A CLINICAL STUDY ON SIDDHA DIAGNOSTIC METHODOLOGY, LINE OF TREATMENT AND DIETARY REGIMEN OF

URATHAPITHAVATHAM

The dissertation Submitted by

Reg. No. 321315101

Under the Guidance of

Prof. Dr. R.NEELAVATHY M.D(S), Ph.D.,

HEAD OF THE DEPARTMENT,

POST GRADUATE NOINAADAL DEPARTMENT

THE TAMILNADU DR. M.G.R. MEDICAL UNIVERSITY

In partial fulfillment of the requirements
For the award of the degree of

SIDDHA MARUTHUVA PERARIGNAR

DOCTOR OF MEDICINE (SIDDHA)

BRANCH V – NOI NAADAL

POST GRADUATE DEPARTMENT OF NOINAADAL
GOVERNMENT SIDDHA MEDICAL COLLEGE

CHENNAI – 106

OCTOBER 2016

GOVT. SIDDHA MEDICAL COLLEGE, CHENNAI -106

DECLARATION BY THE CANDIDATE

I hereby declare that this dissertation entitled **A Clinical Study On Siddha Diagnostic Methodology, Line Of Treatment And Dietary Regimen Of "Urathapithavatham"** by me under the guidance of **Prof. Dr. R. Neelavathy, M.D.(S), Ph.D,** Post Graduate Department of Noi Naadal, Govt. Siddha Medical College, Arumbakkam, Chennai – 106 and the dissertation has not formed the basis for the award of any Degree, Diploma, Fellowship or other similar title.

Date : **Signature of the Candidate**

Place : Chennai R.Neela

GOVT. SIDDHA MEDICAL COLLEGE, CHENNAI – 106

CERTIFICATE BY THE GUIDE

This is to certify that the dissertation entitled **A Clinical Study On Siddha Diagnostic Methodology, Line Of Treatment And Dietary Regimen Of "Urathapithavatham"** submitted to the Tamilnadu Dr. M. G. R. Medical University in partial fulfillment of the requirements for the award of degree of M.D (Siddha) is the bonafide and genuine research work done by **Dr. R. Neela** under my supervision and guidance. The dissertation has not formed the basis for award of any Degree, Diploma, and Associate Ship, Fellowship or other similar title.

Date : **Seal & Signature of the Guide**

Place : Chennai **Prof. Dr. R. Neelavathy M.D(S), Ph.D**

ENDORSEMENT BY THE HOD, PRINICPAL / HEAD OF THE INSTITUTION

This is to certify that the dissertation entitled **'A Clinical Study On Siddha Diagnostic Methodology, Line Of Treatment And Dietary Regimen Of Urathapithavatham'** is a bonafide work carried out by **Dr.R.Neela** under the guidance of **Prof. Dr. R. Neelavathy, M.D.(S), Ph.D,** Post Graduate Department of Noi Naadal, Govt. Siddha Medical College, Arumbakkam, Chennai – 106.

Seal & Signature of the HOD

Date :

Place : Chennai

Seal & Signature of the Principal

Date :

Place : Chennai

ACKNOWLEDGEMENT

My humble thanks to the Almighty God for successful accomplishment of this dissertation work.

I express my gratitude to **Prof. Dr. K. Kangavalli, M.D (S), Principal,** Government Siddha Medical College, Chennai - 600 106 for her valuable guidance during the study.

I express my gratitude to **Prof. Dr.V.Banumathi M.D(S).**, **Director, National Institute of Siddha** (**Former Principal** , Government Siddha Medical College, Chennai - 600 106), for granting permission to undertake a study in this dissertation topic and also for providing all the basic facilities in order to carry out this work

I would like to express my profound sense of gratitude to **Prof.Dr.R.Neelavathy, M.D(S), Ph.D,H.O.D**, Department of Noi Naadal, Government Siddha Medical College, Chennai who has expertly guided me in this project and for her unstinted encouragement and valuable suggestions during the study.

I express my sincere thanks to **Dr. S. K. Sasi, M.D (S),** Reader for her guidance, moral support and encouragement.

I express my sincere thanks to **Dr. P. Sathyarajeswaran, M.D(S)., R.O., AD (Incharge), SCRI, Scientist – II,** for his valuable suggestions during the study.

