

**A STUDY ON**

**KEELVAYU**

**(JUVENILE RHEUMATOID ARTHRITIS)**

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# *INTRODUCTION*



## INTRODUCTION

The Siddha system of Medicine is one of the ancient type of traditional medicine formulated by Siddhars, the blessed people.

Siddha gains its importance by treating the cause of the diseases and not merely the symptoms.

*“நோய்நாடி நோய்முதல் நாடி அது தணிக்கும்  
வாய் நாடி வாய்ப்பச் சொல்.”*

The system deals with tridosha theory and pancha bootha theory regarding the assessment and treatment of the disease.

Siddhars knowledge of iatrochemistry, Minerals, metals and plants was stupendous. They successfully used them from time immemorial. The process like calcinations of mercury, minerals and metals and the preparation of a super salt known as “Muppu”, animated mercury pill with high potency processing, marvelous properties of transmuting metals and capable of rejuvenating the entire human system, bear ample testimony to the fact that, even in the remote past when knowledge in chemical technology was not fully developed, siddhars had unpatrolled knowledge in Medicine.

*“குழலினது யாழ்இனிது எனபதம் மக்கள்  
மழலை சொல் கேளாதவர்- திருக்குறள் மக்கட்பேறு”*

**அதிகாரம்-7**

These few lines highlight the gloriness of childhood.

Balavagadam or kulzhanthi maruthuvam is the branch of medical science of Siddhars which deals with the diseases of children, their essential nature,

especially on the functional changes together with planetary influence, morbid diathesis etc and the treatment.

As a step towards the Healthy India against Auto immune disease author had selected the disease “Keel vayu”.

The disease keelvayu is compared with modern medicine and its prognosis with the trial medicine. Keel Vayu Nivarana Choornum.

Approximately 2, 94,000 children under the age of 16 are affected by Juvenile Rheumatoid Arthritis- WHO reports.

Hence it is global alarm which reminds us of our duty to evaluate a new drug in treating this dreadful disease.

Let us try to spread the knowledge of Siddha medicine and do well for the public

# *Aim and Objectives*

## **AIM AND OBJECTIVES**

**AIM:** To study the efficacy and action of the trial medicine.

**“KEEL VAYU NIVARNA CHOORNUM”** against KEEL VAYU in Children under the age- group of 3-13 years in OPD and IP in Government Siddha Medical College, Palayamkottai.

**Objectives:**

**PRIMARY OBJECTIVE:**

To evaluate the clinical efficacy of Medicine to reduce the pain, also the restricted movements.

**SECONDARY OBJECTIVE:**

- 1) To study the aetiology, pathogenesis symptomatology, prognosis of keel vayu ie Juvenile Rheumatoid Arthritis and preventive measures.
- 2) To study the Biochemical constituents and Pharmacological actions of the trial drug.
- 3) To have a complete study of the disease keelvayu, under the headings of
  - a) Poripulungal
  - b) Ennvagaitervugal
  - c) Udal kattugal
  - d) Mukkutram etc
- 4) To study the Siddha principals of Neerkuri, Neikuri to wards the efficacy of the medicine.
- 5) To evaluate the pharmacological study of the trial drug
- 6) To study the bio chemical analysis of the trial drug

# *Review of Literature*

# *Siddha Aspects*

## LITERATURE REVIEW (SIDHA ASPECT)

### KEEL VAYU

‘KEEL VAYU’ is one of the vatha disease which is described as poruthu vatham in kumba munibalavagadam.

#### Definition:

The term keelvayu denotes all kinds of joint disease caused by the derangement of one of the uyirthathu

Refernce “Vatham”. Indian Journal of Traditinal Knowledge Vo16, page 684 October 2007.

Indian Journal of Traditinal Knowledge Vo16, page 684 October 2007

OTHER NAMES: According to Agasthiyar Gunavagadam

“ தானான கீல்வாத ரோகம் பேரை

சாற்றுகிறேன் நீயறிய விபரமாக

மானான வாய்வு ரோகம்வாதரோகம்

மகத்தான முட்கு வாய்வு முடக்கு வாதம்

தேனான சந்தீக சிலேட்டும ரோகம்

தெளிவான கைகரில் பிடிப்பு ரோகம்

ஊனான ரசவாதம் சூலைகட்டு

உத்தமனே சந்திவாதம் வாத சூலை யாமே

ஆ மென்ற இத்தனையும் அதற்கு போராம்

-அகத்தியர் குணவாகடம்

Since the disease causes pain in the joint or santhu or muttu or poruthu or keel, it is called as keelvayu or muttuvatham or santhuvai or poruthu vatham

## NOI KURI KUNAM: (CLINICAL FEATURES)

### முட்டு வாத குணம்

“தானே முட்டு வாதமது தான் செய்யும் குணத்தைக்

ஈனமா முட்டு ரண்டு விதைத்தது போலே கேளு

பானமாய் சாமே காயும் பதக்களை நீர் தான் வீங்கும்

ஊனமாய் நடக்கொண்ணாது முட்டின் கீழ் உணர்ந்து போமே.”

-மதலை நொய் தொகுதி II page 6185

“வாதமே வாயுவாகும் வாதமே காலிற்சேரும்”.

-பரராச சேகரம்

“அறிய விம்மூன்றின் தாண்மை சொன்னார் நந்தி

எறிய நல்வாதமெறிக்குங் குணங் கேளு

குறியெனக் கைகால்குளச்சு விலாச்சந்து

பறியென நொந்துடற் பச்சைப் புண்ணாகுமே”.

-திருமூலர் வைத்தியம்

From above literature the disease keel vayu is characterised by swelling of joints, fever, difficulty in walking, Sensation below joint and is a disorder of joints.



The Literature,

Also denotes that the character of vatha vitiation is aches and pain of joints arm and legs along with pain of ribs.

According to kumba muni bala vagardam.

“உருத்தாகவே பொருத்து வாதமேயறி உண்மை யோடு பன்மையுறவே  
உரியவுடலே பொருத்துகளின் நீருறும் உளையுமது  
வருத்தமுடனே பனிகுளிரானது மேயுறும் இசைவுகளிள கியதீரும்  
வளரு கைகாலுகள உறுப்பு பலதானதும் தளரும் அயாந்து வீழும்  
திருத்தமுடனே கைகால் முடமாகுமே தேகம் உலர்ந்து வறளும்  
திறமாகவே முகம் வேறுபட்ட அயருமே அகம் உளைந்து அயரும்  
பொருத்தமுறவே மயிர் யிறுகியது கருகுமே தசையுலாந்தே மெலியுமே  
போதமுறு வேதமுனி கூறுமுறையின் படி நீதமுறவே உரைத்தேன்.

-கும்ப முனி பாலவாகடம் page 188 பாடல் :749

From Kumba Muni BalaVagadakeel vayu characterised by

- i) Fluid accumulation in joints.
- ii) Vague pain of joints especially when Exposed to cold climate.Both limbs loss locomotive function.
- iii) Resticted movements of hands and legs
- iv) Painful facial expression
- v) Constipation
- vi) Muscular wasting

In TV samb sivam pillai medicinal dictionary keelvayu is described as

*“சந்து வாதம்- பொதுவாக அழற்சியினால்*

*உடம்பில் முழங்கால் முதலிய பொருத்துகளை*

*தாக்கி வீக்கம் கண்டு, வலியுடன் கீல்களை*

*சுற்றியுள்ள சவ்வுக்கு காணும் ஓர் வாத நோய்.”*

A form generally employed to inflammatory disease acute or chronic of the whole or greater part of the fibrous structures that constitute the formation of a joint arthritis.

### **நோய் எண்(CLASSIFICATION)**

In Kumba muni bala vagadam vatha diseases were described. One of them poruthu vatham (Keelvayu),but poruthu vatham classification is not yet available.

From kumbu Muni Bala vagadam Noi Enn.

*“அன்ன நடை கன்னல் மொழி மின்னலிடை யின்னுமே வன்ன மயில் சாயலுடைய  
அழகுரிய மங்கையே பெயரு வகை சொல்லுவேன் வாதமது எட்டதுக்கும்  
உண்ணு சுரவாத மும் அக்கினி வாதமும் மூல வாதத்தினுடனே  
உறவாயுணக்கலின் வாதமோடு மேல்முச்ச வாதமுடனின்னமும் தான்  
குன்று விதை வாதமும் பொருத்து வாதத்தோடு அதிசார வாதமுடனே  
கூறினெனெட்டுவகை வாதமதுமாகுமே வாதமுடனே கோதையே  
நீதமுறவே பின்னமணுகாமலே கும்பமுனி சொல்படி பேச முன்னனூலை யாய்ந்து  
பெருமையுடனருமையுறு செந்தமிழாகவே பேதையே சொல்லுற்றேன்”*

## எட்டு வகை வாதம்

1. சுரவாதம்
2. அக்கினி வாதம்
3. மூலவாதம்
4. விதை வாதம்
5. உணக்கு வாதம்
6. பொருத்து வாதம்
7. அதிசார வாதம்
8. மேல் மூச்சு வாதம் ஆகும்

## நோயின் முற்குறிகுணம்:

1. மூக்கு அடைப்பு
2. மூக்கில் நீர்ப் பாய்தல்
3. தொண்டைக்கட்டல்
4. சிறுசுரம்
5. கைகால்கள் நோதல், குத்தல், குடைதல் என்னும்முற்குறி குணங்களைக் காட்டும்.

-(நோய்நாடல் நோய் முதனாடல் திரட்டு பாகம்2 Page-565)

## குகரண மாற்றம்: PATHOGENESIS

### The derangement of panjapootha in keelvayu.

S.No	Pootham	Nature of derangement	Effect
1	Mann	↑	New bone growth
2	Neer	↓	Diminished synovial flind
3	Thee	↓	Destruction of auricular cartilage
4	Vayu	↑	Swelling and pain
5	Aagayam	↓↓	Reduction in joint space

### சாத்திய மசாத்தியம்(கும்பமுனி பாலவாகடம்)

“பாருமிதிலே நாலு வாதமுது தீருமே அவை நாலு பெயர் சொல்வேன்  
பகரு சுரவாதமும் அக்கினி வாதமும் மூல வாதத்தினுடனே  
நேரு விதை வாதமும் தீருமிது நாலுமே தைலமோடு குடி நீரினால்  
நில்லாதகலுமிது வல்லோனுரைப்படி சொல்லாது கும்பனுரையால்  
சாருமிது நாலினி தீராத வாதமே பெயருதனை யோதுவது கேள்  
சரியாய் உணக்கலின் வாதமுடனே யினி பொருத்து வாத்தினுடனே  
ஆகுமினியறிய மேல் மூச்சு வாதத்துடன் அதிசார வாதமினவைகள்  
அகலாதுடல் விட்டு புகலவே சொல்படி ஆராய்ந்தறிந்து சொன்னேன்.”

மேற்கூறிய சூம்பமுனி பால வாகட பாடல் வரிகளின் படி

தீரும் வாத நோய்கள்

சுரவாதம்

அக்கினி வாதம்

மூல வாதம்

விதை வாதம்

தீரா வாத நோய்கள்

உணக்கு வாதம்

பொருத்து வாதம்

மேல்மூச்சு வாதம்

அதிசார வாதம் ஆகும்

**Aetiology of vatha disease:**

According to Kumba Muni bala vagadam,

“மாது கேளின்பமாய் மதலையுடலே புகும் வாதமது

மருவியெழு விதமது பகருவது கேளினி மன மிசையவே கனிந்து நீ

கோதயுடனாடவரிவரும் மனமிசைந்தகி மோக சம்போகமதில்

குழலவழி விந்தோடி அருகியது விழுகையில் முன் செய்த கர்மமதினால்

மோதி சம்போக மது செய்கின்ற வேளையில் காதலியோடிருவருக்கும்

முதுவாதமே கதிப்பாகி வருமேதுவில் தசவாயு பேதமதினால்

ஓது மலச்சிக்கலால் புளிப்பதிகமுண்பதால் தாய்தந்தை ரோகமதினால்

உறவான கிருமியால் பாலருடன் தன்னிலே வாதமது உர்பவிக்கும்”.

-(சூம்பமுனி பாலவாகடம் Page 181 song 723)

## The Causes of vatha disease in children from above siddha literature:

1. Previous karma
2. Imbalance of Dasa vayu
3. Constipation
4. Eating excessive sour foods
5. Genetic causes
6. Worms Infestation.

In Siddha system many disease are said to be precipitated by Kanmam, which Means the deeds or bad Committed by an individual in his previous and present births. The genetic disposition of certain disease are probably the result of kanmam

Kanmam also precipitate keel vayu disease according to Kumba muni bala vagadam

Aetiology of vatha disease according to pararasa sekaram

*“பாரினிற் பயப்பட்டாலும் பலருடன் கோபித்தாலும்*

*காரெனக் கருகியோடிக் கழுமரத் துரத்தினாலும்*

*ஏர்பெறு தனது நெஞ்சின் மிகத் துக்கமடைந்திட்டாலும்*

*பாரிய காற்றினாளும் படரீனும் வாதங் காணும்”.*

The book pararasa sekaram denotes mental affictions such as fear, anger, sorrow and excess manual work like running climatical changes also should be the causes for disturbance of vatha.

## Causes According to Astronomy

“கூறுமொன்று மூன்றுடன் குலவு நாலைந்தேழினும்

குற்றமாய் நலத்தினும் கொடும் பண்ணிரண்டிலும்

சேரவே புதன் தானுமோ சீரியம்மனை நின்றிழல்

செப்பொனாத தீமையோடு செய்யு பச்சந்தானும்

நெடுந்துக்க மிக்கவாம் நடக்குந்தாது தொழில் தாம்

நித்தையாகுங் கீல்பிடிப்பு நீடுமெய்யில் தோன்றுமாம்

காரியங்கள் சேமதாங் கல்வயது குறையுமாம்

கண்டுணர்ந்து கணிதவல்லோன் கருத்துடன் செப்பினாரோ”.

-மணி மந்திர வைத்திய சேகரம்

Ref: Heritage of the Tamils Siddha Medicine says certain position of planets at certain period of human life will produce keelpidippu and causes vatha vitiation.

### **Kanmam as a cause**

In Siddha System Many disease are said to be precipitated by kanmam which means the deeds or bad committed by an individual in his previous and the presentbirths. Kanmam may also precipitate vatha disease according to Agasthiar kanma Kandam 300' versus 56:

“நூலென் வாதம் வந்த வகைதானேது  
 துண்மையாய்க் கன்மத்தின் வகையைக்கேளு  
 காலிலே தோன்றியது கடுப்பதே  
 கைகாலில் முடக்கியது வீக்கமது  
 கோலிலே படுகின்ற விருட்சமான  
 குழந்தை மரந்தனை வெட்டமேல் தோல்சீவல்  
 நாலிலெ சீவசெந்து கால் முறித்தல்  
 நல்ல கொம்பு தழை மறித்தல் நலித்தல் காணே”

-அகத்தியர் கன்ம காண்டம் 300 பாடல்-56

Cutting of green young living trees, breaking the legs of living beings cutting the branches of a living tree etc. leads to vathadisease these deeds are detrimental to the fellow beings and such psychosocial aspect of an individual Im implies psychogenesis of the vatha disease.

### **Variation of 3 Humours:**

A disease is mainly caused because of the in equilibrium of one or more among 3 humors that exists in human as “UYIRTHATHUKKAL”

- 1 Piranan - It Controls knowledge of mind and 5 objects of sense and useful for breathing
- 2 Abanan - Responsible for passing urine, stools ejaculation of semen and menstrual flow



- 3 Viyanan - Movements of all parts of body. Circulation of rasam through the body. Separating the essence of the food from the waste matter.
- 4 Udhanan - For vomiting, Cough, Sneezing
- 5 Samanan - Helps for digestion
- 6 Nagan - Opening and closing of the eyes, responsible for higher intellectual function.
- 7 Koorman - Responsible for vision and yawning
8. Kirukaran - Salvation, nasal Secretion and appetite.
- 9 Devathathan - Responsible for laziness, sleeping and anger.
- 10 Dhanajeyan - Causes oedema of the body and ringing of the ears and escapes day after death.

In keelvayu viyanan and Abanan are commonly affected

When Viyanan is affected it produces Restricted Movements of the all joints

When Abanan is affected it produces Constipation.

## **ii) Pitham**

- 1 Analpitham - Promotes appetite and helps for digestion.
- 2 Ranjagam - Gives Color to the extracts of the digested food

- 3 Sathagam - Controls the entire body functions.
- 4 Alosagam - Responsible for visual perception
- 5 Pirasagam - It is located in the skin and gives complexion of the skin

**In keel vayu, Sathaga pitham is affected. Affected Sathagam produces Difficulty in performing body activities.**

**iii) Kapham:**

- 1 Avalambagam - It is present in lunges and controls the heart
- 2 Kiledhagam - Makes the food in wet and helps for digestion
- 3 Pothagam - Responsible for taste
- 4 Tharpagam - It helps for vision
- 5 Sandhigam - It helps free Movements of the joints.

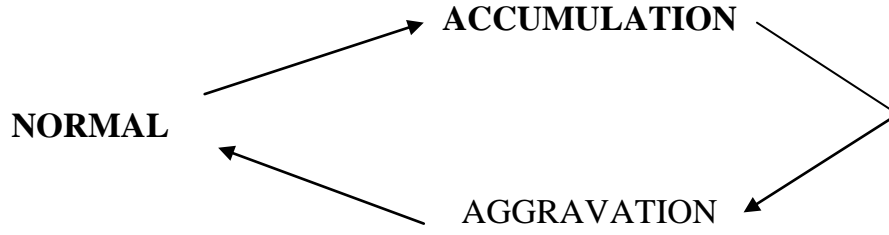
In keel vayu Sandhigam affected.

**PARUVAKAALAM      MAATRUM      DISTURBING      SEASONAL**  
**VARITATION THREE HUMORS**

1	Kaarakalam (கார் காலம்) (ஆவணி, பரட்டாசி)	→	Vali Azhal(பித்தம்) Iyyam(ஐயம்)	-	Aggravated Accumulated Slighty Charges
2	Koothirkaalam கூதிர்காலம் (ஐப்பசி, கார்த்திகை)	→	Vali Azhal Iyyam	-	Normal Aggravated Normal
3	Munpani kaalam (முன்பனி காலம்) (மார்கழி,தை)	→	All are neutirtized		
4	Piripani Kaalam (பின்பனி காலம்) (மாசி, பங்குனி)	→	Iyyam	-	Accumulated
5	Elavenir Kaalam (இளவேனிற் காலம்)	→	Iyyam	-	Aggravated
6	Muthuvetir kaalam (முது வேனிற் காலம்) ஆனி ஆடி)	→	Iyyam Vai	-	Normal Accumulated

The routine: This is happening in our body corresponds with paruvakaalam

Diagrammatic representation of Seasonal Variation:



SO IN KAARKALAM VATHAM AGGRAVATED

Environmental Changes- living places

**There are 5 types of places in siddha aspect.**

- 1 Kurinchi - Iyyam accumulated Academic Fever, abdominal Mass develop.  
(குறிஞ்சி)
- 2 Mullai - Vatha Diseases  
(முல்லை) Azhal Diseases
3. Marutham - Place for living  
(மருதம்)
- 4 Neithal - Vatha Diseases, liver enlargement, Flatulence, Andarojams  
(நெய்தல்)
- 5 Paalai - Place for lot of Diseases.  
(பாலை)

So In the places of Mullai, Neithal, Paalai Vatha Diseases May develop.

*வெளிச்சூழல் தட்பத்தை விஞ்சுமுட் சூட்டை*

*அளித்தூரிக்கும் நேர் செயுமால் மாக்கைக்- களிசெரி*

*வண்ணியக்கும் காரணத்தால் வாதாதி முத்தோடம்*

*நல்லிலையில் நில்லா நவில்*

**மருத்துவ தனிப்பாடல்**

This poems started that kar and koothir kalam are seasons for Vatha diseases in keel vayu

### **Tri- humors Theory**

Vahi Means                      Dynamic force

or

Creative force

or

Motivate force

Azhal Means                      Static Force

or

Metabolic Force

Iyyam means                      Which hold things together

or

Provide substance

or

Destructive Force

### **UDAL THATHUS**

When the foods Materials are digested, they are absorbed as saaram.

7 Thathus:- when food enters:

Ist Day	Rasam	-	Plasma
2 <sup>nd</sup> Day	Rattham	-	Blood
3 <sup>rd</sup> Day	Mamizam	-	Muscular tissues

4 <sup>th</sup> Day	Koluppu	-	Fat
5 <sup>th</sup> Day	Asthi	-	Bones and cartilages
6 <sup>th</sup> Day	Majjai	-	Marrow & Nervous system
7 <sup>th</sup> Day	Sukilam	-	Reproductive fluids

If there is any alteration in this process, first reflected as vatha diseases and associated with other two humors like pitha, and kapha respectively.

