 10-14 is 57.27 where as the incidence in the other age group namely 15-19 and 35-39 are 28.5% and 14.3% respectively. But the above proportions are not statistically significant.

**Etiology:**

The main and fore most etiology of the diseases are posted below and the incidences are analysed and interpreted.

<table>
<thead>
<tr>
<th>S.No</th>
<th>Name of etiology</th>
<th>n</th>
<th>No of cases affected</th>
<th>Affected Percentage</th>
<th>Significant</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Intake of unboiled water</td>
<td>7</td>
<td>7</td>
<td>100</td>
<td>Significant</td>
</tr>
<tr>
<td>2.</td>
<td>Contaminated food</td>
<td>7</td>
<td>3</td>
<td>42.9</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3.</td>
<td>Poor sanitation</td>
<td>7</td>
<td>2</td>
<td>28.6</td>
<td>Not Significant</td>
</tr>
<tr>
<td>3.</td>
<td>Contact in Soil</td>
<td>7</td>
<td>2</td>
<td>28.6</td>
<td>Not Significant</td>
</tr>
<tr>
<td>4.</td>
<td>Bar foot</td>
<td>7</td>
<td>3</td>
<td>42.9</td>
<td>Not Significant</td>
</tr>
<tr>
<td>5.</td>
<td>Improper Personal hygiene</td>
<td>7</td>
<td>5</td>
<td>71.4</td>
<td>Significant</td>
</tr>
</tbody>
</table>

The above analysis, the suitable etiology of unboiled water (100%) is statistically significant and that is fore must etiology. Similarly improper personal hygiene is also the second most crucial etiology of Kirumi pitham. The etiology illustrated in the above table namely contaminated food, poor sanitation, contact in soil, and bar foot, come not statistically significant etiologies.
Mukkuttra Nilaigal

The mukkutra nilaigal namely vali, azhal and iyam are tabulated and analysed in terms of percentages of its occurrence in the diseases.

Table 16:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Components</th>
<th>n</th>
<th>Types</th>
<th>Affected cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>1. Vali</td>
<td></td>
<td>7</td>
<td>Abanaan</td>
<td>4</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>Viyanaan</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>Samanaan</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>Kirukaran</td>
<td>6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7</td>
<td>Devathathan</td>
<td>7</td>
</tr>
</tbody>
</table>
| 2. Azhal |          | 7 | Anarpitham     | 6   | 85.7%
|         |           | 7 | Ranjagam       | 3   | 42.9%
|         |           | 7 | Sadhagam       | 7   | 100%
|         |           | 7 | Prasagam       | 7   | 100%
| 3. Iyam |          | 7 | Avalampagam    | 5   | 85.7%
|         |           | 7 | Kilathagam     | 6   | 85.7%

The types of mukkuttra nilaigal viyanan, samanan, Devathathan, Sadhagum and pragam are observed cent persent. The Kirukaran, Anarpitham, Avalamgergam, and Kilethagam are observed 85.7% of cases. The abanan and Ransagam are observed 57.1% and 42.9% respectively.
**Udal Thathukkal:**

The affected Udal Kattukkal of the Kirumi Pitham disease are enumerated and analysed.

**Table 17:**

<table>
<thead>
<tr>
<th>S.No</th>
<th>Udal Thathukkal</th>
<th>n</th>
<th>Affected</th>
<th>Changes observed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>1.</td>
<td>Saaram</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Senneer</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Oon</td>
<td>7</td>
<td>7</td>
<td>100</td>
</tr>
</tbody>
</table>

The enumerated Udal Thathukkal are cent present affected.
Envagai Thervugal

The Siddha diagnostic rule is applied to all the cases and the observation are tabulated and analysed.