. I express my sincere thanks to **Dr.M.Manimegalai, M.D(S).,**Reader, for her guidance during the study.

I express my grateful thanks to **Dr.S.Shankar, M.D(S).,** Lecturer, Grade II, for his guidance, moral support and encouragement.

I express my grateful thanks to **Dr.V.Isabell Rafeeda, M.D(S).,** Lecturer, Grade II, for her valuable support and guidance during the study.

I express my sincere thanks to **Dr.R.Baskar, M.D(S),** Lecturer, Grade II, for his valuable support and guidance to complete the study.

I express my sincere thanks to **Dr.V.Jasmine Ranjana, M.D(S).,** Lecturer, Grade II, for her valuable support and guidance to complete the study.

I express my sincere thanks to **Dr.N.Anbu, M.D(S),** HOD,PG Pothu Maruthuvam for his valuable support and guidance to complete the study.

I express my sincere thanks to **Dr.S.Geetha Devi, M.D(S).,** Lecturer, Grade II, for her guidance, encouragement and valuable suggestions during this study.

I express my grateful thanks to **Dr. D. Sasikumar, M.D(S),** Lecturer, Grade II, for his valuable suggestions during the study.

I express my sincere thanks to **Dr. Rajavelu Indira, M.D.,** Professor of Pathology, Regional Ophthalmic Institute, Egmore, for her valuable support during this work.

I wish to thank **R.M.O.** of Arignar Anna Govt. Hospital of Indian Medicine and Homeopathy, for his valuable support during this work.

I wish to thank **Mr. R. Kanagarasu, Senior Research Fellow (Library), SCRI** for his kind cooperation throughout the project work.

I wish to thank Librarian **Mr.V.Dhandayuthapani, M.Com** and library staff of Dr.Ambedkar library for his kind co-operation during the study..

I wish to thank laboratory staff, Hospital staff, Administrative staff and students of P.G.Noi naadal Department

I thank the library authorities of NIS library, SCRI library and Dr. M.G.R. Medical University from where I derived much of the literary support.

I am immensely thankful to the **patients** who participated in this study.

I dedicate my dissertation work to my family members for their kind cooperation during the study.

INDEX

INTRODUCTION

Siddha system is not a system of medicine, it is a way of life. This traditional tamil system of medicine, which has been prevalent in the ancient Tamil land, is the foremost of all other medical system in the world. Its origin goes back to BC.10000 to BC.4000.

Siddhars laid the foundation for this system. Agasthya is the pioneer in the art of siddha medicine. The siddhars had a vast knowledge of human anatomy, physiology, pathology, astrology and treatment.

According to the siddha system, the individual is a microcosm of the universe and contains the five primordial elements- Earth, Water, Fire, Air and Space. The human body is made up of ninety six principles. Among them, the three humors- vatha, pitha and kapha form the functional units and the seven physical constituents- chyme, blood, muscle, fat, bone, marrow and semen/ovum form the structural units of the body.

Under equilibrium, the ratio between vatha, pitha and kapha are 1:1/2:1/4. Certain factors like environment, climatic conditions, diet, physical activities and stress are said to affect this equilibrium. This equilibrium of humors is considered as health and their imbalance leads to a disease state.

Thiruvalluvar in his Thirukkural has indicated the same as

"மிகினும் குறையினும் நோய்செய்யும் நூலோர்
வளிமுதலா எண்ணிய மூன்று"

Diagnosis is more important in treating a disease.

Diagnosis in siddha medicine is based on the following eight types of examination whivh is called "Ennvagai Thervu" in siddha literature. They are 1. Naadi (Pulse) 2. Sparisam (Touch) 3. Naa (Tongue) 4. Niram (Colour) 5. Mozhi (Speech) 6. Vizhi (Eye) 7. Malam (Stools) and 8. Siruneer (Urine). Among the eight types of examination, Neikuri includes putting an oil drop on the surface of urine and observing the movement of oil as it spreads.

According to siddha experts,

"நாடிப்பரிசம் நாநிறம் மொழிவிழி
மலம் மூத்திரமிவை மருத்துவராயுதம்"

According to siddha pathology, there are 4448 types of disease, however all of which comes under classification of vatha, pitta and kapha diseases.