Because vatha diseases comes under “Asta Maharogas”

Correction with Trihumors

#### 1. Vatha Dhosam Exaggerated Symptoms

1. Darkness of motion
2. Body pain
3. Pricking pain
4. Constipation
5. Mental Distress
6. Paralyzed limbs

#### **Decreased**

1. Difficulty in work
2. Impairment of Intelligence
3. Giddiness
4. Increased Iyya Symptoms.

## **Azhal Dhosam**

Exaggerated Yellowish discoloration of skin

Increased appetite

Increased Thirst

Burning Sensation

Decreased sleep

Decreased Loss of appetite

Indigestion

Cold

## **Iyya Dhosam**

Exaggerated: Chills with rigor

Pallor

Tightness

Cough

Fullness of stomach

Excessive Sleep

Dyspnoea

Decreased: Destruction of joint

Giddiness

Decreased Kabam in all body fluids

Increased sweating

Palpitation

## Complication of Keel Vayu

As the disease progresses joint diseases leads to deformity and immobilization of the limbs. In the siddha system such conditions are named as mudakku vatham.

“பத்திய வாதந்துயத்து பாகுமே பயித்தியத்தால்  
எத்திய நரம்பிழுத்து மேலதுஞ் சுருண்டு கொள்ளும்  
குத்தியே துளைத்தாற் போல குடைந்து காலடைந்து காணு  
மற்றிது முடக்கு வாதமாமெனக் கருதலாமே.”

### Yugi Mumivar perunool vaidya kaviyam 100

It denotes in Mudakkuvatha Condition, Body will bend forward probably due to vertebral Column deformity (hang dog position)

“முட்டது கடுகடுத்து முறித்துடன் தறிநாப்போல்  
கட்டுற நடக் கொண்ணாது கவிழ்ந்தது கவிழ்ந்தாப்போலே  
மிட்டவே வெறுத்து நேர்வாயிதின் குணங்கண்டதாகில்  
தொட்டுற முடக்குவாத குணமெனச் செப்பலாமே.”

**-Yugi Mumiva perunool kaviyam.**

Same book says that when Mudakkuvatham affliction one cannot straighten his body after bending and also inability to walk with joint pain.



# HAND DEFORMITY



In Chikicharathna theepam also stated there will be disability of hand, Fever& swelling are describe as kaimudakku vatham.

*“கரமது தனை முடக்கி விழுந்திடும் காயும் பின்னர்  
உரனுறவுளைந்துக் குத்தி வீக்கமுமுண்டாமீது  
விரவு கைமுடக்குவாத குணமென விளம்பி வைத்தார்”*

**-சிகிச்சா ரத்ன தீபம்**

#### **UDAL VANMAI:**

It Means strength and vitality of the body and classified into 3 types

- |                              |  |
|------------------------------|--|
| Eyarkai Vanmai               | - Inherited immunity                     |
| Kalavanmai                   | - Age and Season and time                |
| Cheyarkai Vanmai             | - Improvement of 3 Vitality              |
| Udal Vanmai obtained by diet | - day today habits and physical exercise |

#### **PINIYARI MURAIMAI:**

Diagnostic methods adopted in siddha system of medicine are formed as “Piniyani Muraimai”. It is based on the following principles.

- Poriyal arithal
- Pulanal arithal
- Vinathal

Pori and pulam are the five organs of perceptions and their senses respectively. Nose-Smell, Tongue- taste, Eyes- Vision, Ears Skin- Auditory and touch. Porigal of patient and doctor are used by the physician as Instruments. Vinathal is a method of enquiring about the details of patients Complaints from his own words or from their attendant. The above mentioned principles can be compared to that of interrogation and inspection, percussion and palpation, auscultation. The important method adopted to diagnose the disease is by means of “Envagai Thervugal”

*“நாடிப்பரிசம் நாநிறம் மொழிவிழி  
மலம் மூத்திரமிவை மருத்துவராயுதம்”*

**-நோய் நாடல் நோய் முதனாடல் பாகம்I**

It is considered to be physician instruments and this can be understood by following stanza.

*“தொடுக்கலுற்று அட்டவதப் பரீட்சை தன்னை  
துலக்குமுறும் பண்டிதரே தெளி வதாகப்  
பகுதிக்கரிய நாடியை நீபிடித்துப் பாரு  
பகர்கின்ற வர்த்தை பார் நாவைப் பாரு  
வகுக்கரிய தேகமென்றத் தொட்டுப் பாரு  
வளமான சரீர்த்தின் நிறத்தைப் பாரு  
சகிக்கரிய மலத்தைப் பார் சலத்ததைப் பாரு  
சார்ந்த விழிதனைப் பார்த்து தெளிவாய் காணே.”*

### **Envagai thervugal**

It includes Naadi, sparisam, naa, niram, mozhi, vizhi, malam, moothiram. The fact regarding envagai thervugal suggests that it is mostly used method of diagnostic standard in siddha system and more concentration should be given to get proficient knowledge.

### **Naadi-(pulse)**

*“அறிந்து பார் வாதமே தனித்த தானால்*

*அன்னமே போல் நடக்கும்பா நாடி பாரு*

*சரிந்திடவே கால் முடக்கும் போது காட்டும்”*

**-அகத்தியர் ரத்தின சுருககம்**

Vitiated vatha causes difficulty in walking or impaired functions of lower extremities. The examination of naadi has been recognized as one of the principle means of diagnosis and prognosis of disease from times immemorial.

### **நாடி**

*“காண்ப்பா வாத மீறில்*

*கால்கைகள் பொருத்து நோகும்”*

**-காவியநாடி**

When kabha vitiated with vatha, it causes pain and swelling in the joints.

“வாதமெனும் நாடியது தோன்றில்

சீதமந்தமோடு வயிறு பொருமல் திரட்சி வாய்வு.”

-சதக நாடி

When vatha nadi vitiated Indigestion, flatulence, Malabsorption occur.

“இரத்தின மேவிய வாதஞ் செய்யுங்

குணந்தனை விரும்பிக் கேளு

தாவிய வயிறு மந்தஞ்

சந்துகால் பொருத்து நோவாம்”.

-இரத்தின சுருக்கம் நாடி

“வாதமே கதித்த போது வாய்வு எழும்புங் கண்பீர்”

-அகத்தியர் சிகிச்சா ரதன தீபம்

### **Sparisam (Skin)**

Skin examination can be made out by touch and reveals about warmness/ Chillness/dry/weeping skin/rough/smooth/soft/hand, tenderness or presence of ulcers, swelling, wrinkles, hair, pigmentation etc.

### **Naa- Tongue:**

The Color, Character and Condition of the tongue changes according to the changes in mukkutram

### **Niram (Colour)**

As vaatha is the root cause the colour of the patients skin, tooth, etc., should be dark or black in colour.

### **Mozhi (Speech)**

Speech in vatha patients may vary according to the deranged Dhosas and grade of the disease. In keel vayu disease speech was not affected in any cases who were admitted in In patient ward.

### **Vizhi (Eye)**

In vatha disease condition, Both Motor and Sensory disturbances of the eye can be expected. Burning sensation of the eyes, lacrimation, irritation, colour changes are also noticed under this group.

Mostly in Keelvayu the eyes became dark and smoky in colour.

### **Malam (Stools)**

In vatha diseases stools should be black in colour with constipation.

### **Moothiram (Urine):**

*“உறைந்த நீருங் கரு கருத்து*

*முறையாய் ரோகமு முண்டாமே”*

Its examination regarding

**Neerkuri**

- ◆ Niram- Colour of the urine
- ◆ Manam- smell of the urine
- ◆ Edai - Specific gravity of the urine
- ◆ Nurai - Frothy nature of the urine Voided
- ◆ Enjal - Indicates the quality of the urine voided

**Neikuri:**

*“அருந்துமாறிரதமும் அவிரோதமதாய்*

*அகல் அலர்தல் அகாலவூண் தவிர்ந்தழற்*

*குற்றளவருந்தி உறங்கி வைகறை*

*ஆடிக்கலசத் தாவியே காது பெய்*

*தொருமுகூர்த்தக் கலைக்குட்படு நீரின்*

*நிறக்குறி நெய்க்குறி நீருபித்தல் கடனே.*

-தேரையர்

**Method:**

Prior to the day of urine examination the patient is advised to take balanced Diet and the quantity of food must be proportionat to his appetite and he should have a good sleep. After waking up in the morning, urine voided first was collected in a glass container and was subjected to analysis with in 11/2 hours. A

Drop of gingelly oil is dropped without shake, the nature of the Neikuri should be noticed in direct sunlight.

Character of different neer.

“அரவென நீண்டின.:தே வாதம்.”

When the oil drop spreads like a snake it indicates Vatha neer,

“ஆழிபோற் பரவின் அ.:தே பித்தம்”

If the oil drop remains as that of pearl, it indicatesKapha neer.

Along with the above mentioned 8 types of examination another principal in siddha medicine, the man is composed of 5 elements like universe.

“அண்டத்தி லுள்ளதே பிண்டம்

பிண்டத்தி லுள்ள அண்டம்

அண்டமும் பிண்டமும் மொன்றே

அறிந்துதான் பார்க்கும்போதே.”

-சட்டமுனி நிகண்டு

Time, Place, nature of body (Pirakiruthi) and environmental change have interrelations among them.

So besides envagai thervugal paruvakalangal and Thina (Land) also should be taken in consideration to arrive the perfect and correct diagnosis.



## (PROGNOSIS) நோய் நிதானம்

Through a full knowledge about prognosis will save the patient as well as the physician from considerable difficulties. The knowledge of prognosis is Most important for a physician to have a perfect and proper line of treatment and prevention.

In keel vayu the course of the disease is depend on the pirakiruthi, disturbed vatha , pitha, kapha and kaala vanmai, seyarkai vanmai and stages of the disease. Prognosis mainly depends upon the affected thridoshas. Commonly, it is difficult to yield permanent cure, in later stage of the disease produce ankylosis. Gradually all movements of the joints becomes retracted.

In Asgsthiyar Gunavagada Thirattu

*“ஆகாத வாதமும் பித்தமும் சூலையாம*

*வாகாண கைகால் வளமாய்க் கரடேறவும்*

*தூகாண மேனிதனில் வெடிப்பும் புண்ணாகும்*

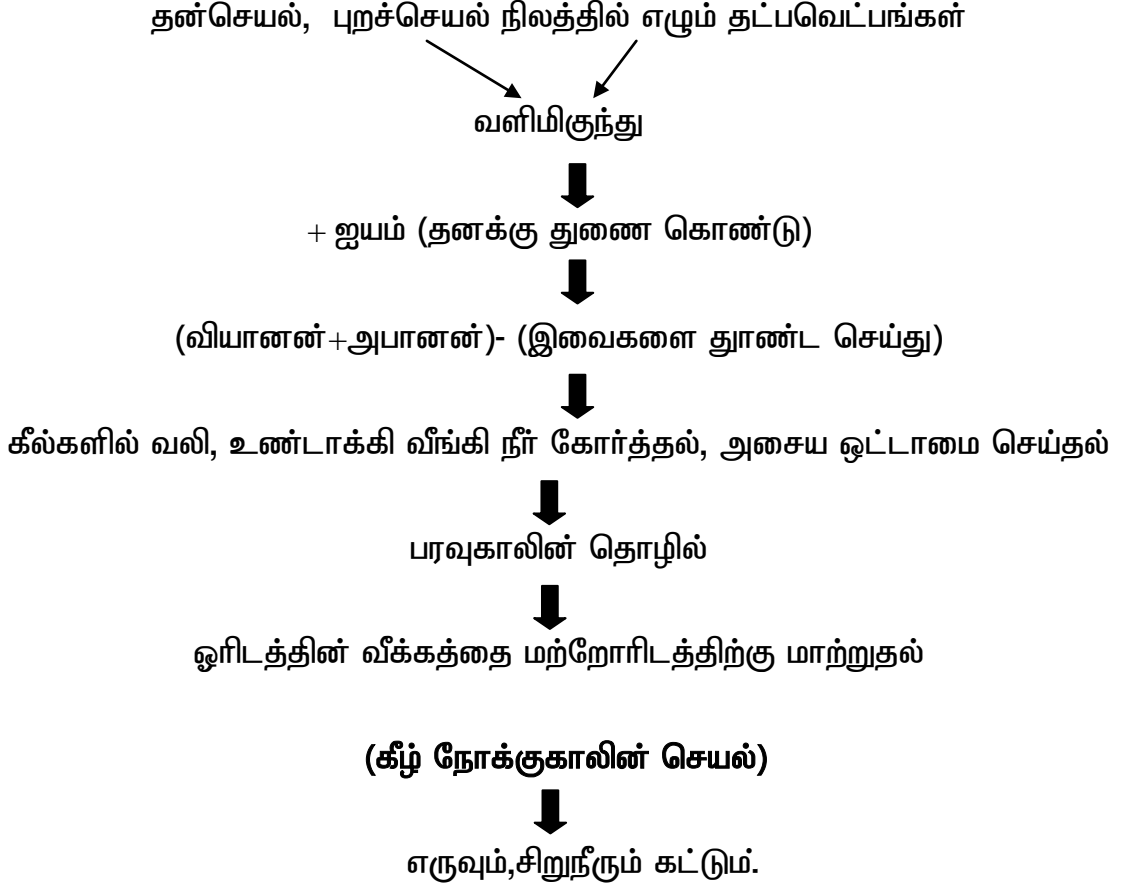
*போகாமனின்று புணர்ச்சியாலல் கொல்லுமே.”*

It denotes a complicated course of the disease, which is hardly curable In advanced stage it produces alkalosis of the joints, in upper and lower limbs, and it results in restriction of Movements.

## முக்குற்ற வேறுபாடுகள்: (PATHOLOGY)

தன் செயல், புறச்செயல் மற்றும் நிலத்தில் எழும்பு வெட்டி மாற்றத்தால் வாதக்குற்றம் மிகுந்து ஐயக்குற்றத்தை தனக்கு துணையாக கொண்டு கீழ்

நோக்கீ கால் மற்றும் பரவுகாலை தூண்டச் செய்து கீல்களில் வலி, வீக்கம், அசைய ஓட்டாமை ஏற்படுத்தி, எருவும் சிறுநீரும் இந்நோயில் கட்டும்.



கேடடைந்த குற்றத்தின் அளவாய் உடற்கட்டுகளில் முதலில் இரசமும், குருதியும் கேடடையும் ஆதலால் பசியின்மை, உடல் வெளுத்தல், உடல்ஊதல் என்னும் நோய்களை தொடரச் செய்யும். நோய் நீண்ட நாள் நிலைக்குமாயின் மற்றைய உடற்கட்டுகளை முறையே கேடடையச் செய்து உடல் வன்மையையக் கெடுக்கும்.

### Parikaram/Pini neekam: (Treatment)

Siddha Sysytm of Medicine has a soptmisticated treatment modality it not only cures the disease but it corrects the causative factors and insists to advise certain life style modification in order to prevent the disease again.

### **So it clarifies the treatment as follows**

- Kaapu (Prevention)
- Neekam( Treatment)
- Niraivu( Restoration)
- 

### **Kappu:**

It means prevention of human beings from disease. As per siddha system the vinaipayan (Kanmam) is transferred to the fertilized embryos at the time of Conception. This kanmam (Vinai Payam) produces certain incurable chronic disease according to siddhars. More over one should try to neturlize thekanmam before his life time because. his negative effects are transferred to his hereditary. One should simply eliminate the (Vinai payan ) through some simple life style modification or regulations. Further the Physician must adivesd all patient to follow the following habits.

- ❖ Living with good moral habits.
- ❖ Breastfeeding is the best way to avoid these Problems.
- ❖ Always follow good dietary pattern
- ❖ Avoid exposing chill weather and rain.
- ❖ Take oil bath regularly
- ❖ Avoid kapha, vatha producing foods
- ❖ Always do some simple yogas after the age of 8 yr
- ❖ Always have good positive thoughts.

**Neekam:**

A good physician should know the deranged kuttram and should treat the patients according to the vitiated kutram. So the treatment is based on

- (i) To bring down the thiridoosham normal
- (ii) To give internal as well as external medicines, according to the symptoms of the diseases.

**For normalizing thithodam Three :**

“விரேசனத்தில் வாதம் தாழும்.”

From the above poem, siddhar's had advised to prescribe purgatives (or) laxatives to bring back normal vatham.

In keel vayu ½ -5 gms of Nilavagai choornam with lukewarm water was administered at bed time, before starting the specific treatment, according to age & physical state.

**Adminsitration of Medicines:**

Perhaps there are varieties of medicines available in various siddha literatures but the author had selected the following medicine as test medicine

**Internal Medicine**

Keel Vayu Nivarna Choornam

Dose: 3-9 yr -500 gms, 10 yr- 600 gms (bd), 11-13 yrs 650 gm.

**Adjuvant: Honey**

**THOKKANAM or PHYSICAL MANIPULATION**

*“தொக்கணத்தின் விரத்தற் தோல் ஊனிலைகளுக்கு  
மிக்க சவுக்கியஞ் சமீரனும்போ மெய்க்கதிகப்  
புட்டியுறக்கும் புணர்ச்சியை கதிக்கும்  
பட்ட அலைச்சலும் பார்”*

**-தேரன் தருபாடல்**

Thokkanam is very useful in muscular bony or nervons disorders for such diseases Thokkanam Can be done after applying medicated oil or without application of oil.

Types of thokkanam are ,

- i) Thattal
- ii) Irukkal
- iii) Aluthuthal
- iv) Kaikathal
- v) Izhuthal
- vi) pidithal
- vii) Murukkal
- viii) Mallathuthal
- ix) Asaithal

Among the 9 types of Thokkanam the following 2 types of Thokkanam are Mainlyemployed.

Pidithal (efflurge and petrissage)

A luthual (Friction)

Pidithal is a process in which stokes are slided smoothy and y kneading.

Aluthuthal is a process in which friction or compression is performed.

### **Pathiyam- Diet and Regimen:**

During the course of treatment according to the drug adminstered to the patient, and nature of the disease, the patient is advised to follow certain precautions regarding diet and physical activites.this form of medical advice in siddha system of medicine is said to be pathiyam.

Pathiyam for vatha disease described in pathartha Guna chinthamani is as follows.

*“செங்கழு நீர் கோடைந் தேனமிளகு நல்லெண்ணெய்  
தங்கு பெருங் காயந் தழுதாழை- ஓங்கெங்கும்  
கூட்டு சிறுமுத்து நெய் கோதில் உழுந்திவைகள்  
வாட்டு மணிலத்தை யறி.”*

### **சேர்க்கத்தக்கவைகள்:**

*“செங்கழுநீர் கிழங்கு கோஷ்டம், குறிஞ்சித்தேன்  
மிளகு, எள்நெய், பெருங்காயம், தழுதாழைஇலை  
சிற்றாமணக்கு நெய், உளுந்து”.*

### **நீக்கவேண்டியவைகள்:Diet Restrictions**

மிகு புளிப்பு, மிகு துவர்ப்பு சுவையுள்ள உணவு வகைகள்

*“புளி துவர்விஞ்சு கறியால்*

பூரிக்கும் வாதம்”

-நோய் நாடல் நோய்முதல நாடல்  
திரட்டு பாகம் 1

**அபத்திய தோஷம்:**

“ஆச்சடா அபத்திய தோஷம் சொல்லக் கேளு  
அழகான சோம்பலுடன் மூர்ச்சை தாகம்  
பேச்சடா பிரமையுடன் மார்பு நோவு  
பொல்லாத பிரபலம் செய்வான் பாரு  
காச்சடா இதற்குத்தான சொல்லக் கேளு  
கனமா லங்கனங்கள் செய்த பின்பு  
வீச்சடி திரிகடுகு கியாழ மீய்ந்தால்  
விதமான தோஷந்தான் தீருந்தானே.”

-அகத்தியர் குணாகடம்(1033)

It siddha system, the specific medicines and certain pathiyams when not followed it may leads to the following clinical Manifestations.

- Lethargy
- un consciousness
- Thirst
- Psychosis
- Chest Pain
- Deliroum

If any one of the above Manifestations occurred in any patient they were advised to take Thrikadugu kiyazham.

**Diet: உணவு**

Easily digestible food is good. Vegetables and soups of chest bone and joint bones of the goat is good. Meat of the goat and flesh of birds like” Kadai”

“Gowadari” are May be given avoid fish , if necessary young “ prawn” may be fried wuth ‘brinjal’ or “Avarai Kai”.

**உண்ணும் முறை:**

- வழக்கமான உணவுகளை உண்ண வேண்டும்
- சுத்தமான உணவுகளை உண்ண வேண்டும்
- உரிய காலத்தில் உண்ண வேண்டும்
- அறுசுவை உள்ள உணவுகளை உண்ண வேண்டும்
- நன்றாக மென்று சாப்பிட வேண்டும். அப்படியே விழுங்கி விடக் கூடாது
- குளித்துவிட்டுச் சாப்பிட வேண்டும்
- சாப்பிடும் போது மூதாதையர்களை, தேவதைகளை, பெரியோர்களை நினைத்து சாப்பிட வேண்டும்
- பிராணிகளுக்கும் உணவு அளிக்க வேண்டும்
- உணவு உட்கொள்ளும் போது பேசக் கூடாது
- உணவு உட்கொள்ளும் போது கோபப்படக்கூடாது
- உணவு உட்கொள்ளும் போது எழுந்திருக்கக்கூடாது
- உணவை அளிப்பவர்கள் அன்பும், கருணையும் சுத்தமும் உடையவர்களாக இருக்க வேண்டும்

இது போன்றவை அஷ்டாங்க ஹிருதயத்தில் கூறப்பட்டுள்ளன.