Table 18:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Envagai thervugal</th>
<th>n</th>
<th>Affected type</th>
<th>Affected cases</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>%</td>
</tr>
<tr>
<td>1.</td>
<td>Naa</td>
<td>7</td>
<td>-</td>
<td>4</td>
<td>57.1</td>
</tr>
<tr>
<td></td>
<td>Niram</td>
<td>7</td>
<td>-</td>
<td>3</td>
<td>42.9</td>
</tr>
<tr>
<td></td>
<td>Mozhi</td>
<td>7</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Vizhi</td>
<td>7</td>
<td>-</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td>Malam</td>
<td>7</td>
<td>-</td>
<td>7</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Naadi</td>
<td>7</td>
<td>Pithavatham</td>
<td>5</td>
<td>71.5</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Vathapitham</td>
<td>2</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td>Sparism</td>
<td>7</td>
<td>-</td>
<td>7</td>
<td>100%</td>
</tr>
<tr>
<td></td>
<td>Moothiram</td>
<td>7</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Neerkuri</td>
<td>7</td>
<td>-</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>Neikuri</td>
<td>7</td>
<td>Mellenaparaval</td>
<td>4</td>
<td>57.1</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aravil mothiram</td>
<td>2</td>
<td>28.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Mothirthil</td>
<td>1</td>
<td>14.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Aravam</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

No cases are observed in mozhi and neekurai.
Clinical features:

The Clinical findings of the Kirumi Pitham are tabulated is followers

Table 19:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Clinical findings</th>
<th>n</th>
<th>Cases</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
<td>%</td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Lower abdominal pain</td>
<td>7</td>
<td>7</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Itching all over the body</td>
<td>7</td>
<td>7</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Generalised body pain</td>
<td>7</td>
<td>7</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Constipation</td>
<td>7</td>
<td>4</td>
<td>57.1</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Expulsion of worms in stool</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

The indications of lower abdominal pain, Itching all over the body and generalized body pain are observed all cases (100%). The constipation is observed only in 57.1% of the cases.
Investigations – Blood

The blood investigations results are posted in terms mean and its std. deviations.

Table 20:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Blood investigation</th>
<th>A</th>
<th>Mean</th>
<th>S.D</th>
<th>95% C.I. of mean for Kirumi Pitham cases</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>TC cells/ cumm</td>
<td>7</td>
<td>9000</td>
<td>1034</td>
<td>8023 to 9977</td>
</tr>
<tr>
<td>2.</td>
<td>DC P%</td>
<td>7</td>
<td>56.7</td>
<td>7.2</td>
<td>49.9 to 63.5</td>
</tr>
<tr>
<td>3.</td>
<td>DC L%</td>
<td>7</td>
<td>34.0</td>
<td>6.1</td>
<td>29.4 to 38.6</td>
</tr>
<tr>
<td>4.</td>
<td>DC E%</td>
<td>7</td>
<td>9.3</td>
<td>2.8</td>
<td>6.7 to 11.9</td>
</tr>
<tr>
<td>5.</td>
<td>ESR- mm/hr</td>
<td>7</td>
<td>12</td>
<td>6.4</td>
<td>5.9 to 18.00</td>
</tr>
<tr>
<td>6.</td>
<td>HB%</td>
<td>7</td>
<td>72</td>
<td>8.2</td>
<td>64.3 to 79.7</td>
</tr>
</tbody>
</table>

Investigations - Motion

Table 21:

<table>
<thead>
<tr>
<th>S.No</th>
<th>Motion test</th>
<th>n</th>
<th>Affected cases</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td>No</td>
</tr>
<tr>
<td>1.</td>
<td>AOP</td>
<td>7</td>
<td>7</td>
</tr>
</tbody>
</table>

AOP- Ascaris Ova Present

Cent percentage of cases having ascaris ova in motion test.
Viral Kadai alavu

The viral kadai alavu of Kirumi Pitham cases are analysed and posted as follows

Table 22:

<table>
<thead>
<tr>
<th>Viral kadai alavu</th>
<th>8 ¼</th>
<th>8 ½</th>
<th>8 ¾</th>
<th>9</th>
<th>10</th>
<th>Total</th>
<th>Mean</th>
<th>Media</th>
<th>S.D</th>
</tr>
</thead>
<tbody>
<tr>
<td>No. of cases</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>7</td>
<td>8.78</td>
<td>8 ½</td>
<td>0.59</td>
</tr>
</tbody>
</table>

The median viral Kadai alavu of Kirumi Pitham cases is 8 ½. The mean virakadu alaru 8.78 + 0.59
DISCUSSION

Kirumi Pitham is one of the gastrointestinal disorders. This disease is well defined in Yugi Vaidhya Chindamani and it resembles with intestinal Ascariasisis.