Yugi has described a number of diseases in Siddha system of medicine. Urathapithavatham is one of the pitha diseases recited by this siddhar in his 'Yugi Vaithiya

Cinthamani'. The symptoms mentioned in Urathapithavatham may be correlated with those of Hypertension.

In the Modern Medicine, Hypertension as a clinical entity really came into being in 1896 with the invention of the cuff-based sphygmomanometer by scipione Riva-Rocci, in 1896 which is only before 120 yrs. Whereas the siddhar Yugi has described the symptoms of the disease, now called as Hypertension, even before 10000 yrs.

The author has taken Urathapithavatham (Hypertension) as her dissertation topic because hypertension is an "iceberg" disease. According to WHO, globally, the overall prevalence of raised blood pressure in adults aged 25 and over was around 40% in 2008. Worldwide, raised blood pressure is estimated to cause 7.5 million deaths, about 12.8% of the total of all deaths. Early diagnosis using Ennvagai Thervu and treatment in Siddha system would definitely help in preventing the mortality and morbidity due to complications of hypertension.

The following page of this study contains detailed reports of the analysis that were made upon careful observation of the Siddha literature that elaborates various aspects of the disease.

AIM AND OBJECTIVES

AIM:

To conduct a study on Urathapithavatham and there by to document the symptoms and signs of Urathapithavatham using Siddha Diagnostic Methodology.

OBJECTIVE

PRIMARY OBJECTIVE

To elucidate Siddha diagnostic methodology for causes and clinical methods in the Urathapithavatham.

SECONDARY OBJECTIVE

- To collect literary evidences about Urathapithavatham.
- To study the detailed etiological factors of Urathapithavatham.
- To analyze the signs and symptoms of Urathapithavatham.
- To find out the changes of Udal thathu and Uyir thathu.
- To correlate the symptoms of Urathapithavatham with that of closely resembling conditions in modern medical literature.
- To have an idea of incidence of the Urathapithavatham with reference to sex, age, habit.
- To standardize the line of treatment for Urathapithavatham.
- To recommend a dietary regimen for Urathapithavatham.

REVIEW OF SIDDHA LITERATURE

1. Pitha Diseases

Pitha diseases are the diseases caused due to increased pitha humour in the body that produces symptoms like excessive salivation, vomit, giddiness, vertigo and changes in the viscosity of blood.

2. Actiology

i) According to Yugi Vaithiya Cinthamani,

" மகிழிந்துமே பித்தந்தன் வருகும் வாறு
மசதேவர் தமைப்பணிய மாட்டா தார்க்கும்
மகிழ்ந்துமே குருவடியை வணங்கா தார்க்கும்
மாதாவின் மனமகிழா மார்க்கத் தார்க்கும்
மகிழ்ந்துமே தந்தையைவஞ் சித்த பேர்க்கும்
மதாலயங்கள் தொழுதிடா மார்க்கத் தார்க்கும்
மகிழ்ந்துசிவ திரவியத்தை யபகரித் தோர்க்கும்
மாபா தகர்க்குவந்து மருவும் பாரே.

மருவுமே புளிப்புஉரைப் புவர்ப்பு மிஞ்சல்
மனதிலே துக்கங்கள டைத லாலும்
நெருவுமே நெருப்புவெய்யில் கோபந் தன்னில்
நித்திரைதா நில்லாமல் விழித்தி ருத்தல்
அருவுமே அக்கனியிற் பொசிக்கா துண்டல்
அதிகமாய்ப் பெண்போக மனுப வித்த
கருவுமே நாபிக்கு மேலே நின்று
நாடியே கண்டமட்டா யிருக்கும் பாரே "

(Poem no. 346,347 pg no. 109,110)

In the first paragraph, the author has mentioned the effect of Karmic influences which predispose pitha disease in the individual.

i) Who does not respect the teacher
ii) Who disobeys parents
iii) Who does not go to temple
iv) Who wickedly possess Lord Siva's holywater
v) With cruel nature