**கூடாது உணவுகள்:**

தீய உணவுகள், கெட்டுப்போன உணவுகள், அதிக உப்பு சேர்ந்த உணவுகளை உட்கொள்ள கூடாது. உளுந்து, மொச்சை, சிறுகடலை போன்றவற்றை அளவுடன் பயன்படுத்த வேண்டும்.

-(அஷ்டாங்க ஹிருதியம்)



வாத அடிப்படையில் உணவு வகைகள் (திரிதோஷ மெய்ஞான தத்துவ விளக்கம்)

<p><b>பழங்கள்</b></p>	<p><b>பயன்படுத்தக்கூடாதவை</b></p> <p>பொதுவாக மிகவும் உலர்ந்த பழங்கள், பேரிக்காய், தர்பூசணி, பலாப்பழம், நவால்பழம், பப்பாளிப்பழம் சப்போட்டா</p>	<p><b>பயன்படுத்தக் வேண்டியவை</b></p> <p>பொதுவாக இனிப்புச்சுவை உள்ள பழங்கள், மாதுளை, இலந்தைப் பழம், வாழைப்பழம், தேங்காய், மாம்பழம், பெரிய நெல்லிக்காய், பேரிச்சம்பழம், அத்திப்பழம், திராட்சைப் பழம், எலுமிச்சை, ஆரஞ்சு, அன்னாசிப்பழம். புளி (பழைய நாட்பட்ட புளி), ஆப்பிள்</p>
<p><b>காய்கறிகள்</b></p>	<p>பொதுவாக உலர்ந்த காய்கறிகள்,சேப்பக்கிழங்கு, பாகற்காய், காளான், பீன்ஸ், வெங்காயம், பட்டாணி, உருளைக்கிழங்கு,முள்ளங்கி, கத்தாக்காய், அவரைக்காய், பனங்கிழங்கு,கருணைக்கிழங்கு, தக்காளி, கொத்தவரைக்காய், மரவள்ளிக்கிழங்கு,வாழைக்காய் மிளகாய்(காரம் குறைவான வகை) காலிபிளவர், செளசௌ, பீதிக்கம்</p>	<p>பொதுவாக வேக வைத்த காய்கறிகள், கேரட், வெள்ளரி, பூண்டு,பிரண்டை,பூசணிக்காய்,(அளவுடன்) பச்சை மிளகாய், வெங்காயம், வேக வைத்த பட்டாணி, நூல்கோல், சர்க்கரை வள்ளிக்கிழங்கு, முருங்கைக்காய், வெற்றிலை, நார்த்தங்காய், பீட்டுட், பூசணிப்பிஞ்சு, பூசணி முற்றியது, கத்திரிப்பிஞ்சு,முருங்கைப்பிஞ்சு,வெள்ளரிப்பிஞ்சு, முள்ளங்கி பிஞ்சு.</p>
<p><b>தானியங்கள்</b></p>	<p>உலர்ந்த தானியங்கள் சோளம், ஓட்ஸ் திணையரிசி பார்லி.</p>	<p>ஓட்ஸ் (வேக வைத்தது), அனைத்து வகையான அரிசிகள், கோதுமை</p>

பயிறு வகைகள்	பட்டாணி உலர்ந்தது, சோயா, பீன்ஸ்,மொச்சை,கொண் டைக்கடலை (அளவுடன்)	சிறுபயிறு (மிகவும் சிறந்தது), கொள்ளு, கொண்டைக்கடலை (அளவுடன்) வேக வைத்த பட்டாணி.
பால் பொருட்கள்	புளித்த தயிர், இரவு வேளையில் தயிர் சாப்பிடுதல்	பொதுவாக அனைத்து பால் பொருட்களும் உயோகப் படுத்தலாம். புளிக்காத மோர், வெண்ணெய், பசும்பால், நெய், ஆட்டுப்பால்
அசைவப் பொருட்கள்	பன்றி, இறைச்சி, மாட்டு இறைச்சி முட்டை, முயல் இறைச்சி	ஆட்டு இறைச்சி, கோழி,மீன் (அஜிரணம் இல்லாத நிலையில்)
விதைகள்	பயன்படுத்தக்கூடாதவை பலாப்பழகொட்டை, வேர்க்கடலை	பயன்படுத்தக்கூடியவை பூசணி வழதை, எள்ளு, பாதாம், முந்தரி, தேங்காய் இவற்றை அளவாக பயன்படுத்த வேண்டும்
எண்ணெய்கள்		நல்லெண்ணெய், நெய், தேங்காய் எண்ணெய், சூரியகாந்தி எண்ணெய்
மசால பொருட்கள்	மிளகாய்(காரம் குறைவானவை)	பொதுவாக அனைத்து பொருட்களும் உகந்தவையே, பெருங்காயம், இலவங்கம், கொத்தமல்லி, ஏலம், இஞ்சி, பூண்டு, புதினா, மஞ்சள், வெந்தயம், கடுகு, சீரகம், மிளகு, கறிவேப்பிலை, வெங்காயம், திப்பிலி, பட்டை, கிராம்பு, ஓமம்.

-திரிதோஷ மெய்க்ஞான விளக்கம்.

Dr.மகாதேவன்

**Kanama Neekam:**

“நலியாலே வந்த கன்மம் தீர வென்றால்  
நன்மரங்கள் கிணறுவெட்டல் குளங்கள் வெட்டல்  
தெய்வதலங் ணகோவில் கட்டத் திரும்பாரு  
எளிதான பாலகர் கா பரணம் மீதல்  
என்பதென்ற வாதமெல்லா மிடைந்துபோகும்  
பழியான நோய் வந்தாலிப்படியே செய்து  
பதிவாக வைத்தியத்தை பிறகு செய்யே.”

- அகத்தியர் கன்ம காண்டம் 300

Agasthiar in his kanmakandam -300 prescribed some specific explanatory methods to get rids of the manifestation of the posot misdeeds. Those are implanting fruitful trees establishing garden, laying road, digging wells and ponds for public use, constructing temples, donating ornaments to poor children must be done.

**Niraivu: (Restoration)**

The topic “Niraivu” deals about the description to avoid the recurring of the disease. After the treatment efforts should be taken to clear the residual effects of the disease, to bring back the body condition of the patient to normal, this is treated as “Nirairu” patient should also be advised to adhere to the preventive methods.

# *Modern Aspects*

## **MODREN ASPECTS**

### **Juvenile Rheumatoid Arthritis**

#### **Introduction:**

Juvenile rheumatoid arthritis is the most common type of arthritis in children under the age of 16. Juvenile rheumatoid Arthritis causes persistent joint pain, Swelling and stiffness. Some children may experience symptoms for only a few months. While others have symptoms for the rest of their lives.

#### **DEFINITION:**

The term Juvenile Rheumatoid arthritis Comprises a group of conditions characterized by chronic Inflammatory changes of one or more joints The American College of Rheumatology (ACR) has defined it as arthritis of one or more joints with onset below the age of 16 years persisting for at least 6 weeks.

#### **EPIDEMIOLOGY:**

Approximately 2, 94,000 children under the age of 16 are affected by Juvenile Rheumatoid Arthritis- WHO reports The incident of Juvenile Rheumatoid Arthritis is 13.9/100,000 children/yr among white children 15 yr of age with a prevalence of 113/100,000 A report from western Australia, estimate a much higher prevalence of 400/100,000 based on squinted examinations of school children by a pediatric Rheumatologist.

**-Nelson Text Book of pediatrics'**

**- Volume I Part XVI - 18<sup>th</sup> edition**

## **SYMPTOMS:**

The most Common signs and symptoms of juvenile rheumatoid arthritis are.

1. Pain: While the child might not Complain of joint pain, you may notice that he or she limps

**- Especially first thing in the Morning or after a nap**

2. Swelling: Joint Swelling is Common but is often first noticed in larger joints like the knee.

3. Stiffness: You might notice that your child appears clumsier than usual, particularly in the morning or after naps.

## **RISK FACTORS:**

In general, juvenile Rheumatoid arthritis is more common in girls.

## **TYPES:**

There are Three Major types of JRA:

i) Pauciarticular (JRA) Juvenile rheumatoid Arthritis- affects 4 or fewer joints.

ii) Polyarticular Juvenile rheumatoid arthritis- affects 5 or More joints

iii) Systemic onset juvenile rheumatoid Arthritis (also called stills disease) -affects the entire body; least Common type of (JRA) Juvenile Rheumatoid Arthritis.

## **CRITERIA FOR THE CLASSIFICATION OF JUVENILE RHEUMATOID ARTHRITIS**

Age onset < 16 yr

Arthritis swelling or effusion or the presence of 2 or More of the Following signs:

Limitation of range of motion, tenderness or pain of Motion, Duration of disease > 6 wk

onset type designed by type of articular

Movement in the 1<sup>st</sup> 6 months after onset

Poly arthritis > 5 inflamed joints

Oligo arthritis < 4 inflamed joints.

### **ETIOLOGY**

Juvenile Rheumatoid. Arthritis is an auto immune disease and immune system is intimately involved in the evolution of the disease.

There also appears to be a major his to compatibility complex associated genetic predisposition.

For Instance HLA DRS, DR6, DR8 and A2 are linked to early onset lligo arthritis, B27 to late onset oligo arthritis and Dr4, DW4 and DRI to rheumatoid factor positive poly arthritis.

## Several environmental triggers

e.g. Infections with rubella virus parvo virus B19, Myco bacterium tuberculosis.

myco plasma pneumonia

Entire organisms

Physical trauma

Psychological stress have been linked to the onset of JRA but the exact role that each has to play is not clear.

Complement activation and Consumption problem play an important role in the initiation and perpetuation of the inflammatory response.

Levels of circulating immune complexes (CICS) parallel the activity of the disease and systemic features.

Such Circulating Complexes (CICS) have been found in the synovium and synovial fluid

Tlymphocyts I the synovium have increased expression of activation markers (is CDS + IL- 2Rt)

These are belived to secrete Inflammatory Cytokines like tumour necrosis factor- (TNF-& ) and interferon (IFN-&)

The cytokine profile of the 3 types of Juvemile Rheumatoid Arthritis appears tobe quite district- increased levels of IL- 1 & are associated with poly



arthritis, Tumor necrosis Factor and IL- 1B with oligo arthritis and IL-6 with systemic onset disease.

A human of auto antibodies (For instance antinuclear, anti-smooth muscle) may be seen in the sera of children with Juvenile Rheumatoid Arthritis.

The Classical IGM (Immuno globulin) rheumatoid Factor (RF) is usually negative but it is believed that some children may have hidden Rheumatoid Factor (especially Immuno globulin A In the circulating immune complexes.

## **CLINICAL FEATURES**

There major types of onset are described according to the presentation during the first 6 months of disease via pauciarticular (4 or Fewer joint involved)

Poly articular ( 5 or More joints involved) and systemic (with fever and rash)

### **Pauciarticular onset Juvenile Rheumatoid Arthritis:**

Pauciarticular onset is the most frequent type of Juvenile Rheumatoid Arthritis accounting for about 60% of patients four or fewer joints (usually large) are affected and the involvement is often asymmetrical. Joint swelling rather than joint pains is the usual complaint.

### **Two subtypes are described TypeI:**

More Common in young girls, typically 3-5 yrs of age.the kness, ankles, and elbows are commonly affected. Small joints of the hands and feet not involved.

A asymptomatic of potentially blinding Iridocylitis can be seen in 25% of patients. by slit lamb examination.secondary glaucoma and cataract may also occur.

### **TypeII:**

More Common in boys, typically older that 8 years large joints of lower extremities are commonly affected. Many children are HLA B27 positive and a proportion of these may go on to develop ankylosing spondylities later as adults.

Self limiting acute irits may occur in some patients but it does not progress on to the chromic iridocylitis seen in Type I

A family history of ankylosing spondylitis, psoriasis Reiters disease and low back pain may be obtained in these children.

### **POLY ARTICULAR ONSET JUVENILE RHEUMATOID ARTHRITIS**

It occurs in 30% patients

More common in girls

5 or more joints affected with in the first 6 monts of onset of disease.

Joint pain out of proportion the degree of joint swelling is the usual complaint

Fever and malaise can be significant. Rheumatoid factor positive.

Age at onset in late childhood or early adolescence

The arthritis is symmetrical, additive and deforming and typically involves the small joints of the hand, especially the metacarpophalangeal and the first interphalangeal, Cervical spine and temporomandibular joints can also be affected.

This type somewhat similar to the adult onset, rheumatoid arthritis. Rheumatic nodules are present in some patients and they represent the most severe form of the disease.

### **SYSTEMIC ONSET JUVENILE**

About 10% of patients with Juvenile Rheumatoid Arthritis may have an acute onset of the disease with prominent systemic features.

Systemic features may precede the joint manifestation by weeks or months and consequently this condition should be considered in the differential diagnosis of any child with prolonged fever. In infants and young children it may be a very difficult clinical diagnosis to arrive at, especially at the stage when joint symptoms are not clearly manifest.

Systemic onset Juvenile Rheumatoid Arthritis can occur at any age and is slightly more common in boys.

The illness usually begins as an intermittent fever rising up to 39-40°C with a characteristic twice daily peak.

Fever is usually More prominent in the evening hours.

Affected children have marked irritability which typically decreases with the subsidence of fever.

Fever is accomplished by a characteristic evanescent maculopapular rash with central clearing this rash may be seen anywhere on the body but is usually more prominent on the trunk.

In can be very difficult to recognize in individuals with dark skin.

Systemic involvement in the form of pericarditis and interstitial lung disease may be present.

Hepato splenomegaly and lymphadenopathy are common at presentation and can lead to diagnostic confusion.

There is a Moderate neutrophilic leukocytosis and elevated erythrocyte sedimentation rate. The rheumatoid factor is almost always negative.

### **Complications:**

Several serious complications can result from juvenile rheumatoid arthritis. But keeping a careful watch on your child's condition and seeking appropriate Medical attention can greatly reduce the risk of these complications.

**Eye problems:**

Some forms of juvenile Rheumatoid arthritis can cause eye inflammation (Uveitis). If this condition is left untreated, it may result in cataracts, glaucoma and even blindness. Eye inflammation frequently occurs without symptoms, so it's important for children with juvenile rheumatoid arthritis to be examined regularly by an ophthalmologist.

**Growth problems:**

Juvenile Rheumatoid Arthritis can interfere with child's growth, and bone development. Some medications used to treat juvenile Rheumatoid arthritis, mainly corticosteroids, also can inhibit growth.

**DIAGNOSIS:**

The diagnosis is greatly aided by the American College of Rheumatology (ACR) classification and its subclassification of course of the disease, and by the meticulous clinical exclusion of other articular diseases. There is often no one pathognomonic finding for these disorders.

The classic intermittent fever in association with the typical rash and objective arthritis is highly suggestive of systemic onset Juvenile rheumatoid arthritis (JRA).

The diagnosis is based on a history compatible with inflammatory joint disease and a physical examination that confirms the presence of arthritis. Some children have persistent arthralgia despite repeated normal physical examination.

Although they do not fulfill the diagnostic criteria for Juvenile Rheumatoid arthritis initially, that diagnosis may become evident as late as > 2 yr after the initial presentation.

Laboratory abnormalities characteristic of inflammation include elevated erythrocyte sedimentation rate (ESR) and c-reactive protein (CRP), leukocytosis, thrombocytosis, and the anemia of chronic disease which support diagnosis.

## **LABORATORY FINDINGS**

Logical abnormalities often, reflect the degree of systemic or articular inflammation. with elevated white blood cell and platelet counts and decreased hemoglobin concentration and mean corpuscular volume

Erythrocyte sedimentation rate is the speed at which your red blood cells settle to the bottom of a tube of blood. An elevated rate can indicate inflammation. Measuring the ESR may be used to rule out other conditions, to help classify the type of juvenile rheumatoid arthritis and to determine the degree of inflammation. Measuring can indicate inflammation. Measuring the ESR may be used to classify the type of conditions, to help to classify the type of Juvenile rheumatoid arthritis and to determine the degree of inflammation.

### **C-reactive protein:**

This blood test also measures levels of general inflammation in the body on a different scale than the Erythrocyte sedimentation rate.

**Anti- nuclear antibody: (ANA)**

Anti-nuclear antibodies are proteins commonly produced by the immune systems of people with certain auto immune diseases, including arthritis.

Elevated ANA titres are present in atleast 40-85% of children with oligo articular or poly articular Juvenile Rheumatoid Arthritis, but are unusual in children with systemic- onset disease.

**Rheumatic factor:**

This antibody is commonly found in the blood of childrens who have rheumatoid arthritis.

**Imaging:**

X-ray may be taken to exclude other conditions, such as

Fractures

Tumors

Infection

Congenital defects

X-ray may also be used from time to time after the diagnosis to monitor bone development and to detect joint damage.

Early radiographic changes of arthritis include soft tissue swelling, regional osteoporosis, and periosteal new bone apposition about affected joints, continued

active diseases lead to subchondral erosions and narrowing of cartilage space, especially in small tubular bones, with varying degree of bony destruction and potentially fusion.

## **Treatment and drugs**

Treatment for juvenile rheumatoid arthritis focuses on helping your child maintain a normal level of physical and social activity. To accomplish this, doctors may use a combination of strategies to relieve pain and swelling, maintain full movement and strength, and prevent complications.

## **Medications**

For some children, pain relievers may be the only medication needed. Other children may need help from medications designed to limit the progression of the disease. Typical medications used for juvenile rheumatoid arthritis include.

### **❖ No steroidal anti-inflammatory drugs (NSAIDs) .**

These medications, such as ibuprofen (Advil, Motrin, others) and naproxen (Aleve), reduce pain and swelling. Stronger NSAIDs are available by prescription. Side effects include stomach upset and liver problems.

### **❖ Disease-modifying antirheumatic drugs (DMARDs).**

Doctors use these medications when NSAIDs alone fail to relieve symptoms of joint pain and swelling. They may be taken in combination with NSAIDs and are used to slow the progress of juvenile rheumatoid arthritis. Commonly used



DMARDs for children include methotrexate (Trexall) and sulfasalazine (Azulfidine). Side effects may include nausea and liver problems.

❖ **Tumor necrosis factor (TNF) blockers.**

TNF blockers- such as etanercept (Enbrel) and adalimumab (Humira) - can help reduce pain, morning stiffness and swollen joints. But these types of drugs increase the risk of infections, such as lymphoma.

❖ **Immune suppressants.**

Because juvenile rheumatoid arthritis is caused by an overactive immune system, medications that suppress the immune system can help. Examples include abatacept (Orencia), rituximab (Rituxin), anakinra (Kineret) and tocilizumab (Actemra). Immune suppressants increase the risk of infections and, rarely, some types of cancer.

❖ **Corticosteroids.**

Medications such as prednisone may be used to control symptoms until a DMARD takes effect or to prevent complications, such as inflammation of the sac around the heart (pericarditis). Corticosteroids may be administered by mouth or by injection directly into a joint. But these drugs can interfere with normal growth and increase susceptibility to infections, so they generally should be used for the shortest possible durations.

## ❖ Therapies

Your doctor may recommend that your child work with a physical therapist which helps to keep joints flexible and maintain range of motion and muscle tone. A physical therapist or an occupational therapist may make additional recommendations regarding the best exercise and protective equipment for your child. A therapist may also recommend that your child make use of joint supports or splints to help protect joints and keep them in a good functional position.

### **Surgery:**

In very severe cases of juvenile rheumatoid arthritis, surgery may be needed to improve the position of a joint.

#### Lifestyle and home remedies

Caregivers can help children learn self-care techniques that help to limit the effects of juvenile rheumatoid arthritis. Techniques include.

#### ➤ **Getting regular exercise.**

Exercise is important because that help to limit the effects of juvenile rheumatoid arthritis. Techniques include.

#### ➤ **Applying cold or heat.**

Stiffness affects many children with juvenile rheumatoid arthritis, particularly in the morning. Although some children respond well to cold packs, most children prefer a hot pack or a hot bath or shower.

➤ **Eating well.**

Some children with arthritis have poor appetites. Others may gain excess weight due to medications or physical inactivity. A healthy diet can help to maintain an appropriate body weight. Adequate calcium in the diet is important because children with juvenile rheumatoid arthritis are at risk of developing weak bones (osteoporosis) due to the disease, the use of corticosteroids and decreased physical activity and weight bearing.

**Coping and support**

Family members can play children roles in helping a child cope with juvenile rheumatoid arthritis. As a parent, you may want to try the following:

- ✓ Treat your child as much as possible, like other children in your family
- ✓ Allow your child to express anger about having juvenile rheumatoid arthritis. Explain that the disease isn't caused by anything he or she did.
- ✓ Encourage your child to participate in physical activities, keeping in mind the recommendations of your child's doctor and physical therapist.
- ✓ Discuss your child's condition and the issues surrounding it with reaches and administrations at his or her school.