In the following observations, results of the Clinical study for Kirumi Pitham is discussed relevant to the following headings.

INTERPRETATION OF OBSERVED CLINICAL PARAMETERS:

1. Age and sex Reference:

The incidence of Kirumi Pitham Occurs in people belongs to 10-20 years of age and in common to both sexes, but it is predominant in males, due to their increased change of taking fast foods.

2. Socio-economic status:

The Occurrence of Kirumi Pitham symptoms are mostly in people under the poor socio-economic status, due to poor sanitation

3. Diet Habits:

On observation, the disease develops only those who take contaminated water, food.

4. Case Study:

For all the cases of Kirumi Pitham, the author can’t seen the complicated stages of the disease because of the improved knowledge of persons to get medical advice when they are in acute stage of the diseases.
## Table 23: Vali

<table>
<thead>
<tr>
<th>S. No</th>
<th>Deranged humor</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Piranaan</td>
<td>Impaired utilization of nutrients.</td>
</tr>
<tr>
<td>2.</td>
<td>Abaanan</td>
<td>Constipation</td>
</tr>
<tr>
<td>3.</td>
<td>Viyaanan</td>
<td>Generalized body pain</td>
</tr>
<tr>
<td>4.</td>
<td>Samaanan</td>
<td>Reduced appetite</td>
</tr>
<tr>
<td>5.</td>
<td>Koorman</td>
<td>Conjunctivitis</td>
</tr>
<tr>
<td>6.</td>
<td>Kirukaran</td>
<td>Reduced appetite</td>
</tr>
<tr>
<td>7.</td>
<td>Devathathan</td>
<td>Tiredness</td>
</tr>
</tbody>
</table>

## Table 24: Azhal

<table>
<thead>
<tr>
<th>S. No</th>
<th>Deranged humor</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Anilam</td>
<td>Reduced appetite.</td>
</tr>
<tr>
<td>2.</td>
<td>Ranjagam</td>
<td>Tiredness</td>
</tr>
<tr>
<td>3.</td>
<td>Saathagam</td>
<td>Difficulties do their work.</td>
</tr>
<tr>
<td>4.</td>
<td>Prasagam</td>
<td>Itching all over its body.</td>
</tr>
<tr>
<td>5.</td>
<td>Aalosagam</td>
<td>Conjunctivitis and photophobia</td>
</tr>
</tbody>
</table>
### Table 25: Iyam

<table>
<thead>
<tr>
<th>S. No</th>
<th>Deranged humor</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Avlambagam</td>
<td>Balancing function disturbed</td>
</tr>
<tr>
<td>2.</td>
<td>Kilethagam</td>
<td>Reduced appetite</td>
</tr>
</tbody>
</table>

### UDAL THATHUKKAL NILAIGAL

#### Table 26:

<table>
<thead>
<tr>
<th>S. No</th>
<th>Udal Thathukkal</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Saaram</td>
<td>Fatigue</td>
</tr>
<tr>
<td>2.</td>
<td>Senneer</td>
<td>Itching all over the body</td>
</tr>
<tr>
<td>3.</td>
<td>Oon</td>
<td>Weakness of sense organs</td>
</tr>
<tr>
<td>4.</td>
<td>Kozuppu</td>
<td>Loss of energy</td>
</tr>
<tr>
<td>5.</td>
<td>Enbu</td>
<td>Hair falling</td>
</tr>
<tr>
<td>6.</td>
<td>Moolai</td>
<td>Reduced urine output</td>
</tr>
</tbody>
</table>
**Table 27**