In the second paragraph, the author has described about the activities which causes increase in sympathetic activity and eventually leads to pitha diseases. The activities are as follows

i) Increased intake of foods with sour, pungent and salty taste
ii) Psychological stress
iii) Increased influence in fire and hotter environment
iv) Frequent anger
v) Inadequate sleep
vi) Intake of inadequately boiled food
vii) Excessive indulgence in sex

ii) According to Dhanvanthiri vaithiyam,

”அகலாநித் திரையினாலும் அதிசங்க மோகத்தாலுந்
தகாதவெம் பசியினாலுந் தருவிட மேற்கையாலும்
பகாதவன் கிலேசத்தாலும் பயித்திய பதார்த்தத்தாலும்
சிகரதாங் காய்கையாலுஞ் சேர்ந்திடும் பித்தந்தானே

இருமல மடக்கையாலு மொருமல மிழைகையாலும்
வரும் வெயிற் பெருக்கையாலு மனமுறு கோபத்தாலுஞ்
சுரமது தரிக்கையாலுஞ் சுடுபிண நாற்றத்தாலுந்
திரவியங் கெடுகையாலுஞ் சேர்ந்திடும் பித்தந்தானே”

(pg. 47)

According to the author, the following factors leads to increased pitha humour in the body.

- Inadequate sleep
- Increased indulgence in sex
- Increased desire
- Increased hunger
- Intake of toxic substances
- Psychological stress
- Intake of foods aggravating pitha humour
- Wandering in hot environment
- Suppression of urination and defecation or increased defecation
- Sitting in hot temperature
- Anger
- Hyperpyrexia

- Inhalation of smoke from burning of dead bodies
- Financial crisis

3. Classification of pitha diseases

i) According to yugi vaithiya cinthamani, there are forty two types of pitha diseases. They are as follows.

1. ஆவுறுபித்தம்'
2. ஆம்பல்பித்தம்
3. உன்மத்தபித்தம்
4. தமந்தபித்தம்
5. வாதபித்தம்
6. வன்னிபித்தம்
7. சிலேட்மபித்தம்
8. சுரோணிதபித்தம்
9. விகாரபித்தம்
10. விரணபித்தம்
11. ***உரத்தபித்தவாதம்***
12. இரத்தபித்தம்
13. காசபித்தம்
14. சுவாசபித்தம்
15. சேட்பபித்தம்
16. கரும்பித்தம்
17. கரப்பான்பித்தம்
18. அசீரணபித்தம்
19. உரூசிபித்தம்
20. எரிபித்தம்
21. அழல்பித்தம்
22. துடிபித்தம்
23. விஷபித்தம்
24. அதிசாரபித்தம்
25. மூலபித்தம்
26. உதிர்பித்தம்
27. கண்டபித்தம்
28. ஓடுபித்தம்
29. மூடுபித்தம்
30. நடுக்குபித்தம்
31. கபாலபித்தம்
32. சத்திபித்தம்
33. தாகபித்தம்
34. விக்கல்பித்தம்
35. சயபித்தம்
36. திமிர்பித்தம்
37. வலிபித்தம்
38. சீதபித்தம்
39. கிருமிபித்தம்
40. அசாத்தியபித்தம்
41. மார்க்கபித்தம்
42. மருந்தீடுபித்தம்

ii) According to vaithiya cinthamani (sikicharathna deepam II part), **forty two types** of pitha diseases are mentioned which are the same as those mentioned in yugi vaithiya cinthamani.

Urathapithavatham is described only by the sage Yugi munivar in his Yugi Vaithiya Cinthamani.

4. Season influencing pitha humour

According to Yugi Vaithiya Cinthamani,

" இருக்குமே பித்தம்வர்த் திக்குங் காலம்
ஏதோவென்னி லாவணியுங் கன்னி தானும்
அருக்குமே யைப்பசிகார்த் திகைக்கு மெத்த
வாட்சியா யெழுந்துமே பொங்கிக் காணும்
தருக்குமே சமிக்கின்ற காலந் தானே
தனியான மார்கழியிற் றையிற் றானும்
பருக்குமே பங்குனியுமேஷந் தானும்
பெருகுமே சரீரமெங்கும் பித்தந் தானே"

(Poem no. 348, pg. 110)

TABLE 1 : SEASON AGGRAVATING PITHA DISEASE

• Aavani • Purattasi	(Aug 16 – Oct 15) Thannilai valarchi
• Ippasi • Karthigai	(Oct 16 – Dec 15) Vetrunilai valarchi
• Panguni • Chitthirai	(Mar 16 – May 15) Udal muzhuvathum paraval

are the season during which pitha humour aggravates leading to diseases

• Margazhi • Thai	(Dec 16 – Feb 15) Pitha humour subsides

are the season during which pitha humour subsides and comes back to normal.