## **KNEE JOINT IN JRA**



# *Materials and Methods*

## **MATERIALS AND METHODS**

### **1. BACKGROUND**

Keel vayu is one of the vatha diseases, occur in children as porthu vatham. In “**THE PHARMACOPOEIA OF SIDDHA RESEARCH MEDICINES**”(Page 118) text there is a preparation of drug named keel vayu nivarna choornam for keel vayu, by Dr.M.Shunmugavelu,L.I.M, H.P.I.M and Dr.G.D. Naidu, which is not used in common practice.

Since the efficacy of keel vayu Nivarna choornam is unknown, it is propped to carry out the clinical trial. Clinical trial is carried under the guidance of faculties of post graduate department of kuzhanthai Maruthuvam both in out patients and In- patients ward.

### **2. AIMS:**

#### **a) Primary Aim**

To estimate the efficacy of keel vayu nivarna choornam in the treatment of keel vayu.

#### **b) Secondary Aim**

To find out the side - effects of the drug, if any

### **3. POPULATION AND SAMPLE:**

The population consists of pediatric patients with keelvayu satisfying the inclusion and exclusion criteria mentioned below. The sample consists of patients

attending the Govt. Siddha medical college & Hospital palayamkottai, P.G kuzhanthai Maruthuvam Department.

#### **4. SAMPLE SIZE:**

The trial will be with 40 patients

#### **5. INCLUSION CRITERIA**

1. Age 3-13 yrs children
2. Willing to give blood specimen for the investigation when required.
3. Willing to attend OPD once in 10 days, willing to be admitted in the Hospital for minimum 1 Week.
4. Rheumatoid facor positive or negative.

#### **6. EXCLUSION CRITERIA**

1. Rheumatic Fever
2. Juvenile Diabetes
3. History of Trauma
4. Psoriatic arthritis
5. Neurological disorder

#### **7. WITHDRAWAL CRITERIA**

1. Exacerbation of symptoms
2. Occurrence of any other serious illness.

## 8. TRIAL DRUG, DOSAGE AND DURATION

Keel vayu Nivarna choornam 500 mg b.d with honey.

Age	Dose
3-9 years	325 mg - 500 mg
10yr year	600 mg
11-13 year	650 mg

## 9. TESTS AND ASSESSMENTS:

### a) Clinical Assessments

- (i) Arthritis involving three or more joints
- (ii) Morning Stiffness
- (iii) Anorexia
- (iv) Depression
- (v) Swelling of small joints of hands and foot
- (vi) Pain of joints

### b) Siddha Assessment

Nillam, kaalam, uyir thathukal, Udal thathukkal , Ennvagai thervugal.

### c) Investigations

Blood Test: Tc, Dc, Hb, ESR and RA factor

Radiological investigation

### d) Siddha Investigation

Neerkuri Investigation

Neerkuri, Neikuri



## **10) CONDUCT:**

Keel vayu patients satisfying the inclusion and exclusion criteria will be admitted to the trial. Informed consent will be obtained from the patients.

The trial drug will be issued to the op patients for 10 days at a time. Patients will be asked to come for clinical assessment once in 10 days. Also, they will be asked to bring back unconsumed drug at each visit, a new drug container will be issued to the patients. Investigations will be carried out before treatment and at the end of the treatment. 10 IP patients were given to physical Manipulation along with internal medicine.

## **11. FORMS:**

**Form I-** Selection proforma - used before admission to the trial.

**FormII-** Assessment proforma- used Weekly during treatment

## **12. ANALYSIS:**

Changes in subjective parameters will be analyzed using paired x-test and changes in objective parameters will be analyzed using paired t-test.

## **13. ADMINISTRATION OF TRIAL MEDICINE:**

The trial medicine used in the study is keelvayu Nivarna choornam. Preparation and properties, Bio chemical analysis, pharmacological studies of the drug are dealt in detail in annexures.

# *Results and Observations*

## **OBSERVATION AND RESULTS**

Results were observed with respect to the following criteria

### **I) Bio-chemical analysis**

### **II) Pharmacological studies**

### **III) Clinical trial**

1. Age reference
2. Sex reference
3. Religion reference
4. Socio Economic status of the patient reference
5. Thinai Reference
6. Seasonal Reference
7. Ezhu udarkattugal reference
8. Envagai thervugal reference
9. Three dosha theory ( UYIR Thatthukkal)
10. Neerkuri, Neikuri reference
11. Results after treatment reference.

**I) Bio -chemical Analysis of “Keel vayu Nivarna choornam”** Prove that it as calcium, Ferious iron, reducing sugar, amino acids, Starch, sulphate.

## **II.Pharmacological Studies:**

In the pharmacological studies, the trial drug has anti pyretic, Analgesic, acute and chronic anti- inflammatory effects.

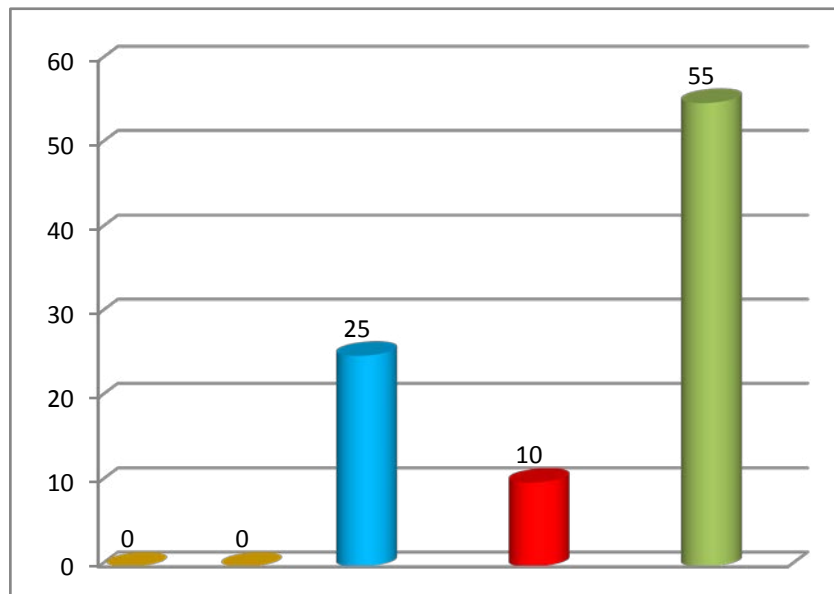
## **III Clinical trial:**

The observations recorded with above said criteria were given in the tabular form.

# OBSERVATION AND RESULTS

## 1. AGE DISTRIBUTION. (Table No: 1)

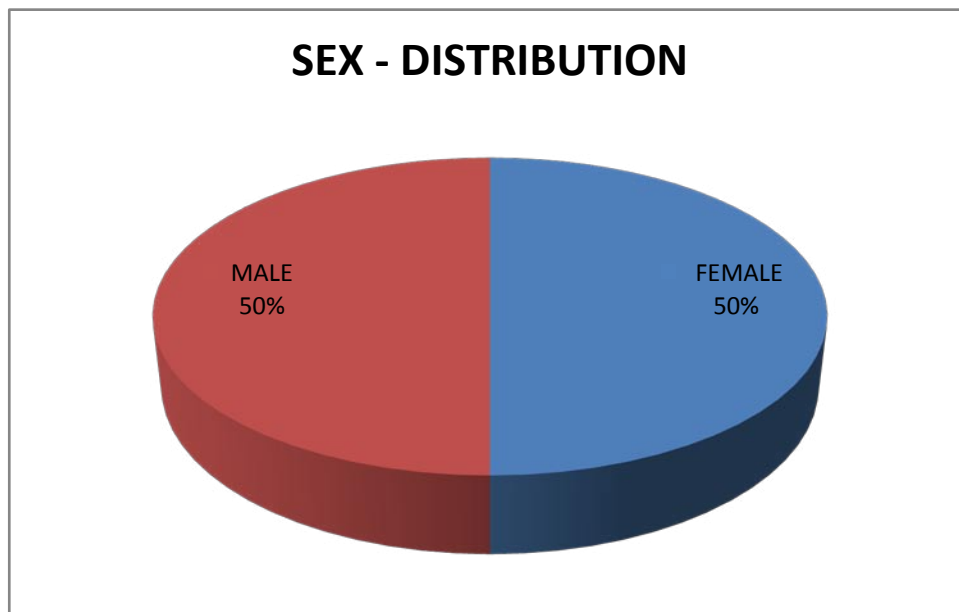
S.No	Age	No. Of cases (out of 20)	Percentage (%)
1	0-1 year Kappu and Chenkeerai	-	-
2	2 year – 3 year Varugai, Thalattu, Sappani, Mutham	-	-
3	4 years – 6 years Ambuli, Chitril, Chiruparai, Chiruthervidhal, Paethai (female) & Pillai (male) paruvam	5	25
4	7 years – 10 years Paethamai (female) Chiruparuvam (Male)	2	10
5	11 years – 12 years Mangai (Female), Valibam (Male)	11	55



The above table indicates that children under the age group of 11 years to 12 years (55%) are mostly affected. In mangai, valibam the children has high incidence of keelveyu.

**2. SEX - DISTRIBUTION: (Table No: 2 )**

S.No	Sex	No. of cases (out of 20)	Percentage(%)
1	Male	10	50
2	Female	10	50

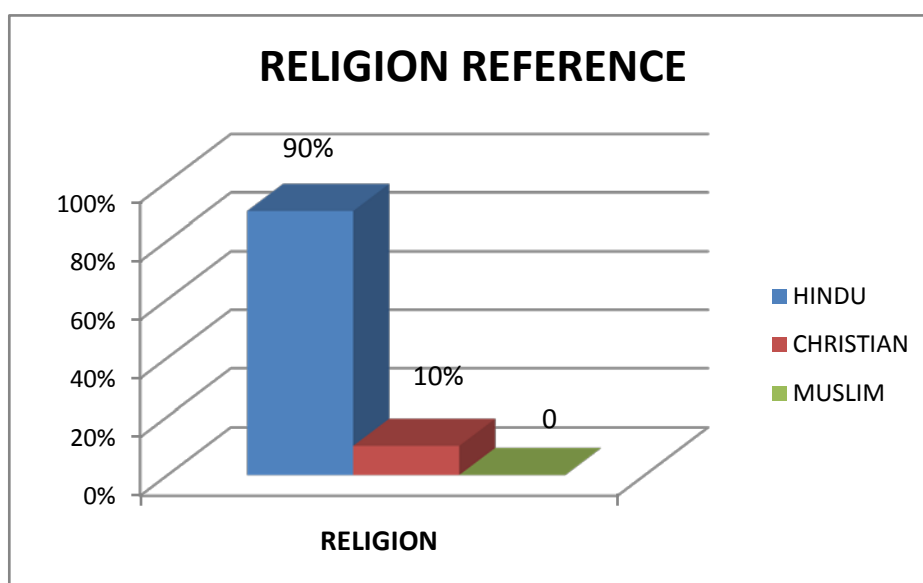


Among 20 cases of study 10 were Males and 10 were Females, so no sex variation.

### 3. Religion Reference

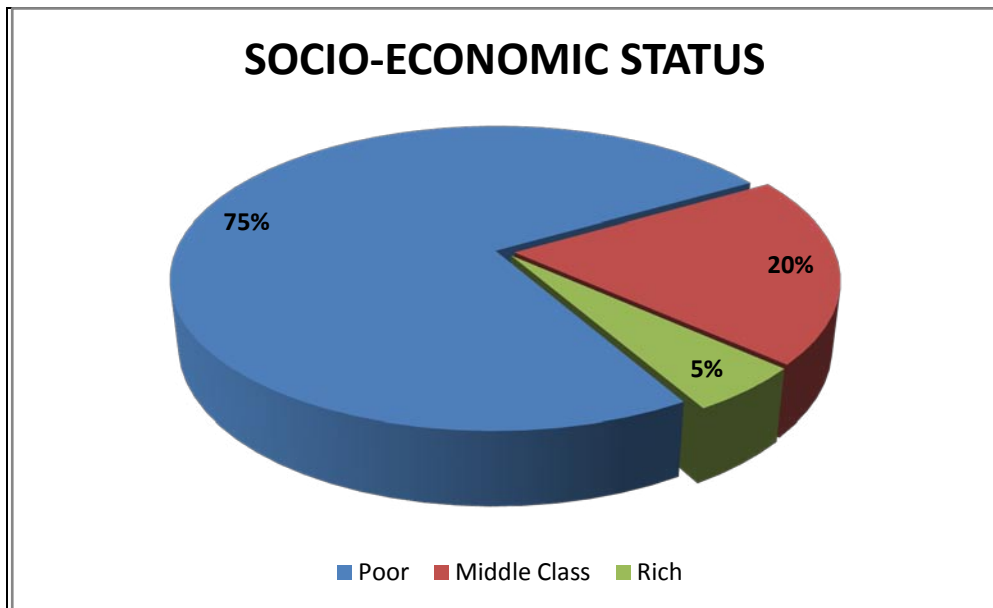
**Table 3. Shows the distribution of the patients according to religion**

S.No	Religion	No.of cases	Percentage
1	Hindu	18	90%
2	Christian	2	10%
3	Muslim	-	-



### 4. SOCIO-ECONOMIC STATUS: (Table No: 4)

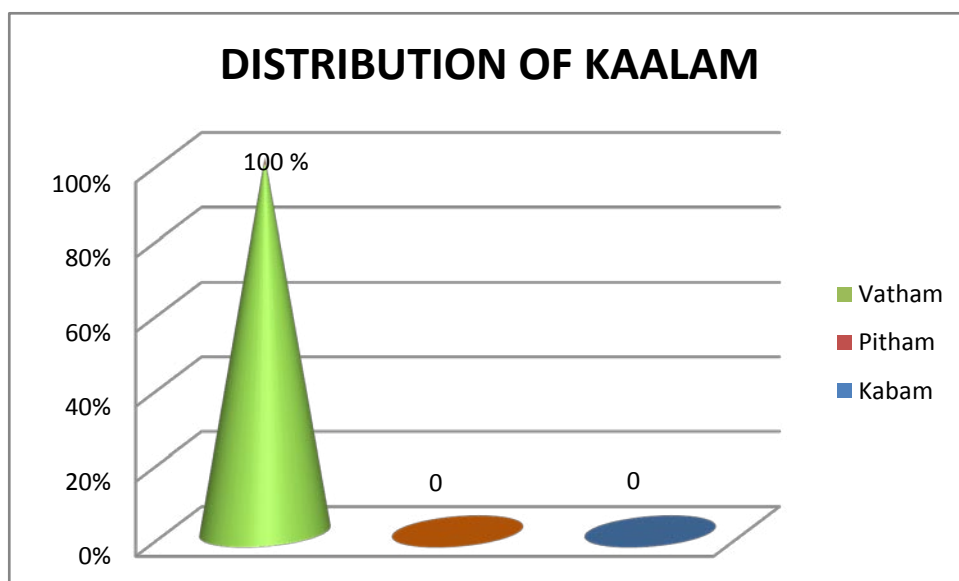
S.No	Socio-economic status	No. of cases (out of 20)	Percentage (%)
1	Poor	15	75
2	Middle Class	4	20
3	Rich	1	5



According to this study 15 cases belongs to Poor socio economic status and 4 belongs to Middle class, one case rich class.

#### 5. DISTRIBUTION OF KAALAM: (Table No: 5)

S.no	Kaalam	No. Of cases (Out of 20)	Percentage (%)
1	Vatham	20	100
2	Pitham	-	-
3	Kabam	-	-



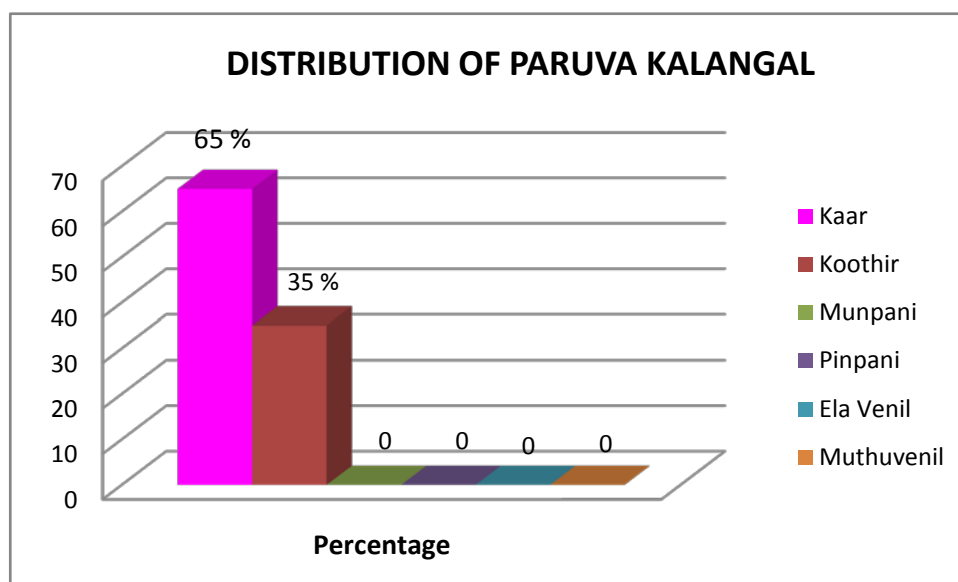


## Kaalam

As only the children below the age of 12 were selected for this study, all the cases under vatha kaalam as per the Ayul Thoda Nirnayam.

### 6. DISTRIBUTION OF PARUVA KALANGAL (Table No: 6)

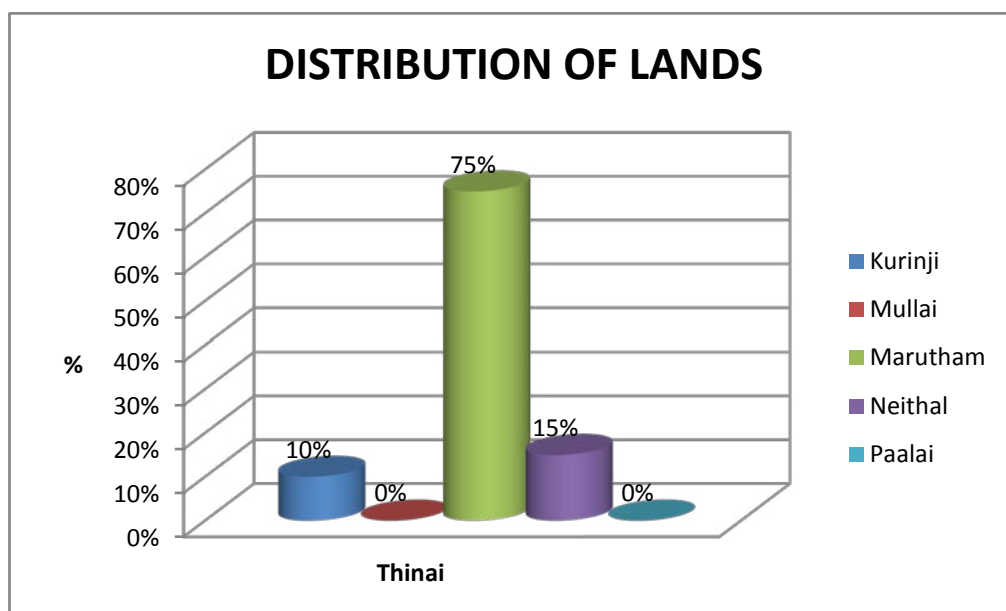
S.No	Paruvakaalam	No. of cases (Out of 20)	Percentage (%)
1	<b>Kaar</b> (Aavani, Purattasi)	13	65
2	<b>Koothir</b> (Ayppasi, Karthigai)	7	35
3	<b>Munpani</b> (Markazhi, Thai)	-	-
4	<b>Pinpani</b> (Maasi, Pankuni)	-	-
5	<b>Ela Venil</b> (Chithirai, Vaikasi)	-	-
6	<b>Muthuvenil</b> (Aani, Aadi)	-	-



In Keelvayu 65% of cases were suffering during Kaar Kaalam, 35% of cases were suffering Koothir. The changes in thannilai valarchi of vatha in cases the chance of aggravating keelvayu.