<table>
<thead>
<tr>
<th>S. No</th>
<th>Envagai thervugal</th>
<th>Changes</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Naa</td>
<td>Coated tongue</td>
</tr>
<tr>
<td>2.</td>
<td>Niram</td>
<td>Pallor</td>
</tr>
<tr>
<td>3.</td>
<td>Vizhi</td>
<td>Paleness of the conjunctiva</td>
</tr>
<tr>
<td>4.</td>
<td>Mozhi</td>
<td>Sama oli</td>
</tr>
<tr>
<td>5.</td>
<td>Sparisam</td>
<td>Itching all over the body.</td>
</tr>
<tr>
<td>6.</td>
<td>Naadi</td>
<td>Pitha Vatham</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Vatha Pitham</td>
</tr>
<tr>
<td>7.</td>
<td>Malam</td>
<td>Yellow</td>
</tr>
<tr>
<td></td>
<td>Colour</td>
<td>Constipation</td>
</tr>
<tr>
<td></td>
<td>Consistency</td>
<td>Decreased</td>
</tr>
<tr>
<td></td>
<td>Quantity</td>
<td></td>
</tr>
<tr>
<td>8.</td>
<td>Moothiram</td>
<td>Yellow</td>
</tr>
<tr>
<td></td>
<td>a. Neerkuri</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>Colour</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>Odour</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Froth</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Specificgravity</td>
<td>-</td>
</tr>
<tr>
<td></td>
<td>Deposity</td>
<td>Nil</td>
</tr>
<tr>
<td></td>
<td>b. Neikuri</td>
<td>i. Oil slowly spreads in the urine</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ii. Initially spreads like a serpent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>and then forms ring shape</td>
</tr>
<tr>
<td></td>
<td></td>
<td>iii. In some cases initially the oil</td>
</tr>
<tr>
<td></td>
<td></td>
<td>spreads like ring and then forms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>serpent shape.</td>
</tr>
</tbody>
</table>

86
All the changes in Envagai thervugal depicts the derangement of three humors is Kirumi Pitham confirms the diagnosis.

So all the results observed are curable by the administration at drugs and health diets.

**INTERPRETATION OF ALLIED PARAMETERS**

In some cases of Kirumi Pitham, in routine examination of blood, shows esonophils count increased between 5-10/ cu mm blood.

Stools examination of Kirumi Pitham gives Ascaris ova in present the stools.

Clinical features of Kirumi Pitham and stool examination are very helpful to confirm the diagnosis.

**MANIKKADAI NOOL:**

The viral Kadai alavu also indicates various symptoms of the disease.

In Kirumi Pitham 8½ Viralkadai alvu is noted for majority of cases.

81/2= Itching all over the body

81/4= Generalised body pain
Kirumi Pitham comes under Pitha rogam nithanam in Yugi Vaithiya Sinthamani 800 which is characterized by lower abdominal pain, Itching all over the body, generalized body pain, constipation, reduced urine out, pain and swelling of upper and lower limbs, worms expels in motion.

In the disease Kirumi Pitham changes in Azhal humour plays a vital role, which is first affect then vali humour is affected.

In various Siddha text books like segarasa sekaram the worm infestation is kept under Azhal disease like Yugi vaithiya sinthamani to prove the fact that the Azhal humour is affected first.

In acute stage of the disease, the provoked Azhal and Vali disturb the digestion and absorption of food producing nutritional deficiency. If acute stage is not treated properly it will leads to Intestinal obstruction and protein, energy malnutrition.

Kirumi Pitham is precisely diagnosed early with the help of sound knowledge of clinical features, and motion containing ova and cyst of ascaris lumbricoides.
CONCLUSION

The lines that were said by Yugi in Yugi Vaithiya Sinthamani 800 under the heading “Kirumi pitham” well explained and the clinical conditions of Kirumi Pitham is similar to Intestinal ascariasis.

The lines of the version were well analyzed on the Siddha and modern parameters and the patients were thoroughly examined with clinical and biochemical analysis.

Envagi thervugal, Neerkuri and Neikuri helped in the proper diagnosis of the disease.