Urathapithavatham is one of the forty two types of Pitha diseases mentioned in yugi vaithiya cinthamani. The symptoms of Urathapithavatham correlates with hypertension.

உரத்தபித்தவாதம்

"மூர்க்கமாங் கோபமது மிகவுண் டாகு
முனையாக வடிக்கடிக்குச் சண்டை கொள்ளும்
ஆர்க்கமாய்க் கூவியே இரைச்ச லாகு
மாதான பாதாளம் பேதி யாகும்
நார்க்கமாய் நன்மைதின்மை தோற்றா மற்றான்

நலக்கமாக் கண்சிவக்குந் தூக்க மில்லை
ஊர்க்கமா யுடம்புதூ ளிக்கு முப்பும்
உரத்தபித்த வாதத்தி லுண்மை தானே”

(Yugi Vaithiya Cinthamani, poem no. 359, pg. 114)

- Anger
- Irritability
- High pitched voice change
- Diarrhoea
- Confusion
- Redness of the eyes
- Insomnia
- Obesity
- Oedema

Of the references seen, Urathapithavatham is described only by the sage yugi munivar in his Yugi Vaithiya Cinthamani.

According to **Text book of medicine**, P.C. Das and P.K. Das, fifth edition, pg.69,

The clinical features of essential hypertension are as follows

- Pulsating headache often occipital and occurs particularly in the morning
- Easy fatiguability
- Insomnia
- Dizziness
- Lack of concentration
- Loss of memory
- Occasional palpitation
- Breathlessness

The symptoms of Urathapithavatham may be correlated with the symptoms of Hypertension.

BRIEF DESCRIPTION OF SIDDHA PATHOPHYSIOLOGY FOR URATHAPITHAVATHAM

DERANGEMENT OF UYIRTHATHUKKAL – VALI

TABLE 2 : DERANGEMENT OF VALI

S.No	Types of vatham	Normal function	Derangement
1	Praanan	Responsible for respiration and digestion. Controls the knowledge, mind and five sense organs.	Causes Anger, Irritability, Confusion
2	Abaanan	Responsible for the downward expulsion of stools and urine, ejaculation in men and menstruation in women.	Causes either constipation or diarrhea
3	Samaanan	Responsible for the equilibrium of the other four types of vatham –(piraanan, abaanan, viyaanan and uthaanan) and nutrient & water balance of the body	Causes increase or decrease in specific types of vatham
4	Viyaanan	Responsible for sensory & motor functions of the entire body and distribution of nutrients to various tissues	As it pass over blood vessel, derangement causes increased peripheral resistance in blood vessels leading to hypertension
5	Koorman	Responsible for opening and closing of eyelids; Helps in vision; Responsible for yawning.	Causes myopia or hypermetropia
6	Devadhathan	Responsible for rotation of eyeball	Causes emotional disturbances like anger, irritability, argument

DERANGEMENT OF UYIRTHATHUKKAL – AZHAL

TABLE 3: DERANGEMENT OF AZHAL

S.No.	Types of pitham	Normal Function	Derangement
1	Ranjaga pitham	Increases volume of the blood. Gives red colour to chyme.	Causes increased cardiac output resulting in hypertension
2	Saathaga pitham	With the help of mind knowledge and desire, it helps in accomplishing a work.	In case of emotional upset, derangement occurs and result in failure to do a work
3	Aalosagam	Responsible for vision	Derangement causes myopia or hypermetropia

DERANGEMENT OF UYIRTHATHUKKAL – IYAM

TABLE 4: DERANGEMENT OF IYAM

S. No.	Types of Iyam	Normal function	Derangement
1	Pothagam	Responsible for taste sensation	Causes altered taste sensation
2	Tharpagam	Responsible for cool sensation of the eyes	Causes burning sensation of the eyes.