## 7. DISTRIBUTION OF LANDS: (Table No: 7)

S. No	Thinai	No. of cases (Out of 20)	Percentage(%)
1	Kurinji (hill)	2	10
2	Mullai ( forest)	-	-
3	Marutham (fertile)	15	75
4	Neithal ( coastal)	3	15
5	Paalai ( desert)	-	-

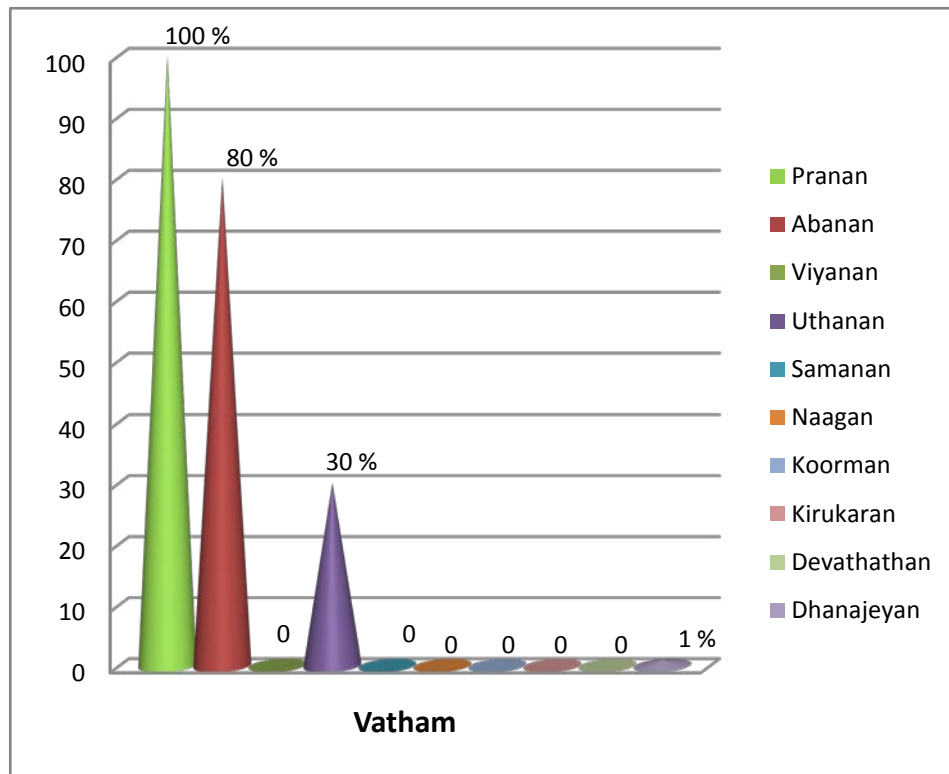


According to siddha concept, no disease occurs to the people living in marutham. Incidence of disease in marutha nilam and neithal nilam were due to altered life style and environment. In addition, the study was conducted in and around Tirunelveli, a marutham land. Therefore, majority of the cases is from that land. Therefore, there is no apparent thinai predililection for this disease.

## 8. MUKKUTRA THEORY:

### 1. DERANGEMENT OF VATHAM:-

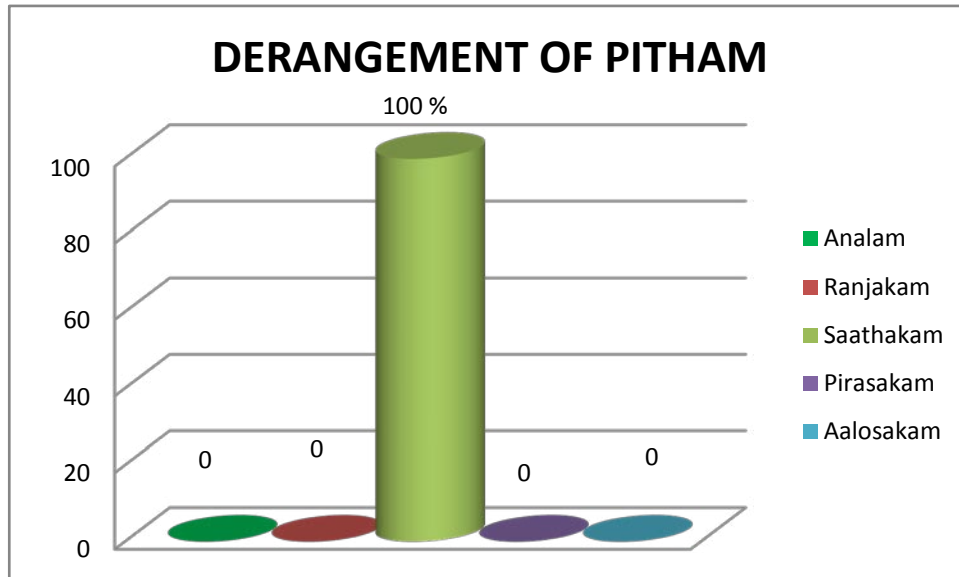
S.No	Types of Vatham	No. of cases (Out of 20)	Percentage(%)
1	Pranan (பிராணன்)	-	
2	Abanan (அபானன்)	20	100
3	Viyanan (வியானன்)	16	80
4	Uthanan( உதானன்)	-	-
5	Samanan( சமானன்)	6	30
6	Naagan (நாகன்)	-	-
7	Koorman(கூர்மன்)	-	-
8	Kirukaran (கிருகரன்)	-	-
9	Devathathan (தேவதத்தன்)	-	-
10	Dhananjeyan(தனஞ்செயன்)	-	-



In vatham all cases had derangement in Abanan 80% patients had derangement in Viyanan 30% patients had derangement in Samanan.

## 2. DERANGEMENT OF PITHAM:

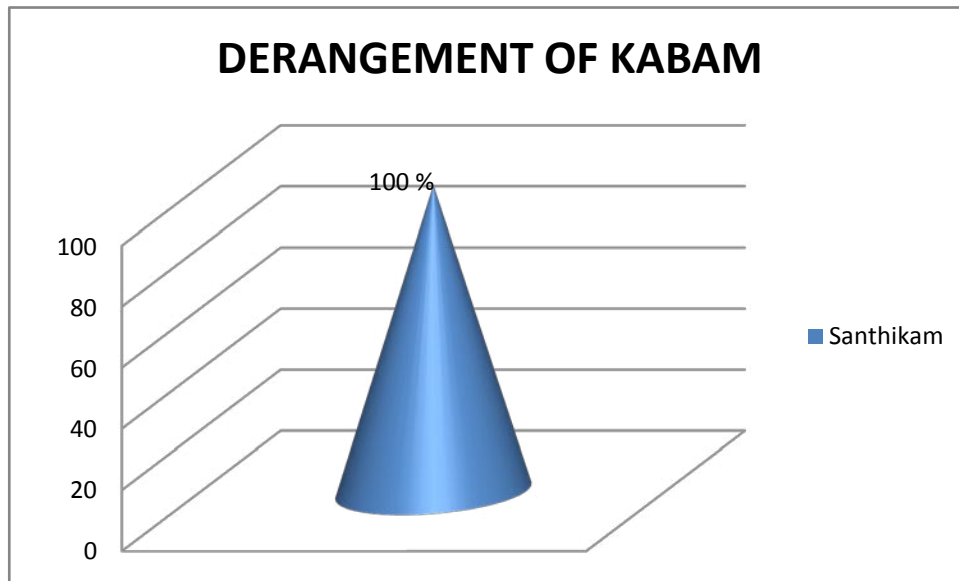
S.No	Types of Pitham	No. of cases (out of 20)	Percentage(%)
1	Analam (அனலம்)	-	-
2	Ranjakam (ரஞ்சகம்)	-	-
3	Saathakam (சாதுகம்)	20	100
4	Pirasakam (பிராசகம்)	-	-
5	Aalosakam (ஆலோசகம்)	-	-



In pitham, Sathagam were affected in all cases (100%),..

### 3. DERANGEMENT OF KABAM:

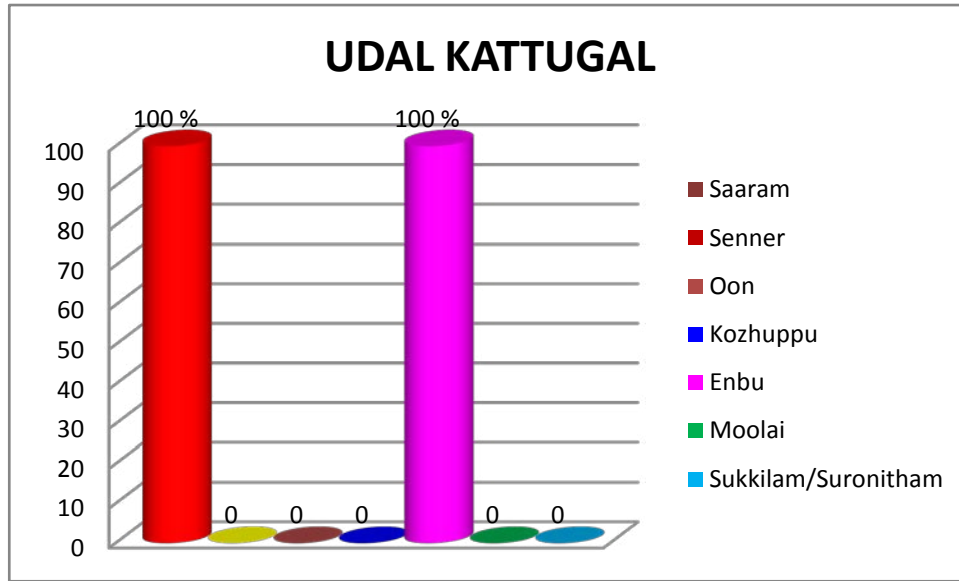
S.No	Types of Kabam	No. of cases (out of 20)	Percentage (%)
1	Avalambakam (அவலம்பகம்)	-	-
2	Kilethakam ( கிலேதகம்)	-	-
3	Pothakam (போதகம்)	-	-
4	Tharpakam ( தற்பகம்)	-	-
5	Santhikam ( சந்திகம்)	20	100



In kabam all the children were affected by Santhikam causes limitation of Movements.

**9. UDAL KATTUGAL: (Table No: 9)**

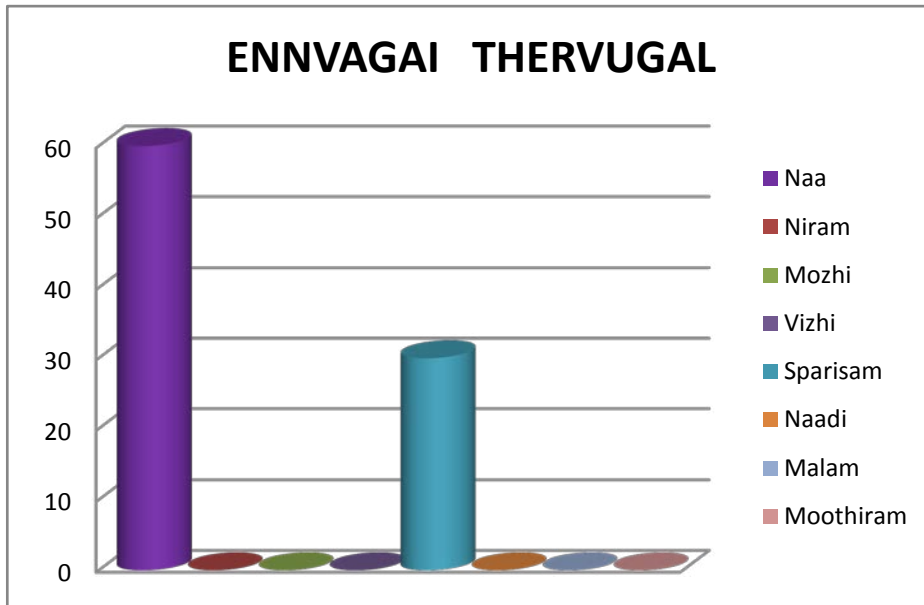
S.No	UDAL KATTUGAL	No. of cases (out of 20)	Percentage (%)
1	Saaram( சாரம்)	20	100
2	Senneer( செந்நீர்)	-	-
3	Oon( ஊன்)	-	-
4	Kozhuppu (கொழுப்பு)	-	-
5	Enbu( என்பு)	20	100
6	Moolai ( மூளை)	-	-
7	Sukkilam / Suronitham (சுக்கிலம் / சுரோணிதம்)	-	-



**In Ezhu udal kattukal the derangement of Enbu caused by increased vatha kutrum.**

**10. ENN VAGAI THERVUGAL: (Table No: 10)**

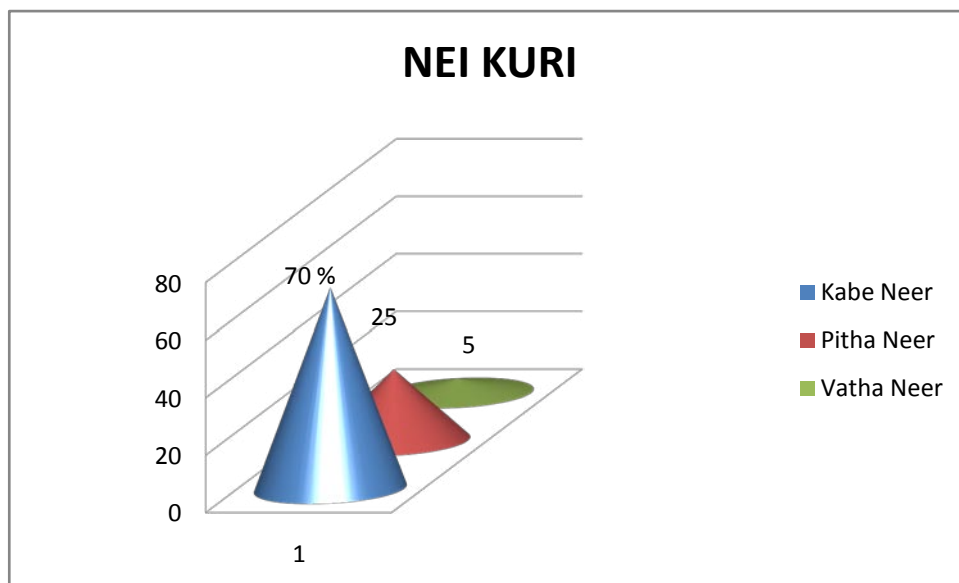
S.No	Enn Vagai Thervugal	No. of cases (out of 20)	Percentage (%)
1	Naa (நா)	12	60
2	Niram (நிறம்)	-	-
3	Mozhi ( மொழி)	-	-
4	Vizhi (விழி)	-	-
5	Sparisam ( ஸ்பரிசம;)	6	30
6	Naadi (நாடி)	-	-
7	Malam (மலம;)	-	-
8	Moothiram (மூத்திரம்)	-	-



**In ennvagai thervugal coating of tongue, Fever occurs respectively.**

## 11. NEI KURI:

S.No	Neikuri Reference	Characters of Urine	No. of cases (out of 20)	Percentage (%)
1	Vatha Neer	Spreads like Snake	15	70
2	Pitha Neer	Spreads like RING	5	25
3	Kaba Neer	Spreads like PEARL	1	5



Major clinical symptoms reported were pain and stiffness of joints ..most of the clinical

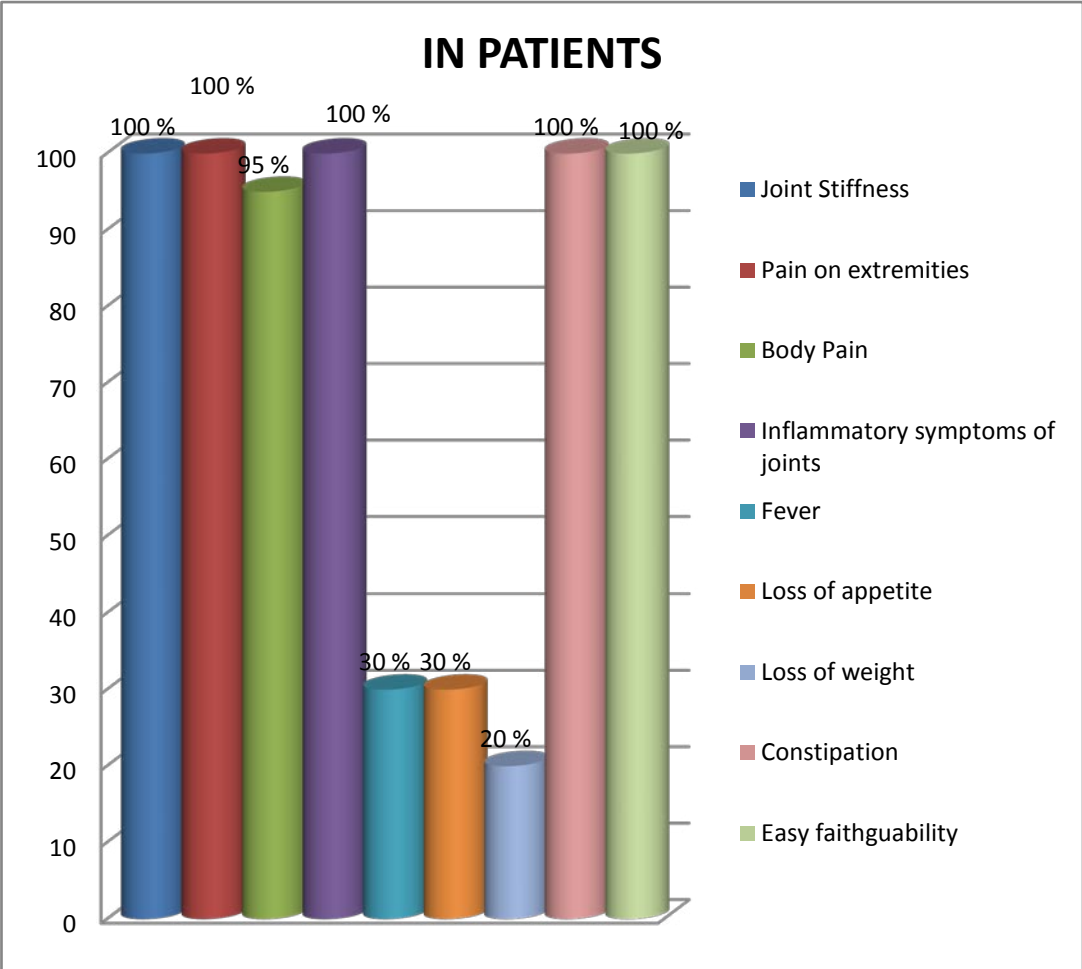
symptoms and signs were relieved after the treatment.

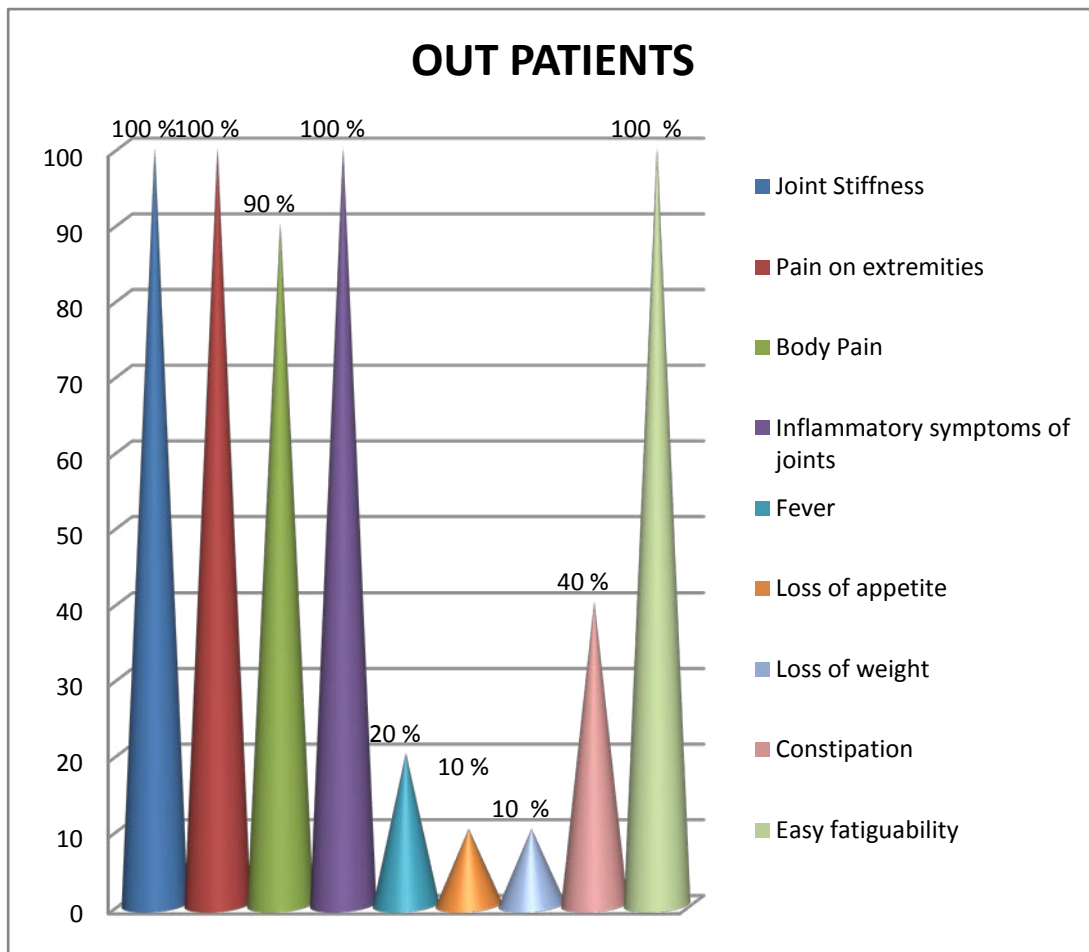


## 12. Clinical Manifestations:

**Table 12: Illustrates the Symptoms**

SI. No	Symptoms	In Patients (IP)		Out Patients (OP)	
		No.of Cases	Percentage	No.of Cases	Percentage
1	Joint Stiffness	20	100	20	100
2	Pain on extremities	20	100	20	100
3	Body pain	19	95	18	90
4	Inflammatory symptoms of joints	20	100	20	100
5	Fever	6	30	4	20
6	Loss of appetite	6	30	2	10
7	Loss of weight	4	20	2	10
8	Constipation	20	100	8	40
9	Easy fatiguability	20	100	20	100