Routine biochemical examinations were carried out to know the general condition of all patients. Stool examinations were carried out to confirm the diagnosis.

As a Siddha physician we know the importance of our “Nai illa Neri Principles” which can only prevent our people from many of these ailments.

Number of cases reporting to O.P and I.P is decreased due to increased health education and maintenance of proper hygiene through preventive aspect to the latest techniques. Reporting cases were also controlled in initial stage without progressing to complicated stage with early diagnosis and proper treatment.
PROTOCOL

A STUDY TO DIAGNOSE KIRUMI PITHAM

THROUGH SIDDHA DIAGNOSTIC METHODOLOGY

By,

Dr. P. BUVAESHWARI, P.G. STUDENT,
DEPARTMENT OF NOI NAADAL,
G.S.M.C., PALAYAMKOTTAI.

BACKGROUND

KIRUMIPITHAM

It denotes the intestinal helminthic worm infestation caused by Ascaris lumbricoids. It is transmitted by unhygienic food handling and poor sanitation.

In Yugi Vaithiya Sinthamani, he classified 42 types of Pitha diseases, “Kirumi Pitham” is one among the pitha classifications.

Yugi, explained, “kirumi Pitham” as mentioned below.

In kirumipitham,

Lower abdominal pain
Itching all over the body
Generalised body pain
Constipation and decreased urine output
Pain and swelling of upper and lower limbs
Worms in Stools
Stools, offensive in nature.
II. AIM

a) PRIMARY AIM:-

To Diagnose “Kirumi Pitham” through Envagai thervu and Manikkadai nool.

b) SECONDARY AIM :-

To Correlate “Kirumi Pitham” with Nilam, kaalam and Sothidam.

III. POPULATION AND SAMPLE

Kirumi Pitham (As Explained Above Under The Song). Patients satisfying the inclusion and exclusion criteria mentioned below.

The samples of Kirumi Pitham patients are selected from O.P. of Govt. Siddha Medical College, Palayamkottai, under the guidance of our Faculties and Head of the Department of Post Graduate Noi Naadal Department.

IV. SAMPLE SIZE:-

A sample size of 10 patients will be taken for detailed study.

V. INCLUSION CRITERIA:

1. All age groups.
2. Complaints of atleast 1-2 months duration
3. Willing to give blood, urine and motion specimen for investigations when required.

VI. EXCLUSION CRITERIA:-

1. Enterobius Vermicularis Infection.
2. Ancylostoma Duodenale Infection.
3. Trichuris Trichira Infection.

VII. CONDUCT:

Kirumi Pitham patients satisfying the inclusion and exclusion criteria will be included in this study.

Siddha Diagnostic procedure such as Envagai thervu, Manikkadai nool, Nilam, Kaalam, Sothidam of the patients will be noted.

VIII. FORM :

Form – Diagnostic Proforma for Kirumi Pitham
A Study to Diagnose “Kirumi Pitham” through Siddha Diagnostic Methodology

SELECTION PROFORMA


11. Address:

..............................................................
..............................................................
..............................................................

12. Complaints and duration:

..............................................................
..............................................................
..............................................................

13. History of present illness:

..............................................................
..............................................................
..............................................................

14. Past history:

..............................................................
..............................................................
..............................................................

15. Family History:

..............................................................
..............................................................
..............................................................
### 16. Habits

<table>
<thead>
<tr>
<th></th>
<th>1. Yes</th>
<th>2. No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Betelnut chewer</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>2. Tea</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>3. Coffee</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>4. Food habits</td>
<td>V</td>
<td>NV</td>
</tr>
<tr>
<td>a. Intake of uncooked foods</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>b. Intake of fast foods</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
</tbody>
</table>

### 17. GENERAL ETIOLOGY FOR KIRUMI PITHAM

<table>
<thead>
<tr>
<th></th>
<th>1. Yes</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1. Intake of unboiling water</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>2. Contaminated food</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>3. Poor sanitation</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>4. Contact in soil</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>5. Bar foot</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>6. Improper personal hygiene</td>
<td>[ ]</td>
<td>[ ]</td>
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</tbody>
</table>