DERANGEMENT OF UDALTHATHUKKAL

TABLE 5: DERANGEMENT OF UDAL THATHUKKAL

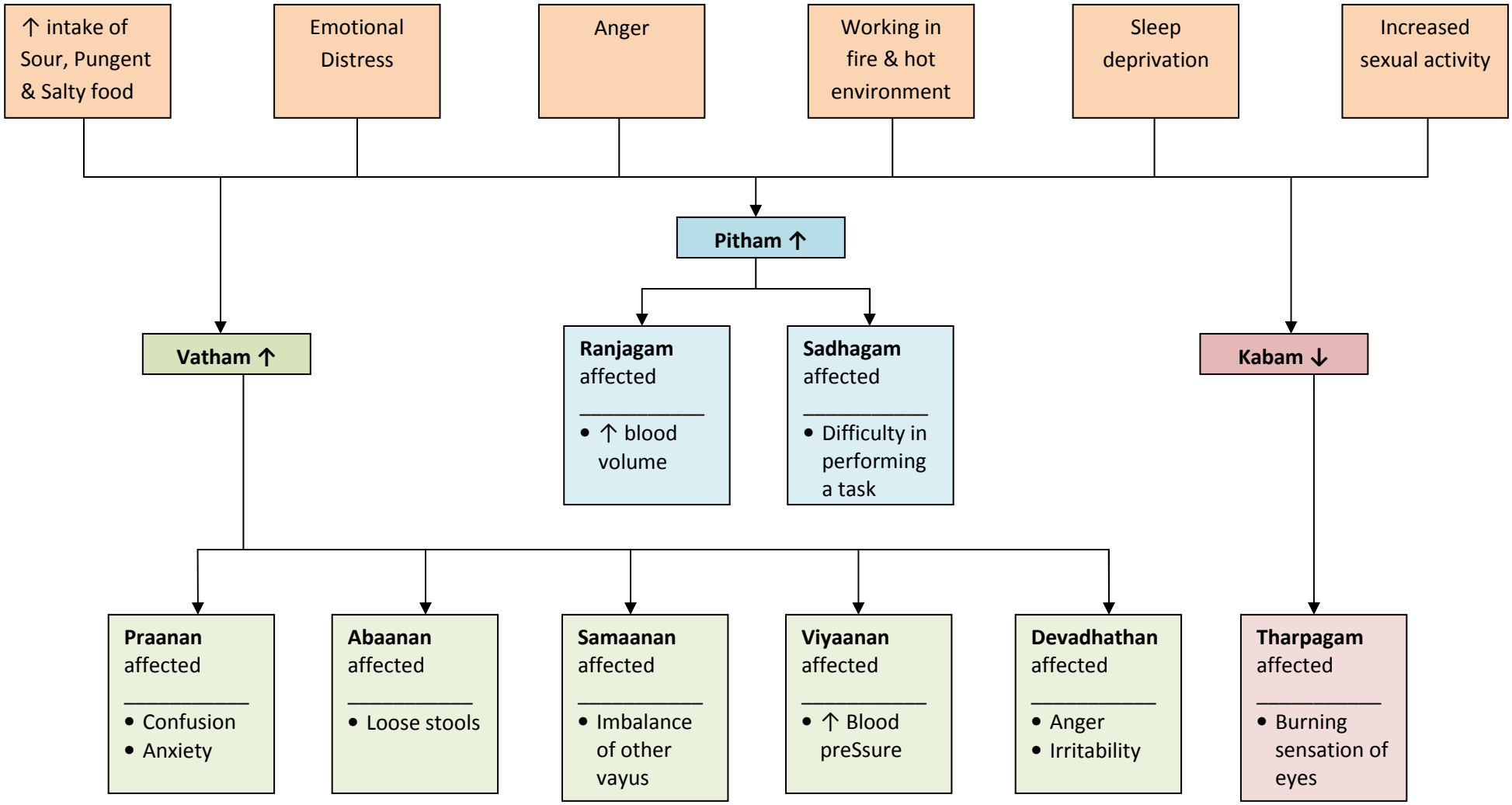
S. No.	Udalthathukkal	Normal function	Derangement
1	Senneer	Responsible for maintenance of intelligence, strength, brightness, voice and temperament.	Vitiation causes hypertension, hematuria, psychological upset and redness of the eyes.
2	Kozhuppu	It lubricates the joints and other parts of the body to function smoothly.	Vitiation causes, dyspnoea on exertion, sagging of buttocks, breasts, abdomen, thighs and genitalia.