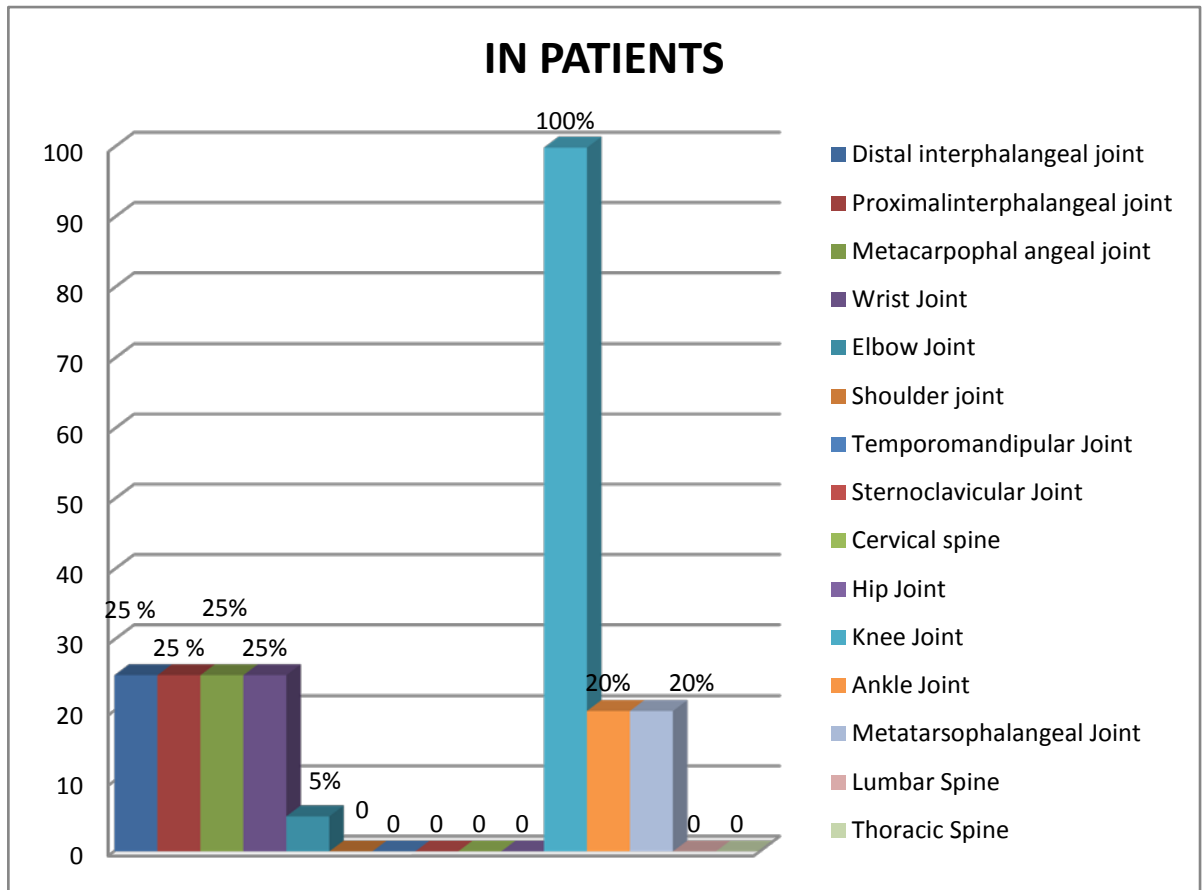


- ❖ From the above table cent percent of IP and OP patients had joint stiffness, pain on extremities, inflammatory symptoms of joints, functional disability of extremities and easy fatiguability.

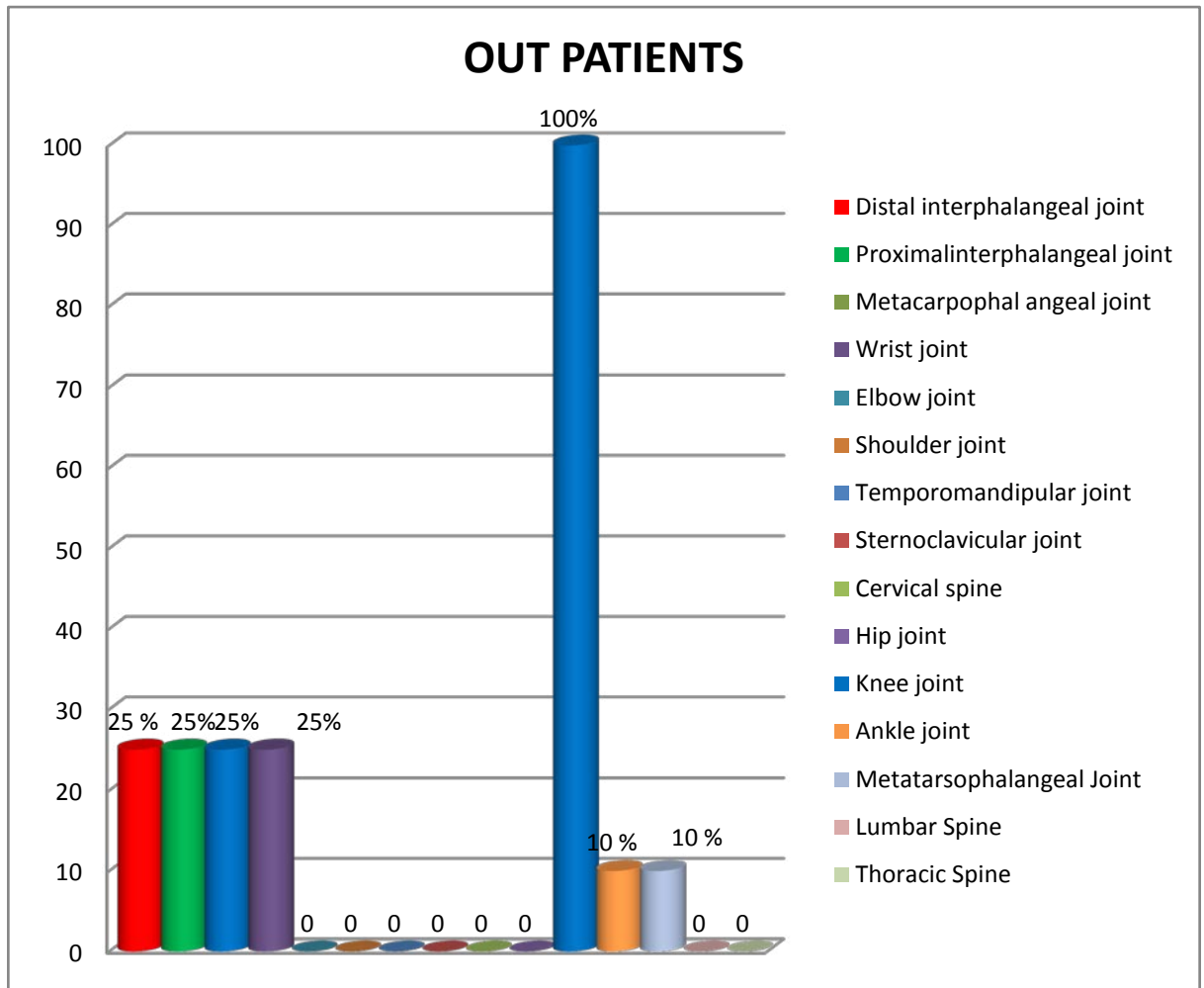
### 13. Incidents of individual Joint involvement:

**Table 13: Illustrates incidents of Joints involvement**

SI. No	Joints involved	In Patients (IP)		Out Patients (OP)	
		No.of Cases	Percentage	No.of Cases	Percentage
1	Distal interphalangeal joint	5	25	5	25
2	Proximalinterphalangeal joint	5	25	5	25
3	Metacarpophalangeal joint	5	25	5	25
4	Wrist Joint	5	25	5	25
5	Elbow joint	1	5	-	-
6	Shoulder joint	-	-	-	-
7	Temporomandipular Joint	-	-	-	-
8	Sternoclavicular Joint	-	-	-	-
9	Cervical spine	-	-	-	-
10	Hip joint	-	-	-	-
11	Knee joint	20	100	20	100
12	Ankle joint	4	20	2	10
13	Metatarsophalangeal Joint	4	20	2	10
14	Lumbar Spine	-	-	-	-
15	Thoracic Spine	-	-	-	-



Out of 20 IP Patients 20 cases involvement of Knee Joint 4 cases involvement of Ankle joint and Metatarsophalangeal joint. 5 cases involvement of Distal inter Phalangeal joint and proximal inter phalangeal joint and Metacarpophalangeal joint and wrist joint 1 case elbow joint involvement.



Out of 20 OP Patients 5 cases involvement of Distal interphalangeal Joint, Proximal interphalangeal joint Metacarpophalangeal joint, wrist Joint, 20 cases involvement of knee joint 2 case involvement of Ankle and metatarso phalangeal joint.

## 14. Grading of Arthritis :

**Table : 14 Illustrates Grading of poly Arthritis**

Sl.No	Grade	In Patients (IP)		Out Patients (OP)	
		No.of cases	Percentage	No.of cases	Percentage
1	I	-	-	-	-
2	II	13	65	14	70
3	III	6	30	6	30
4	IV	1	5	-	-

**Grade I** : No restriction of ability to perform normal activities.

**Grade II** : Moderate restriction but with an ability to perform most activities of daily activity.

**Grade III** :Marked restriction with an inability of perform most activities of daily living and occupation.

**Grade IV** :In incapacitation with confinement to bed or wheel chair.

Out of 20 In Patients,

- 65 % of cases belonged to Grade II
- 30 % of cases belong to Grade III and
- 5 % of cases belonged to Grade IV

Out of 20 Out Patients,

- 70 % of cases belonged to Grade II and
- 30 % of cases belonged to Grade III

### Assessment of the Effect of Therapy :

The patients were treated for about 15 days to 50 days with the trial medicines. At the end of the treatment the result were categorized as follows,

**Good** : Complete, Subsidence of Pain and Disappearance of Swelling.

**Moderate** :Relief of pain only

**Fair** : Relief of pain, Reduction in Swelling and Increasing Range of Movements.

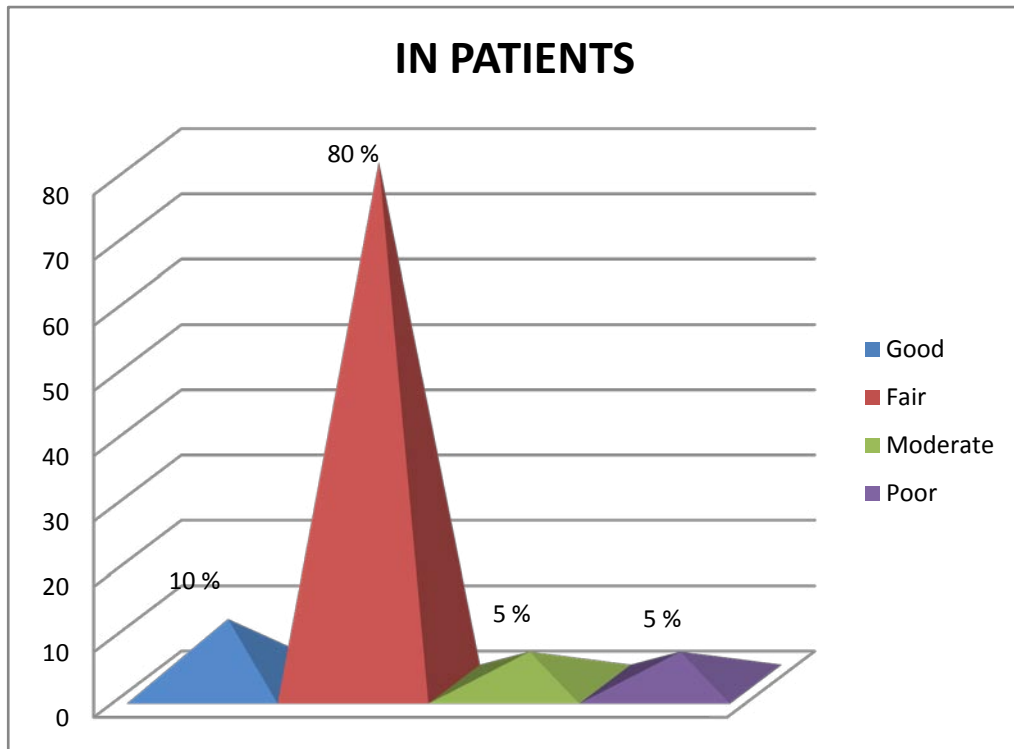
**Poor** : No Improvement.

### 15. Grading of Results

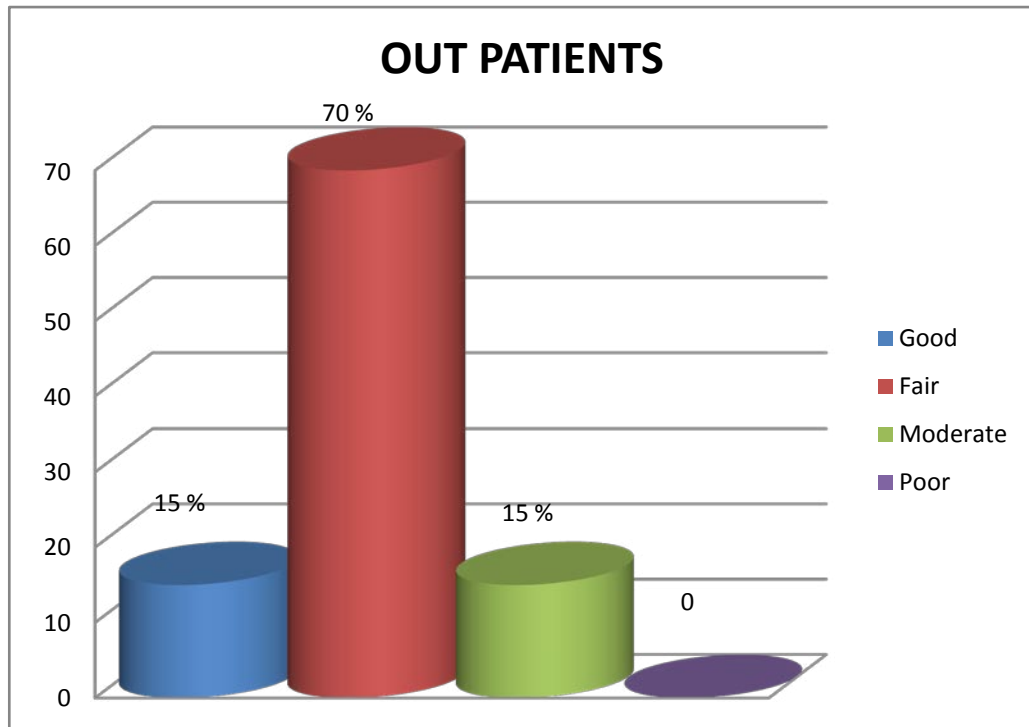
**Table : 15 Illustrates Grading of Results**

SI.No	Grade	In Patients (IP)		Out Patients (OP)	
		No.of cases	Percentage	No.of cases	Percentage
1	Good	2	10	3	15
2	Fair	16	80	14	70
3	Moderate	1	5	3	15
4	Poor	1	5	0	0





- Out of In Patients, 10 % of cases showed good response. 80% of cases showed fair response. 5% of case showed poor response. 5% Moderate response.



- Out of 20 Out Patients, 15% of cases showed good response . 70 % of cases showed fair response. 15% of cases showed Moderate response.

**Dharma 11 Male Child**

**Knee Joint AP view**

**IP No : 2567**



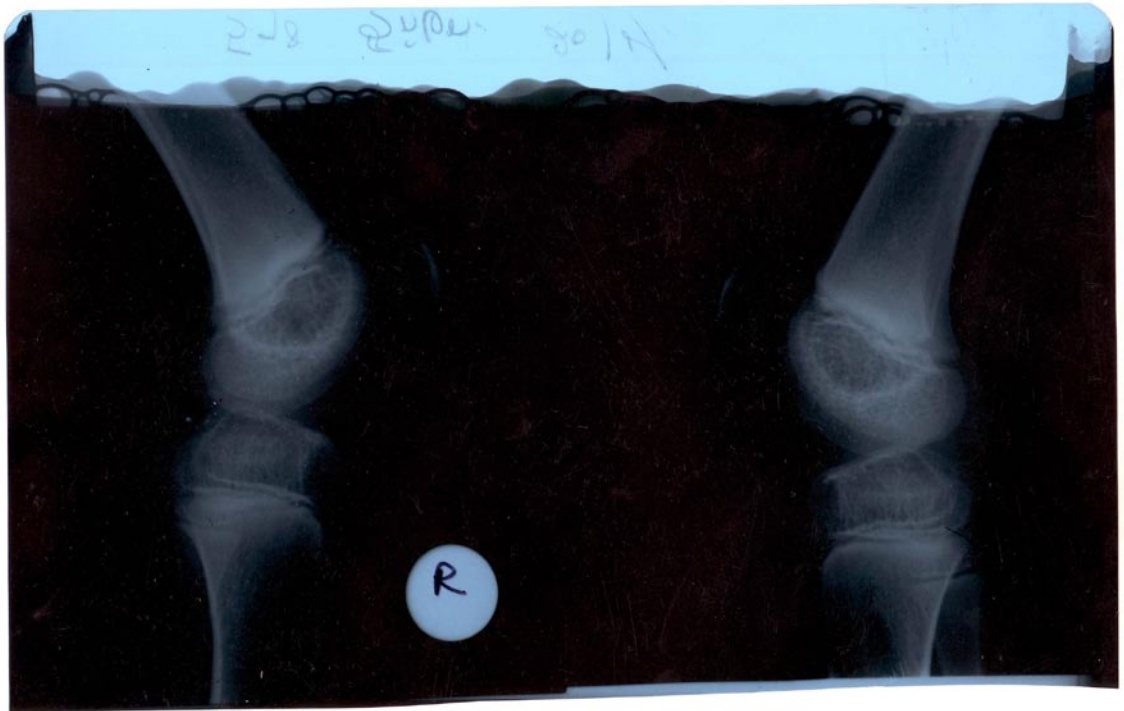
## OUT-PATIENTS RECORD

S.No	OPNO	Name	Age/sex	No fo days Treated	Remarks
1	41935	Sasipayan	8Mc	48	Good
2	50330	Rasik	12Mc	48	Good
3	54995	Selvi	9Fc	42	Fair
4	50331	Seyad	12Mc	48	Fair
5	54331	Karthi	10Mc	42	Moderate
6	54979	Peratchi	9Fc	42	Moderate
7	43506	Kumar	13Mc	48	Good
8	54981	Shankari	8Fc	48	Fair
9	50984	Dharma	11Mc	48	Fair
10	43499	Esakiyammal	12Fc	48	Fair
11	44176	Tharathi	12Fc	48	Moderate
12	51354	Devi	10Fc	48	fair
13	52484	Senthil	10Mc	48	Fair
14	54980	Esakiammal	10Fc	48	Fair
15	37416	Divyari	5Fc	48	Fair
16	41924	Jayapal	6Mc	48	Fair
17	43166	L.K.SATHYAM	12Mc	48	Fair
18	41956	Kombiya	12Mc	48	Fair
19	41915	Leoskar	6Mc	49	Fair
20	54994	Peratchi Selvi	9Fc	48	Fair

**Kombiya 12 Years / Male**

**IP No: 1686**

**Knee Joint Lat view**



## CASE REPORT OF 20 PATIENTS OF KEELVAYU

S.NO	IP NO	Age /Sex	Duration of illness	Signs and Symptoms	Admission Date	Discharge Date	No of days Treated		Total no of days Treated	Results
							IP	OP Follow up		
1	1686	12/MC	2 months	Pain in the proximal interphalanged joint and both knee joint	30/7/11	7/8/2011	7	40	47	Good
2	1833	10MC	45 days	Pain in the both knee joint Metatarso phalanged joint	17/8/11	29/8/11	12	28	40	Fair
3	2374	6FC	45days	Pair, in the Mela canpo phalangeal joint , fever stifness of it	4/10/2011	10/10/2011	7	42	49	Good
4	2515	3 1/2yr MC	1 month	pain ;restricted movement in the both knee joint,	13/10/11	19/10/11	7	28	35	Fair
5	2540	12yr FC	5 months	Pain in the Fever Meta carpo phlangeal joint both knee joint	15/10/11	9/11/2011	24	20	44	Fair
6	2540	12yrFC	4 months	Pain in both knee joint, Fever difficulty in walking	15/10/11	9/11/2011	24	20	44	Fair
7	2587	12 yrFC	1 months	Fever, body pain,knee joint pain pain in distal interphalanged joint	15/10/11	9/11/2011	23	28	51	Fair
8	2582	11yrMC	6 months	Pain in the knee joint fever Ankle joint, difficulty in walking	17/10/11	8/11/2011	22	26	48	Fair
9	2583	9yrMC	42 days	Pain in the Ankle joint of Metaraso phalan joint	17/10/11	8/11/2011	22	26	48	Fair
10	2567	111yrMC	2 months	Pain & swelling in the Metatarso phaalangeal joint and knee joint, Ankele joint	17/10/11	8/11/2011	22	20	40	Fair