### 18. GENERAL EXAMINATION

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Weight (kg)</td>
<td>:</td>
<td>[ ] [ ]</td>
</tr>
<tr>
<td>2. Temperature (°F)</td>
<td>:</td>
<td>[ ] [ ]</td>
</tr>
<tr>
<td>3. Pulse rate/minute</td>
<td>:</td>
<td>[ ] [ ]</td>
</tr>
<tr>
<td>4. Heart rate/minute</td>
<td>:</td>
<td>[ ] [ ]</td>
</tr>
<tr>
<td>5. Respiratory rate/minute</td>
<td>:</td>
<td>[ ] [ ]</td>
</tr>
<tr>
<td>6. Blood pressure (mmHg)</td>
<td>:</td>
<td>[ ] [ ] [ ] [ ] [ ]</td>
</tr>
<tr>
<td></td>
<td>1. Yes</td>
<td>2. No</td>
</tr>
<tr>
<td>---</td>
<td>-------</td>
<td>------</td>
</tr>
<tr>
<td>7. Pallor</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>8. Jaundice</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>9. Cyanosis</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>10. Lymphadenopathy</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>11. Pedal edema</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>12. Clubbing</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>13. Jugular venous pulsation</td>
<td>☐</td>
<td>☐</td>
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</table>

**19. VITAL ORGANS EXAMINATION**

<table>
<thead>
<tr>
<th></th>
<th>1. Normal</th>
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<tbody>
<tr>
<td>1. Heart</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>2. Lungs</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>3. Brain</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>4. Liver</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>5. Kidney</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>6. Spleen</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>7. Stomach</td>
<td>☐</td>
<td>☐</td>
</tr>
</tbody>
</table>
SIDDHA SYSTEM OF EXAMINATION
ENNVAGAI THERVUKAL

20. NAA

a. Maa Padinthiruthal
   1. Present □  2. Absent □

b. Niram

c. Suvai
   1. Pulippu □  2. Kaippu □  3. Inippu □

d. Vedippu
   1. Present □  2. Absent □

e. Vai neer ooral
   1. Normal □  2. Increased □  3. Reduced □

21. NIRAM


22. MOZHI

  1. Sama oli □  2. Urattha oli □  3. Thazhlntha oli □

23. VIZHI

a. Niram
   1. Karuppu □  2. Manjal □
   3. Sivappu □  4. Velluppu □

b. Kanneer
   1. Present □  2. Absent □

c. Erichchal
   1. Present □  2. Absent □

d. Peelai seruthal
   1. Present □  2. Absent □
24. MEI KURI
   a. Veppam
   b. Viyarvai
      1. Normal □  2. Increased □  3. Reduced □
   c. Thodu vali
      1. Persent □  2. Absent □

25. MALAM
   a. Niram
      1. Karuppu □  2. Manjal □
      3. Sivappu □  4. Velluppu □
   b. Sikkal
      1. Present □  2. Absent □
   c. Sirutthal
      1. Present □  2. Absent □
   d. Kalichchal
      1. Present □  2. Absent □
   e. Seetham
      1. Present □  2. Absent □
   f. Vemmai
      1. Present □  2. Absent □
26. MOOTHIRAM

I. NEER KURI

a. Niram
b. Manam
   1. Present   2. Absent
e. Nurai
   1. Nil   2. Increased   3. Reduced
d. Edai(Ganam)
   1. Normal   2. Increased   3. Reduced
e. Enjal(Alavu)
   1. Normal   2. Increased   3. Reduced

II. NEI KURI

1. Aravam   2. Mothiram
3. Muthu   4. Aravil Mothiram
5. Aravil Muthu   6. Mothirathil Aravam
7. Mothirathil Muthu   8. Muthil Aravam
9. Muthil Mothiram   10. Asathiyam
11. Mellena paraval
27. NAADI (KAI KURI)