DERANGEMENT OF KOSAM

TABLE 6: DERANGEMENT OF KOSAM

S.No.	Kosam	Constitution	Derangement
1	Manomayakosam	Includes Mind and Gnanenthiriyam (5)	• Anger • Irritability
2	Vignamayakosam	Includes Knowledge and Gnanenthiriyam (5)	• Confusion

AETIOPATHOGENESIS OF URATHAPITHAVATHAM



MODERN ASPECTS

PHYSIOLOGY OF BLOOD PRESSURE

Blood pressure (BP) is defined as the lateral pressure exerted by the column of blood on the walls of the arteries. Blood pressure usually means arterial pressure. The pressure in the arteries fluctuates during systole and diastole of the heart.

Systolic BP

Systolic blood pressure (SBP) is defined as the maximum pressure during the cardiac cycle. It is recorded during systole. Therefore it is called systolic blood pressure.

Significance

SBP depends mainly on the cardiac output. Thus, SBP increases in condition in which cardiac output increases.

Diastolic BP

Diastolic blood pressure (DBP) is defined as the minimum pressure recorded during the cardiac cycle. It is recorded during diastole. Therefore it is called diastolic pressure.

Significance

DBP depends mainly on peripheral resistance. Thus, DBP changes in which there occurs a change in peripheral resistance. Peripheral resistance depends mainly on the diameter of the blood vessels and viscosity of the blood.

Pulse Pressure

Pulse pressure (PP) is the difference between the systolic and diastolic pressures.

Significance

This is the pressure that maintains the normal pulsatile nature of the flow of blood in the vascular compartment. The pulsatile nature of the flow is required for the perfusion of the tissues.

Mean arterial Pressure

Mean arterial pressure (MAP) is the average produced during the cardiac cycle. It is calculated by adding one-third of the PP to the diastolic pressure.

MAP = DBP + 1/3 PP

Because the duration of the systole is less than the duration of the diastole, the MAP is slightly less than the value halfway between systolic and diastolic pressure. MAP also determines tissue perfusion.

Significance

The MAP is the pressure that helps in the forward movement of blood in the lumen of blood vessels. MAP also determines tissue perfusion.

Casual Blood Pressure

Blood pressure measured at any time of the day is called casual blood pressure.

Basal Blood Pressure

Blood pressure recorded in the basal state is called basal blood pressure. It is recorded following complete physical and mental rest, after 12 hours of fasting.

Normal Values

Normal values of different pressures in the adult male are as follows.
SBP : 100-119 mm Hg (120 to 139 m Hg is prehypertension)
DBP : 60-79 mm Hg (80 to 89 m Hg is prehypertension)
PP : 20-50 mm Hg
MAP : 75-105 mm Hg

Factors Affecting BP

Blood pressure = cardiac output x peripheral resistance

Thus, factors that affect cardiac output and peripheral resistance also affect blood pressure. Alteration in cardiac output mainly affects systolic pressure and alteration in peripheral resistance mainly affects diastolic pressure.

FACTORS AFFECTING CARDIAC OUTPUT

Cardiac output = stroke volume x heart rate

Therefore, any factor that affects stroke volume or heart rate alters cardiac output. The stroke volume is affected by preload, afterload and myocardial contractility, and the heart rate is mainly affected by parasympathetic and sympathetic activities.

1. **Preload**

   Preload is the end diastolic volume (EDV), that is, the amount of blood present in the ventricle at the end of the diastole. When the EDV increases, the cardiac output increases

and when EDV decreases, the cardiac output decreases. This occurs due to the operation of Frank – Starling mechanism. EDV depends on the venous return to the heart.

Factors that increase preload

- Increased total blood volume
- Increased venous tone
- Increased pumping action of skeletal muscle
- Increased negative intrathoracic pressure
- Increased atrial contraction

Factors that decrease preload

- Decreased blood volume
- Venodilation
- Increased intrapericardial pressure
- Decreased ventricular compliance

2. Afterload

Afterload is peripheral resistance. When peripheral resistance increases as in hypertension, the cardiac output decreases as in anemia.