**CASE REPORT OF 20 PATIENTS OF KEELVAYU**

S.NO	IP NO	Age /Sex	Duration of illness	Signs and Symptoms	Admission Date	Discharge Date	No ofdays Treated		Total no of days Treated	Results
							IP	OP Follow up		
11	3107	4 MC	3 weeks	Pain in the Elbow joint and both knee joint body pain	1/12/2011	22/12/11	23	12	35	Fair
12	2978	11FC	2 months	Pain in the both knee joint easy Fatiguability	19/11/11	7/12/2011	18	20	38	Fair
13	3035	4FC	3 months	Pain in the both knee joint Constipation, Body pain	23/11/11	16/12/11	23	20	43	Fair
14	3087	11MC	45 days	Pain in the both knee joint, loss of weight	29/11/11	15/12/11	17	10	27	Fair
15	3135	7FC	42 days	Pain in the both knee joint, Wrist joint	4/12/11	28/12/11	24	7	31	Fair
16	3398	9FC	1 month	Pain in the ankle joint and metatarsal joint	24/12/11	9/1/2012	15	1	16	Fair
17	3320	12FC	6 months	Pain in the both knee joint, loss of appetite, Easy fatiguablity,ankle joint pain	19/12/11	9/1/2012	21	1	22	Fair
18	3323	11MC	2 months	Fever, Body Pain, Pain in the both knee joint, Joint Stiffness	19/12/11	9/1/2012	21	1	22	Fair
19	3348	6FC	21 days	Fever, Pain in the both knee joints and loss of appetite.	21/12/11	9/1/2012	19	1	20	Moderate
20	3407	12MC	27 days	Fever, Pain in the both knee joints and Body pain	26/12/11	9/1/2012	30	1	14	Poor

## LABORATORY INVESTIGATIONS OF 20 PATIENTS OF KEELVAYU

Sl.No	IP No	Blood Report												Blood Report					RA		
		Before Treatment							Urine			Stool		After Treatment					BT	AT	
		TC/cumm	DC%			ESR mm		Hb%	Alb	Sug	Dep	Ova	Cyst	DC %			ESR mm		Hb%		
			P	L	E	1/2 hr	1 hr		NIL	NIL	NAD	Nil	NIL	P	L	E	1/2hr	1 hr			
1	1686	9,700	60	30	10	16	30	70	NIL	NIL	NAD	Nil	NIL	51	44	5	10	18	75	neg	neg
2	1833	10,000	56	38	6	8	14	72	NIL	NIL	NAD	Nil	NIL	47	49	4	5	10	74	neg	neg
3	2374	9,000	64	31	5	10	18	69	NIL	NIL	NAD	Nil	NIL	54	42	4	5	10	71	neg	neg
4	2582	9,400	59	38	3	4	8	72	NIL	NIL	NAD	Nil	NIL	50	47	3	4	8	72	pos	pos
5	2587	9,500	62	35	3	6	12	71	NIL	NIL	NAD	Nil	NIL	53	44	3	4	8	68	neg	neg
6	2515	10,200	66	30	4	5	10	70	NIL	NIL	NAD	Nil	NIL	54	42	4	4	8	75	neg	neg
7	2978	10,000	52	43	5	8	16	69	NIL	NIL	NAD	Nil	NIL	45	52	3	6	10	78	neg	neg
8	2540	11,000	63	32	5	9	18	72	NIL	NIL	NAD	Nil	NIL	57	40	3	5	10	74	pos	pos
9	3107	9,000	65	31	4	5	10	68	NIL	NIL	NAD	Nil	NIL	58	40	2	5	9	72	neg	neg
10	3035	9,900	61	31	8	12	24	68	NIL	NIL	NAD	Nil	NIL	58	38	4	7	14	78	neg	neg
11	3087	9,000	59	32	9	14	28	68	NIL	NIL	NAD	Nil	NIL	51	45	4	8	16	68	pos	pos
12	2567	10,200	57	35	8	13	26	70	NIL	NIL	NAD	Nil	NIL	50	47	3	10	18	75	neg	neg
13	2543	9,300	52	39	9	14	28	71	NIL	NIL	NAD	Nil	NIL	46	48	6	10	20	71	neg	neg
14	3348	9,200	53	35	12	20	38	68	NIL	NIL	NAD	Nil	NIL	45	50	5	16	30	70	neg	neg
15	3135	7,500	53	39	8	16	28	70	NIL	NIL	NAD	Nil	NIL	48	47	5	10	20	71	neg	neg
16	3398	9,200	56	34	10	17	34	69	NIL	NIL	NAD	Nil	NIL	49	45	6	11	22	78	pos	pos
17	2583	8,800	58	35	7	13	26	72	NIL	NIL	NAD	Nil	NIL	49	48	3	8	16	72	neg	neg
18	3320	8,900	57	35	8	13	26	70	NIL	NIL	NAD	Nil	NIL	50	47	3	10	18	74	neg	neg
19	3323	8,900	59	35	6	15	30	68	NIL	NIL	NAD	Nil	NIL	50	48	2	9	18	76	pos	pos
20	3407	9,000	65	31	4	5	10	68	NIL	NIL	NAD	Nil	NIL	58	40	2	5	9	71	neg	neg



# *Discussion*

## DISCUSSION

According to siddha system of medicine and as per diseases are classified into 4448. keel vayu is one among vatha disease .

In paediatric vatha diseases classified into 8 types. One among them is portuhuvatham or keelvayu

For the study on keel vayu the author has selected 20 patients and were treated in the post graduate kuzhanthai maruthuvam Department, Government siddha Medical College, Palayamkottai. As In patients a case record based on siddha and Modern aspect was prepared and maintained individually. For each patient.

For the diagnostic purpose the parameter used in siddha aspect are porial arithal, pulanal arihal, vinaathal, uyir thathukkal, Neikuri. The modern parameters used were criteria for the keel vayu and lab investigation.

### **I Bio-Chemical analysis:**

The result of Biochemical analysis of keel vayu nivarna choornam show that it consists of as Ferrous iron, Reducing Sugar, calcium, amino acids, starch, sulphate.

The presence of calcium prevent bone deformity in keelvayu Juvenile Rheumatoid arthritis.

## **II Pharmacological studies:**

The pharmacological studies were carried within the department of pharmacology government siddha medical college, palayamkottai. Keel vayu nivarna choornam” (Internal) possess significant Antipyretic, Analgesic, acute Anti inflammatory action, and Moderate chronic Anti inflammatory action.

## **III. Clinical Trial:**

### **1. The age Distribution:**

Among the 20 cases, 5 cases in the age group between 4-6 years, 2 cases in 7-10 (chiru paruvam), 11 cases in Mangai (Female), valibam (Male) From the above data, the incidence of the disease seems to be more in the group of 11-12 years coincides with common age of involvement of the disease in modern text.

### **2. The sex distribution:**

Out of the 20 patients studied 10 cases were Male, 10 cases were female Equal sex distribution.

### **3. Paruva kalam:**

Among the 20 cases 13 cases were seemed to develop the disease during kaar kalam (A avani, puraddasi),7 cases were during koothir (Ayppuri karthigai). From the above data all the symptoms were aggravated during

kaar kaalam and koothir kaalam which includes rainy and winter season of a year.

The data coincide with siddha literature as per the Vatha Disease aggravation during this kaalam.

In Modern aspect, it is a Auto immune disease occur at any season

#### **4.Thinai:**

Among 20 cases, 15 cases were belonging to Marutha nilam. According to siddha concept, no disease occurs to the people living in marutham. Incidence of Incidence of disease neithal nilam were due to altered lifestyle and environment. In addition the study was conducted in and around Tirunelveli, a maruththam land. There fore Majority of the cases from that land. Therefore, there is no apparent thinai predililection for this disease.

#### **5. Religion Reference:**

Among the 20 cases 18 cases Hindu Religion, 2 cases Christian religion.

#### **6. Socio-economic status:**

Accoring to the study 15 cases of the affected cases belonged to the poor class and 4 cases affected belonged to Middle class 1 case affected belonged to rich.

## **7. Uyir Thathukkal:**

Uyir thathukkal include 3 vital humours namely:

- Vatham
- Pitham
- Kapam

The derangement in any of the above 3, causes disease. They were noticed in the 20 cases and are discussed below.

### **Vatham:**

Viyanan, Abanan, Samanan affected. When Abanan is affected it produces constipation.

When vijayan is affected it produces udal vatral difficulty in performing bodily activities.

When Samana along with other kuttram causes loss of appetite.

In vatham all cases had derangement in Abanan. 80% patients had derangement in viyanan, 30% patients had derangement in samanan.

### **PITHAM:**

Saathaka pitham affected in 20 cases. Affected saathakam produces difficulty in performing bodily activities.

### **Kabam:**

In kabam all the children were affected by santhikam causes limitation of Movements of joints.

## **8. UDAL KATTUGAL:**

Saaram, Enbu were affected in 20 case Affected saaram produce general disability, Easy fatiquability.

Enbu was affected produces restricted Movements of joints and pain.

## **10. ENN VAGAI THERVUGAL:**

Naadi was observed in 20 cases. 16 cases observed vatha pitham naadai. 4 cases observed kapha vatham naadi sparisam was affected in 6 cases which denotes fever, Naa was affected in 12 cases, which denotes coating of tongue.

## **NEERKURI AND NEIKURI REFERENCE:**

No observation was found in neerkuri, Regarding Neikuri 15 cases had vatha neer.

5 cases had pitha neer, 1% had kaba neer. Examination of urine and stools show no abnormality.

Eamination of blood show Decreased HB in 4 cases.

After discharge the patient were instructed to attend post graduate department of kuzhanthai maruthuvam out patients ward for further follow up.

Diet restriction was instructed to the patient during the cases of treatment.

All the drugs were put to therapeutic and only after careful purification process laid down for them individually no toxic or side effects were clinical and reportedly observed in any case during the course of the treatment.

Treat the keelvayu with “Keel vayu Nivarna choornam” internally had properties of drugs possess Enippu, Kaippu, and Karpu.

*“வாத மேலிட்டால் மதுரம் புளியுப்பு”*

**-கண்ணுசாமியம்**

From above literature The Enippu neutralizes the vatha kuttram.

The Nannari and parankipattai both possess Enippu Suvai.

Amukkara content kaippu which neutralizes Iya kuttram.

This Iya Kuttram produces joint swelling.

Arthai karppu surai which removes the swelling, Fever, increased by Iya kutram and also gives good appetite.

The author selected the drugs had Anti bacterial, agents Anti pyretic agents Anti Inflammatory agents Analgesic agents proved by Bio chemical Analysis and Pharmacological studies in Government Siddha Medical College, Palayamkottai. The root of Withania somnifera having the property of suppressing inter cellular tumor necrosing factor.

In Juvenile Rheumatoid Arthritis Etiopathogenesis T lymphocytes in the synovium have increased expression of activation Markers. There are

believed to secrete inflammatory cytokines like tumor necrosis factor (TNF) and interferons. Since author trial drug contains withania somnifera root.

So the trial drug is effective and suitable for curing Juvenile Rheumoid Arthritis or keel vayu. All the drugs are easily available and cheap. In this study the herbal drugs also has the satisfactory prognosis on joint disease have been proved. from all the above observation and results it is clear that out of 20 IP patients, Good grade relief in 2 patients (10%), Fair grade relief in 16 patients (80%) Moderate grade relief in 1 patients (5%) and poor grade in 1 patient. the selected drugs produced good effect in treating keelvayu.



# *Summary*

## SUMMARY

Keel vayu or poruthu vatham, a vatha disease with considerable involvement of one more joint was taken for the present study.

Various medical literatures having relevant reference to the disease Keel vayu were collected from both siddha systems as well as from modern system of medicine.

Twenty patients from both sexes of different age groups (3-12 yrs) were selected and a careful detailed history was elicited and diagnosis was made on both the siddha and modern methodology.

The patients were treated with keel vayu nivarna chooranam” internally in the Inpatients ward of post graduate Kuzhanthai maruthuvam department. 10 IP cases were given to physcial manipulation along with medicine.

They are treated for 12 to 25 days depending upon the severity of the illness with further follow up for any recurrence. Available investigations in modern medicine were also considered for diagnosis and the progress of the patient was followed and the proforma was prepared accordingly.

The clinical diagnosis of all keel vayu was done on the basis of signs and symptoms explained in Kumpamuni Balavagadam.

The efficacies of the drugs Keel vayu nivarna choornam was studied and observed during the study.

These analyses ensure the efficacies of the trial drugs were proved clinically.

# *Conclusion*

## CONCLUSION

- The author selected Dissertation topic were well analysed on the siddha and Modern parameters.
- The points were thoroughly examined with clinical and biochemical analysis.
- All the cases were treated with keel vayu nivarna choornam, Clinical results were found to be satisfactory.
- Poriyal arithal, pulanal arithal, vinavuthal which includes envagai thervugal, Neerkuri and Neikuri etc, helped in the proper Diagnosis of the disease.
- The medicines were free from adverse effects clinically.

So it is concluded keel vayu is a joint disorder with a chronic course that can be controllable when early diagnosis and treatment along with diet and regimen started in siddha literature. This drug keel vayu nivarna choornam is a herbal product, easily available, harmless to children.

# *Annexures*

SCREENING COMMITTEE


CHAIRMAN :

  
Dr. N. CHANDRA MOHAN DOSS, M.D.,(B)  
Prof. & Head of the Dept. of  
Kuzhanthai Maruthuvam  
Govt. Siddha Medical College  
Palayamkottai

MEMBER I :

  
Screening Committee  
Govt. Siddha Medical College Hospital,  
Palayamkottai - 627 002.

MEMBER II :

  
Head of Department  
P.G. ROI NADAL (Pathology)  
Govt. Siddha Medical College,  
PALAYAMKOTTAI - 627 002.

REMARKS :

**INSTITUTIONAL ANIMAL ETHICS COMMITTEE (I.A.E.C)**  
**GOVERNMENT SIDDHA MEDICAL COLLEGE**  
**PALAYAMKOTTAI**

No...../IAEC/GSMC/2011-12 DT.....3.5.2011

**CERTIFICATE**

This to certify that the project title ...A...study...on "KEEL VAYU"  
and the drug of choice is "KEEL VAYU NIVARNA  
CHOORNAM"

Has been approved by the IAEC on condition basis.

  
Name of chairman:

  
Name of Member secretary:

Nominee:

Signature with date:

(Kindly make sure that minutes of the meeting duly signed by all the participants are maintained by office)

**GOVT. SIDDHA MEDICAL COLLEGE,**

**PALAYAMKOTTAI, TIRUNELVELI**

**ETHICAL COMMITTEE CLEARANCE CERTIFICATE**

MEMBERS SECRETARY : DR. KAMALAM M.D.(S)

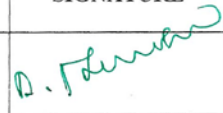
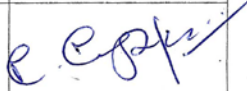
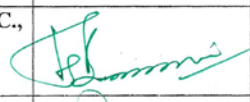

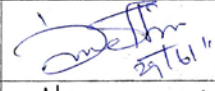
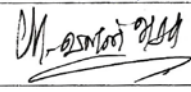

This is to certify that the bonafide dissertation work done by  
Dr.P.NIRMALADEVI Reg. No.32092505

TITLE : A STUDY ON KEEL VAYU

DEPARTMENT OF KUZHANDHAI MARUTHUVAM


DURING THE YEAR 2009 - 2012

**MEMBERS**

SL. NO.	DEPARTMENT	MEMBERS	SIGNATURE
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5.	PHILOSOPHER	DR. P. VALANARASU	
6.	LAY PERSON FROM PUBLIC	T.N. UMAPATHY SIVAN	

PLACE : PALAYAMKOTTAI

DATE : 29.6.11

  
29/6/11  
Dr. R. KAMALAM, M.D.(S)  
Professor  
HOD of Toxicology Dept. (PG)  
Govt. Siddha Medical College  
Palayamkottai  
Tirunelveli District



## ANNEXURE-I

### PREPARATION OF DISSERATION DRUGS

#### Internal Medicine:

For choornam:

- ❖ Root bark of Hemidesmus indicus-300
- ❖ Paranki pattai(Purified)- 300 gm
- ❖ Seemai Amukara-300 gm
- ❖ Chitrathai (Alpinia galanga)-150 gm

#### PURIFICATION OF DRUGS:

All above drugs are slightly fried under mild heat except Amukara.

#### SEEMAI AMUKARA PURIFICATION:

300 gms of Seemai Amukara is taken and boiled with 1 liter of Cow's milk using Avienthiram method and purified.

#### Method of Preparation (Procedure).

All the purified ingredients are powered using edi karuvi and Kalvam. Then powdered ingredients are sieved with cotton cloth.

(Vasthira kayam)

(Physical Manipulation done in the patients once a day for 10IP patients).

**Dosage:500- 650 mgs according** to age (twice a day) after food.

**Vehicle:** Honey

**Expiry:** 3 months

“உயர் சூரணம்பிட்டு வடகம்யெண் ணையநான்கி

னுயிர் மூன்று திங்களாகும்.”

-குணபாடம் தாது சீவ வகுப்பு

Course of Treatment: 48 days.

### **DRUG STORAGE:**

The trial drug “Keelvayu Nivarna choornam (int) is stored in clean and dry glass bottles.

### **Dispensing:**

The choornum is given in powder form in sachet packets.

Reference: The pharmacopeia of Siddha Reseach Medicines (Page No.118)

## **PROPERTIES OF THE DISSERATION DRUGS**

### **அழுக்கராக் கிழங்கு**

**வேறு பெயர்:** அழுக்குரவி, அழுக்குரவு, அழுக்கிரி, அசுவகந்தம், அசுவகந்தி, அசுவம், இருளிச்செவி, கிடிச்செவி, வராக கர்ணி.

Bot name: Withania Somnifera

Family : Solana ceae

Eng Name: winter cherry

சுவை-கைப்பு

பயன்படுத்திய உறுப்பு : வேர் (கிழங்கு)

செய்கை: கிழங்கு : உடற்பேற்றி (Alternative)

ஆண்மை பெருக்கி

வீக்கமுருக்கி

சிறுநீர்ப் பெருக்கி

உரமாக்கி

உறக்க முண்டாகி

உடல்வெப்பகற்றி

குணம்: இக்கிழங்கு கயம், வளிக்கூட்டங்கள், கரப்பான்,சுரம்,

வீக்கம் இவைகளைப் போக்கும். பசிதீயையுண்டாக்கும்

கொஞ்சந் துவர்ப்பாங் கொடியகயம் சூலையரி

மிஞ்சு கரப் பான்பாண்டு வெப்பதப்பு- விஞ்சி

முகவறு தோடமும் போ மோகம்அன லுண்டாம்

அசுவகந் திக்கென் றறி.- அகத்தியர் சூத்திரம்.

### Constituents:

Sommiferine, withanine, perinponyine என்னும் ஆல்கலாய்டுகளும், தாவர ஸ்பீராலும் உள்ளன. இது ஒரு காயகற்ப மூலிகை.

### சிற்றரத்தை

வேறுபெயர்:அரத்தை, பேரரத்தை

1.Botaical Name : Alpinia officinarum

Family : Zingiberaceae

Eng Name : Lesser Galangal

வேறு பெயர் : அரத்தை

ப.உறுப்பு : வேர்

சுவை	: கார்ப்பு
தன்மை	: வெப்பம்
பிரிவு	: கார்ப்பு
செய்கை	: கோழையகற்றி - Expectorant
	வெப்பகற்றி - Febrifuge
	பசித்தீதுராண்டி - Stomachic

#### பொது குணம்:

வாதபித் தங்கரப்பான் வாதஞ் சிரோரோகஞ்

சேர்ந்தகப முத்தோடஞ் சீதமொடு- நேர்ந்தசுரம்

மற்றரத்தைக் காட்டி வருமிரும லுந்தீரும்

சிறற்றத்தை வன்மருந்தால் தேர்.

வளி, ஐயக்குற்றங்கள், கரப்பான், வாய, தலைநோய், சீதளம், இருமல்,

பலசுரம் ஆகிய இவைகளைப் போக்கும்.

Pharmacological action: Anti tumor, and bacterial, anti fungal, anti rheumatism, anti ulcer anti inflammatory, anti arthritis,

**-Journal of Ethno Pharmacology (page No: 268,264)**

#### Constitments:

Galangol, Galangin, Volatile oil, Resin

## நன்னாரி

Botanical Name	: Hemidesmus indicus
Family	: A sclepiadasmus
சுவை	: இனிப்பு, சிறு கைப்பு
தன்மை	: தட்பம்
பிரிவு	: இனிப்பு
பயன்டுத்திய உறுப்பு	: வேர்
செய்கை	: உடற்றேற்றி, உரமாக்கி, உள்ளழலாற்றி, சிறுநீர் பெருக்கி, வியர்வைப் பெருக்கு.
பொதுகுணம்	: இதனால் அழல் நோய் வண்கடி போம். மேலும் நீரேற்றம், நீர்வேட்கை, வாய்நீர்ச் சுரப்பி, புணர்ச்சியின் சூடு, நீர்ழிவு, கிரந்தி, சுரவேட்கை இவை தணியும்.