I. Naadi Nithanam

a. Kalam

1. Kaarkaalam
2. Koothirkaalam
3. Munpanikaalam
4. Pinpanikaalam
5. Ilavenirkaalam
6. Muthuvenirkaalam

b. Desam

1. Kulir
2. Veppam


c. Vayathu

1. 1-33yrs
2. 34-66yrs
3. 67-100yrs


d. Udal Vanmai

1. Iyyalbu
2. Valivu
3. Melivu


e. Vanmai

1. Vanmai
2. Menmai

f. Panbu

1. Thannadai
2. Puranadai
3. Illaitthal
4. Kathithal
5. Kuthithal
6. Thullal
7. Azhutthal
8. Padutthal
9. Kalatthal
10. Munnookku
11. Pinnokku
12. Suzhalal
13. Pakkanokku

II. Naadi nadai

1. Vali
2. Azhal
3. Iyam
4. Vali Azhal
5. Vali Iyam
6. Azhal Vali
7. Azhal Iyam
8. Iyavali
9. Iya Azhal

98
28. MANIKADAI NOOL (Viral Kadai Alavu)

29. IYMPORIGAL / IYMPULANGAL

<table>
<thead>
<tr>
<th></th>
<th>Normal</th>
<th>Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Mei</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Vaai</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Kan</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Mookku</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Sevi</td>
<td></td>
</tr>
</tbody>
</table>

30. KANMENTHIRIYANGAL / KANMAVIDAYANGAL

<table>
<thead>
<tr>
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<th>Normal</th>
<th>Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Kai</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>Kaal</td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>Vaai</td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>Eruvaai</td>
<td></td>
</tr>
<tr>
<td>5.</td>
<td>Karuvaai</td>
<td></td>
</tr>
</tbody>
</table>

31. YAAKAI

<p>| | | | | |</p>
<table>
<thead>
<tr>
<th></th>
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32. GUNAM

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
</table>
### 33. UYIR THATHUKKAL

#### I. Vali

<table>
<thead>
<tr>
<th></th>
<th>1. Normal</th>
<th>2. Affected</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Uyirkkaal (Praanan)</td>
<td>☐</td>
</tr>
<tr>
<td>2.</td>
<td>Keelnokkukkaal (Abaan)</td>
<td>☐</td>
</tr>
<tr>
<td>3.</td>
<td>Nadukkaal (Samaanan)</td>
<td>☐</td>
</tr>
<tr>
<td>4.</td>
<td>Melmokkukkaal (Udhaanan)</td>
<td>☐</td>
</tr>
<tr>
<td>5.</td>
<td>Paravukaal (Viyaanan)</td>
<td>☐</td>
</tr>
<tr>
<td>6.</td>
<td>Vanthikaal (Naahan)</td>
<td>☐</td>
</tr>
<tr>
<td>7.</td>
<td>Vizhikkaal (Koorman)</td>
<td>☐</td>
</tr>
<tr>
<td>8.</td>
<td>Thummikkaal (Kirukaran)</td>
<td>☐</td>
</tr>
<tr>
<td>9.</td>
<td>Kottavikkaal (Devathathan)</td>
<td>☐</td>
</tr>
<tr>
<td>10.</td>
<td>Veengukkaal (Dhananjeyan)</td>
<td>☐</td>
</tr>
</tbody>
</table>

#### II. Azhal

<table>
<thead>
<tr>
<th></th>
<th>1. Normal</th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Aakkanal (Anala pitham)</td>
<td>☐</td>
</tr>
<tr>
<td>2.</td>
<td>Olloliththee (Prasaka pitham)</td>
<td>☐</td>
</tr>
<tr>
<td>3.</td>
<td>Vannayeri (Ranjaka pitham)</td>
<td>☐</td>
</tr>
<tr>
<td>4.</td>
<td>Nokku Azhal (Aalosaka pitham)</td>
<td>☐</td>
</tr>
<tr>
<td>5.</td>
<td>Aatralangi (Saathaka pitham)</td>
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#### III. Iyam