*“சலதோடம் பித்தமதி தாகம் உழலை*

*சலமேறு சீதமின்னார் தஞ்சு- டுலகமதிற்*

*சொன்னது மேகம் புண் சுரமிவையெ லாமொழிக்கும்*

*மென்மதுர நன்னாரி வேர்.”*

Constituents: B Sistolsterol, glucosides, lactons, B amyryne, hesmisine, Indicine, methoy salicylic, teriterpenoid, sarsapogenin, sarsapomin.

## பறங்கி சக்கை

வேறு பெயர்	:	மதுஸ்மிகம், மதுஸ்மீகி, சீனப்பட்டை, பறங்கிச்சக்கை,பறங்கிப்பட்டை.
Botanical Name	:	similax china.Linn
Family	:	lilaceae
English Name	:	china root
பயன்படுத்திய உறுப்பு	:	வேர்கிழங்கு
சுவை	:	இனிப்பு
தன்மை	:	தட்பம்
பிரிவு	:	இனிப்பு
செய்கை	:	உடற்றேற்றி,மேகப்பிணிவிலக்கி-

Antisyphilitic தூய்மையாக்கி- Depurative.

தாகம் பலவாதந் தாது நட்டம் புண்பிளவை

மேகங் கடிகிரந்தி வீழ்முலந்- தேகமுடன்

குட்டை பகந்தமேற் கொள்மனம் போம் பறங்கிப்

பட்டையினை யுச்சரிதுப பர்.

**பொது குணம்:** பற்பல வளிநோய்,முடவாதம், குறை நோய் இவை நீங்கும்.

**Constituents:** Palmitic acid, B sisosterol (III) salvigenin (V), vahillicacid (VI) methyp- hydroxyl, benzoate, quercetin. XII, Tcell reduced, Anti Inflammatory.

According to Indian Medicinal plants The root of withania somnifera, good in Inflammation, rheumatism and emaciation of children- Indian Medical Plants- page No L: 1774

The root of Hemidesmus indicus act as antipyretic and cures the children's wasting diseases, tridosha diseases of the blood.

Indian medicinal plants- page 1597.

Withania somnifera constituents

Alkaloids of Steroidal lactones, somiferine, sominine, somi ferimine, withanamine, pseudo withamine, troine cuscohygine, anfeine, anhydine, Two acyl steryl glycosides, Cytoindoside VII of VIII

With a Ferine A

Anti metastatic activity.

1) Anti carcinogenic effects suppressing inter cellular tumour necrosis factor.

In JRA etipathogenesis. T lympho cytes in the synonium have increased expression of activation markets. These are belived to secrete inflammatory cytokines like tumor necrosis factor (TNF) and interferon .

Internet collection

Hence In author trial drug withania having the properly of suppressing inter cellular tumour necrosis factor. So author drug is effective and suitable for curing Juvenile Rheumatoid Arthritis (JRA).

## அமுக்கராவேர்



## நன்னாரி வேர்





## சிற்றரத்தை



## பறங்கிப்பட்டை



# *Bio-Chemical Analysis*

## BIO - CHEMICAL ANALYSIS

### Preparation of the extract:

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

### QUALITATIVE ANALYSIS.

Procedure	Observation	Inference
<b>Test for Calcium:</b> 2 ml of the above prepared extract is taken in a clean test tube. To this add 2 ml of 4% Ammonium oxide solution.	A white precipitate is formed.	Indicates the Presence of calcium
<b>Test for Sulphate:</b> 2 ml of the extract is added to 5% barium chloride solution.	A White precipitate is formed	Indicates the presence of Sulphate
<b>Test for Chloride:</b> The extract is treated with Silver nitrate solution.	No white precipitate is formed	Absence of Chloride.
<b>Test for carbonate :</b> The substance is treated with concentrated. HCL.	No brisk effervescence is formed	Absence of carbonate.

<b>Test for Starch:</b> The extract is added with weak iodine solution.	Blue colour is formed.	Indicates the presence of Starch.
<b>Test for Iron (Ferric):</b> The extract is treated with Glacial acetic acid and potassium ferrocyanide.	No Blue colour is formed	Absence of Ferric iron.
<b>Test for Iron (Ferrous):</b> The extract is treated with concentrated Nitric acid and ammonium thiocyanate solution	Blood red colour is formed	Indicates the Presence of ferrous iron
<b>Test for phosphate:</b> The extract is treated with ammonium Molybdate and concentrated nitric acid.	No Yellow precipitate is formed	Absence Presence of phosphate.
<b>Test for albumin:</b> The extract is treated with Ferric chloride.	No blue black precipitate is formed.	Absence of Tannic acid
<b>Test for Unsaturation:</b> potassium permanganate solution is added to the extract.	It gets decolourised	Indicates the presence of unsaturated compound.
<b>Test for the reducing sugars:</b> 5ml of Benedict's qualitative	Colour change	Indicates the Presence of

<p>solution is taken in a test tube and allowed to boil for 2 mts and added 8-10 drops of the extract and again boil it for 2 mts..</p>	<p>occurs</p>	<p>Reducing sugar.</p>
<p><b>Test for amino acids:</b> One or two drops of the extract is placed on a filter paper and dried it well. After drying, 1% Ninnydrin is sprayed over the same and dried it well.</p>	<p>violet colour is formed</p>	<p>Indicates the Presence of Amino acids.</p>
<p><b>Test for zinc:</b> The extract is treated with potassium Ferrocyanide.</p>	<p>No white precipitate is formed.</p>	<p>Absence of zinc.</p>

**RESULT:**

The above analysis indicates presence of **calcium, Chloride, Ferrous, iron, , reducing sugar, amino acids, starch, sulphate.**

# *Pharmacological Analysis*

## ANNUEXURE- III

### PHARMACOLOGICAL STUDIES

ACUTE ANTI INFLAMMATORY STUDY ON KEEL VAYU  
NIVARNA

CHOORNAM\_ BY HIND- PAW METHOD IN ALBINNO RATS

(Winter etal, 1962)

#### **Aim:**

To study the Acute Anti-inflammatory effect of Keel vayu choornam

#### **Preparation of the test drug:**

I gm of keel vayu nivarna Mixed with 5me of honey and 5ml of water.

This 2ml contains 200mg of the test trug.

#### **Procedure:**

Nine healthy albino rats weighing 100- 150gm were taken and divided into three groups, each consisting of 3 rats.

First group was kept as control by giving distilled water of 2ml/100 gm of body weight. The second group was given Ibuprofen at dose of 20 mg/100 gm of body weight. The third group received the test drug Keel vayu nivarna choornam 200 mg/100 gm of body weight.

Before administration of test drug, the hind-paw volumes of all rats were measured. This was one by dipping the hind-paw (up to tibio- tarsal function) into amercury plethysmography. While dipping the hind-paw, by pulling the syring piston the level of mercury in the centre small tube was

made to coincide with red marking and reading was noted from the plethysmograph.

Soon after the measurement of the drugs, were administered orally.. One hour later, a subcutaneous injection of 0.1 1 ml of 1% (W/V) carrageenin in water was made into plantar surface of both hind-paw hind-paw of each rat. Three hours after carrageein injection, the hind-paw volumes were measured once again. The differences between the initial and final volumes were calculated and compared.

The method is more suitable for studying the anti-inflammatory activity in acute inflammation. the values are given in the table

### **STUDY OF ACUTE ANTI- INFLAMMATIORY BY HIND PAW METHOD**

Using plethy smograph using the drug on Keel vayu Nivarna choornam

<b>Sl.N o</b>	<b>Name of drug/Groups</b>	<b>Dose /100 Gram body Weig ht</b>	<b>Initi al Rea ding aver age</b>	<b>Menu Diffre nce</b>	<b>Final Regardi ng Average</b>	<b>I Percent age Inflam mation</b>	<b>Percentage Remarks Inhibition</b>
1	Control	20ml	0.55	1.45	0.9	100	-
2	Standard (GbuBrufom)	2ml	0.55	0.75	0.20	22.2	77.8
3	Keel Vayu Nivarna Chooranam	2ml	0.65	0.87	0.22	24.0	76.0



**Inference:** The test drug Keel vayu nivarna choornam has **Good Acute Anti inflammatory action**

**CHRONICANTI\_INFLAMMATORY STUDY OF LASUNA THABITHA CHOORNAM BY COTTON- PELLETS GRANULOMA METHOD**

**Aim:**

To study the chronic anti- inflammatory activity of the drug Keel vayu nivarna choornam in albino rats by cotton pellets implantation (Granuloma) method

**Procedure:**

Cotton pellets each weighing 10 mg were prepared and sterilized in an autoclave for about 15 lbs atmospheric pressure. 6 albino rats weighing between 100 to 200gm were selected and were divided into 3 groups, each contained 2 rats. Each rat was anaesthetized with ether and cotton pellets were implanted subcutaneously in the groin, two in each side.

From the day implantation, one group of animals received keel vayu Nivarna choornam at the dose of 200 mg/100gm of body weight. Another group of animals was received distilled water. Last group was given Ibuprofen at a dose of 200mg/100 gm of body weight.

On the eighty day, the rats were sacrificed and the pellets were removed and weighed. Then they were put in an incubator at 60<sup>0</sup> c to 80<sup>0</sup>c then weighed.

The concordant weight were noted for all groups and compared

**THE EFFECT OF KEEL VAYU NIVARNA CHOORNAM IN CHRONIC ANTI- INFLAMMATORY STUDY**

<b>Group</b>	<b>Name of Drugs</b>	<b>Dose /100gm body weight</b>	<b>Pellet Weight</b>	<b>Pellet Weight of the Granulo ma of drugs</b>	<b>Percentage of inflammation</b>	<b>Percentage of inhibition</b>	<b>Remarks</b>
<b>1</b>	<b>Control</b>		<b>1ml</b>	<b>250mg</b>	<b>100</b>	<b>-</b>	
<b>2</b>	<b>Standard</b>		<b>20mg</b>	<b>55mg</b>	<b>22</b>	<b>78</b>	
<b>3</b>	<b>Keel vayu Nivarna chooranam</b>		<b>2ml</b>	<b>1250mg</b>	<b>50</b>	<b>50</b>	

**INFERENCE:**

Keel vayu nivarna showed **Moderate action in chronic Anti inflammatory** conditions as per this method

## **ANALGESIC STUDY ON KEEL VAYU NIVARNA TAILFLICK METHOD IN ALBINO RATS**

### **Aim:**

To study the analgesic effect of Keel vayu nivarna Choornam

### **Preparation of the drug:**

1 gm of Keel vayu nivarna was mixed with 5 ml of honey and 5ml of water was given to each rat. This 1 ml contains 100 mg of the test drug.

### **Instrument:**

Analgesio meter (or) Dolori meter using heated michrome wire as the source of stimulus.

### **Procedure:**

Three groups of healthy albino rats on both sexes were selected, each group having 3 rats. Each rat was put inside a rat holder with the tail projecting out fully. The tip of the tail was kept over michrome wire of the analgesic meter without touching it.

Now the current of 5 MA was passed through the analgesic meter to heat the microme wire by switching it on, at the sometime starting a stopwatch. The time taken for the rat to flick the tail was noted. This is the reaction time. The reaction time is noted for each rat and the average is calculated.

First group was given 2ml of distilled water and kept as control. Second group was administered with paracetamol at a dose of 20mg/100 g,

of body weight orally The test drug choornam was administered to the third group at a dose of 200 mg/100gm of body weight.

After the lapse of half an hour and one hour, the reaction time of each rat was noted in each group at an interval of 2 minutes ( When a rat fails to flick the tail, it should not be continued beyond 8 seconds to avoid injury) and the average was calculated.

The results of control group, standard group and drug treated group were tabulated and compared

#### EFFECT OF KEEL VAYU NIVARNA CHOORNAM

Sl No	Name of Drugs/Groups	Dose /100 gram body weight	Intial Reading	After Drug Administatio ½ hr. Average	1 hr Average	1 ½ Average	Mean Difference	Remarks
1	Control	2ml	200gms	2.0 sec	2.0sec	2.0	2.0scs	
2	Standard (paracetamol)	20mg	2.0sec	2.5sec	4.5sec	6.5sec	6.5sec	
3	Drug	2ml	2.0sec	2.5sec	4.5sec	6.5sce	6.5sec	

#### **Inference:**

Keel vayu nivarna choornam, the test drug has **Significant analgesic action**

## **ANTI- PYRETIC STUDY OF KEEL VAYU NIVARNA CHOORNAM**

**(By yeast induced method)**

### **Aim:**

To study the anti pyretic activity of keel vayu nivana choornam

### **Procedure:**

Group of six albino rats were selected and divided equally into 3 groups. All the rats were made hyperthermia by subcutaneous injection of 12% suspension of yeast at a dose of 1 ml/100 g, of body weight. 10 hours later one group of animals was given the test drug by gastric tube at a dose of 250 mg/ ml and the second group received only distilled water at a dose of 2ml . Third group received standard drug paracetamol 20 mg/ ml. Then mean rectal temperature from the 3 groups were recorded at 0 hour, 1 ½ hours, 3 hours and 4 ½ after the drug administration. The difference between the mean temperature of the control group and that of the other groups was measured.

### TABULATION OF RESULTS OBTAINED

Sl.No	Name of the drug/ Groups	Dose/100 gram body weight	Initial Temperature in centigrade	1 ½ hour	3.0 hour	4 ½ hour	Remarks
1	Control (Water)	1ml	37.0 36.5	37.0 37.0	37.5 37.5	38.5 38.5	38.5
2	Standard (Paracetamol)	1ml	36.0 36.5	36.0 36.5	35.0 35.0	34.0 34.0	34.0
3	Keel Vayu Ninvarna Chooranam	2ml	36.5 36.5	36.5 36.5	36.0 36.0	35.5 35.5	35.5

**Inference:** Keel Vayu ninvarna choornam has Significant antipyretic action..

# *Proforma of Case Sheet*

**ANNEXURE IV**

**PROFORMA OF CASE SHEET**

**GOVERNMENT SIDDHA MEDICAL COLLEGE &  
HOSPITAL POST GRADUATE RESEARCH CENTRE,  
PALAYAMKOTTAI,  
TIRUNELVELI- 627002**

**BRANCH IV- KUZHANDHAI MARUTHUVAM**

**CASE SHEET PROFORMA FOR KEEL VAYU**

Name of the Medical unit:

Ip.No	:	Nationality	:
Bed No	:	Religion	:
Name	:	Date of -admission	:
Sex	:	Date of discharge	:
Occupation (Parents)	:	No of days treated	:
Income (parents)	:	Diagnosis	:
Address	:	Result	:
<b>Complaints and Duration</b>	:	Medical Officer	:
<b>History of present illness</b>	:		
<b>History of previous illness</b>	:		
<b>Antental History</b>	:		
<b>Natal history (Birth history)</b>	:		
<b>Neonatal history</b>	:		
<b>Developmental</b>	:		



**history**

**Dietetic history** :

**Feeding history** :

**Socio- economic history** :

**Immunization history** :

**CLINICAL EXAMINATION**

**GENERAL EXAMINATION:**

- 1 Consciousness :
- 2 Decubitus :
- 3 Stature
  - a) Height :
  - b) Weight :
  - c) Head circumference :
- 4 Nourishment :
- 5 Skin Changes :
- 6 Facies :
- 7 Pallor :
- 8 Jaundice :
- 9 Cyanosis :
- 10 Clubbing :
- 11 Kiolonychia :
- 12 Jugular vein pulsation :

- 13 Lymph adenopathy :
- 14 Engorged veins :
- 15 Abdominal distension :
- 16 Pedal Oedema :
- 17 Temperature :
- 18 Pulse
  - Rate/Min
  - Rhytham
  - Volume :
  - Special character :
  - Tension :
- 19 Respiration
  - Rate/Min :
  - Type :
  - Character :
- 20 Heart rate :
- 21 Blood pressure :
- 22 Congenital abnormalities :
- 23 Miscellaneous :

**CLINICAL EXAMINATION:**

**I. INSPECTION:**

- 1. Attitude:
- 2. Muscular spasm

3. Muscle wasting - Proximal
4. Muscle wasting - Distal
5. Minor Joint Swelling
6. Major Joint Swelling
7. Nodules
8. Deformity

## **II. PALPATION:**

1. Swelling
2. Tenderness
3. Joint Stiffness
3. Muscle wasting
4. Local heat
5. Local Lymphadenopathy
6. Pitting Oedema.
7. Nodules.

## **III. MOVEMENTS:**

### **Restriction of joint movements**

1. Neck      full      partial
2. Shoulder
3. Elbow joint
4. Knee joint

5. Ankle joint
6. Hip joint
7. Minor joints

**IV.PAIN:**

- |                                   |         |          |        |
|-----------------------------------|---------|----------|--------|
| 1. Onset:                         | sudden  | gradual  |        |
| 2. Early morning stiffness:       | present | absent   |        |
| 3. Nature of pain:                | Mild    | moderate | severe |
| 4. Aggravating factor – movements |         |          |        |
| 5. Relieving factor- rest         |         |          |        |
| 6. Stiffness                      |         |          |        |
| 7. Tenderness                     |         |          |        |

**V. CLINICAL ASSESSMENT:**

1. Arthritis of three or more Joints
2. Arthritis of hand joints.
3. Morning Stiffness
4. Fever
5. Anorexia
6. Anaemia
7. Spindle appearance of fingers
8. Restricted movements
9. Rheumatoid nodules

## 10. Numbness

### **SIDDHA ASPECTS**

- 1        NILLAM                                :
- Kurinchi                                :
- Mullai                                        :
- Marutham                                :
- Neithal                                        :
- Palai    :
- 2        UDALNIALI                                :
- Vatham                                        :
- Pitham                                        :
- Kabam    :
- Kalappu                                        :
- :
- 3        PARUNA KAALAM
- Kaar kaalam                                :
- Koothir Kaalam                                :
- Munpani Kaalam                                :
- Pinpani Kaalam                                :
- Elavenil kaalam                                :
- Mudhu Venil Kaalam                                :

4	ENVAGAI THERVUGAL	:
	Naa	:
	Niram	:
	Mozhi	:
	Vizhi	:
	Spanisam	:
	Malam	:
	Moothiram	:
	Naadi	:
5	UYIR THATHUKKAI	:
	A.VATHAM	:
	Pirnan	:
	Abanan	:
	Viyanan	:
	Udhanan	:
	Samaanan	:
	Nagan	:
	Koorman	;
	Kiru karan	:
	Devathathan	:
	Thanajeyan	:
B	PITHAM	:
	Analam	:
	Ranjagam	:

	Saathagam	:
	Alsogagam	:
	Pirasagam	:
C	KABAM	:
	Avalambagam	:
	Kledhagam	:
	Pothagam	:
	Tharappagam	:
	Santhigam	:
6	<b>UDAL THATHUKKAL</b>	
	Saaram	:
	Senneer	:
	Oon	:
	Kozhuppu	:
	Enbu	:
	Moolai	:
	Sukkilam/Suronitham	: Not applicable
7	<b>MOOTHIRAM</b>	
	Niram	:
	Manam	:
	Edai	:
	Enjal	:
B)	<b>NEIKURI</b>	:

**EXAMINATION OF OTHER :  
SYSTEM**

- 1 Cardio Vascular system :
- 2 Respiratory system :
- 3 Gastro System :
- 4 Central Nervous system :
- 5 Excretory system :



## LABORATORY INVESTIGATION

### 1. Blood

Tc		Cells/mm <sup>3</sup>
Dc	:	P: / L: / E: /
ESR	:	
½ hour	:	mm
1 hour	:	mm
Blood Sugar	:	R : F :
Serum Cholesterol	:	
Blood urea	:	

### 2.URINE:

Albumin	:
Sugar	:
Deposits	:

### 3. STOOLS

Ova	:
Cyst	:
RBC	:
Pus cells	:

### 4. Specific or Immunological tests

RA Factor	:
CRP	:
ASO Titre	:

### 5.Radiographic Evaluation:

**GOVERNMENT SIDDHA MEDICAL COLLEGE  
PALAYAMKOTTAI  
POST GRADUATE RESEARCH CENTRE  
BRANCH -IV KUZHANTHAI MARUTHUVAM**

**PROFORMA FOR KEELVAYU**

ADMISSION :

Ward No : Nationality :

IP No : Religion :

Bed No : Informant :

Name : Date of Admission :

Age/Sex : Date of Discharge :

Occupation : No of days treated :

Income : Diagnosis :

S.No	Clinical Features	During Admission	During Discharge
1	Pain		
2	Swelling		
3	Restricted Movement		
4	Fever		

Place : Medical Officer

Date : Signature

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