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Alilyam (Avalambagam)</td>
<td>☐</td>
</tr>
<tr>
<td>2.</td>
<td>Neerppi Iyam (Kilethagam)</td>
<td>☐</td>
</tr>
</tbody>
</table>
3. Suvaikaaan Iyam (Pothagam)  

4. Niraivu Iyam (Tharpagam)  

5. Ondri Iyam (Santhigam)  

34. UDAL THATHUKKAL

1. Normal  2. Affected

1. Saaram  

2. Senneer  

3. Oon  

4. Kozhuppu  

5. Enbu  

6. Moolai  

7. Suronitham/ Sukkilam  

35. MUKKUTRA MIGU GUNAM

I. Vali Migu Gunam  1. Present  2. Absent

1. Emaciation  

2. Blackish colouration of body  

3. Desire to take hot food  

4. Shivering of body  

5. Abdominal distension  

6. Insomnia  

7. Constipation  

8. Weakness  

9. Weakness of sense organs  

10. Giddiness  

11. Sluggishness
### II. Azhal Migu Gunam

1. **Present**
   - Yellowish discolouration of the skin
   - Yellowish discolouration of the eye
   - Yellowish discolouration of urine
   - Yellowish discolouration of faeces
   - Increased appetite
   - Burning sensation in the body
   - Insomnia

2. **Absent**

### III. Iyam Migu Gunam

1. **Present**
   - Excessive salivation
   - Eraippi (dyspnoea)
   - Heaviness of the body
   - Whiteness of the body
   - Chillness of the body
   - Reduced appetite
   - Cough
   - Increased sleep
   - Sluggishness

2. **Absent**

### 36. NOI UTRA KAALAM

1. Kaarkaalam
2. Koothirkaalam
3. Munpanikaalam
4. Pinpanikaalam
5. Ilavenirkaalam
6. Muthuvenirkaalam
37. NOI UTRA NILAM

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

38. Date of Birth

39. Time of Birth

40. Place of Birth

41. NATCHATHIRAM

1. Aswini
2. Barani
3. Karthikai
4. Rohini
5. Mirugaseeridam
6. Thiruvathirai
7. Punarpoosam
8. Poosam
9. Aayilyam
10. Makam
11. Pooram
12. Uthiram
13. Astham
14. Chithirai
15. Swathi
16. Visakam
17. Anusam
18. Kettai
19. Moolam
20. Pooradam
21. Uthiradam
22. Thiruvonam
23. Avittam
24. Sadayam
25. Poorattathi
26. Uthirattathi
27. Revathi
00. Not known

42. RASI

1. Mesam
2. Rishabam
3. Midhunam
4. Kadakam
5. Simmam
6. Kanni
7. Thulam
8. Viruchiham
9. Dhanusu
10. Maharam
11. Kumbam
12. Meenam
00. Not known
43. INVESTIGATION

I. BLOOD

1. TC (Cells/cumm) :  


3. Hb (gms%) :  

4. E.S.R. (mm/hr) : 1.1/2hr  2.1hr  

5. Blood Sugar (R) (mgs%) :  

II. URINE

1. Albumin : 0. Nil  1. Trace  2. +  3. ++  4. +++  

2. Sugar : 0. Nil  1. Trace  2. +  3. ++  4. +++  

3. Deposits  
   a. Pus cells  1. Yes  2. No  
   b. Epithelial cells  
   c. RBCs  
   d. Crystals  


III. MOTION TEST

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>1. Naked eye examination</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. Ova</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3. Cyst</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4. Occult blood</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>5. Culture.</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>

44. CLINICAL SYMPTOMS OF Kirumi Pitham

<table>
<thead>
<tr>
<th></th>
<th>1. Present</th>
<th>2. Absent</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Lower abdominal pain</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>2. Itching all over the body</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>3. Generalized body pain</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>4. Constipation</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>5. Decreased urine output</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>6. Oedema</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>7. Worms in stools</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>8. Offensive odor stools</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
BIBLIOGRAPHY

- Yugi Vaidhiya Chinthamani – 800
- Noi – Naadal – Part I & II
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- Therayar Kabeyam
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