3. Myrocardial contractility

The contractility of the myocardium exerts a major influence on the cardiac output. The strength of the cardiac contraction is called inotropic state of the heart. The factors that increase the strength of the contraction are said to be positively inotropic and the factors that decrease the strength of contraction are said to be negatively inotropic.

Factors those are positively inotropic

- Sympathetic stimulation
- Digitalis
- Glucagon
- Caffeine and theophylline

Factors those are negatively inotropic

- Parasympathetic stimulation
- Hypoxia, hypercapnea and acidosis
- Loss of myocardium
- Drugs like propranolol, quindine and barbiturate

4. **Heart rate**

   Increase in heart rate increases cardiac output, and decrease in heart rate decreases cardiac output. However, a change in heart rate cannot significantly alter the cardiac output unless it is associated with a change in ventricular filling.

FACTORS AFFECTING PERIPHERAL RESISTANCE

1. **Diameter of blood vessels**

   The decrease in vessel diameter (vasoconstriction) increases peripheral resistance and increases blood pressure. Vasodilation, on the other hand, decreases peripheral resistance and decreases blood pressure. The diameter of the blood vessels depends mainly on the vasoconstrictor tone, which is the rate of discharge in the vasoconstrictor nerves (sympathetic tone).

2. **Viscosity**

   Viscosity of blood depends on the composition of plasma, total number of cells in the blood, and resistance of the cells to deformation and temperature.

   Factors that increase viscosity

   - Polycythemia
   - Hyperproteinemia
   - Hereditary spherocytosis
   - Decreased temperature

   Factors that decrease viscosity

   - Anemia
   - Hypoproteinemia
   - Increased temperature

PHYSIOLOGICAL VARIATIONS

1. **Age**

   Arterial blood pressure increases as age advances.

   Systolic pressure in different age

Newborn	:	70 mm Hg
After 1 month	:	85 mm Hg
After 6 month	:	90 mm Hg
After 1 year	:	95 mm Hg

At puberty	:	120 mm Hg
At 50 years	:	140 mm Hg
At 70 years	:	160 mm Hg
At 80 years	:	180 mm Hg

Diastolic pressure in different age

Newborn	:	40 mm Hg
After 1 month	:	45 mm Hg
After 6 month	:	50 mm Hg
After 1 year	:	55 mm Hg
At puberty	:	80 mm Hg
At 50 years	:	85 mm Hg
At 70 years	:	90 mm Hg
At 80 years	:	95 mm Hg

2. Sex

In females, up to the period of menopause, arterial pressure is 5 mm Hg, less than in males of same age. After menopause, the pressure in females becomes equal to that in males of same age.

3. Body Built

Pressure is more in obese persons than in lean persons.

4. Diurnal Variation

In early morning, the pressure is slightly low. It gradually increases and reaches the maximum at noon. It becomes low in evening.

5. After Meals

Arterial blood pressure is increased for few hours after meals due to increase in cardiac output.

6. During Sleep

Usually the pressure is reduced up to 15 to 20 mm Hg during deep sleep. However, it increases slightly during sleep associated with dreams.

7. Emotional Conditions

During excitement or anxiety, the blood pressure is increased due to release of adrenaline.

8. After Exercise

After moderate exercise, systolic pressure by 20 to 30 mm Hg above the basal level due to increase in rate and force of contraction and stroke volume. Normally, diastolic pressure is not affected by moderate exercise. It is because, the diastolic pressure depends upon peripheral resistance, which is not altered by moderate exercise.

After severe muscular exercise, systolic pressure rises by 40 to 50 mm Hg above the basal level. But, the diastolic pressure reduces because the peripheral resistance decreases in severe muscular exercise.

MEASUREMENT OF ARTERIAL BLOOD PRESSURE

Blood pressure is measured by two direct methods:

A. Direct method

B. Indirect method

A.Direct Method

Direct method to measure arterial blood pressure is employed only in animals.

B.Indirect Method

Indirect method is used to measure arterial blood pressure in man as well as in animals.

Apparatus

Apparatus used to measure blood pressure in human beings is called **sphygmomanometer.** Along with sphygmomanometer, **stethoscope** is also necessary to measure blood pressure.

Principle

When an external pressure is applied over the artery, the blood flow through it is obstructed. And the pressure required to cause occlusion of blood flow indicates the pressure inside the vessel.

Procedure

Brachial artery is usually chosen because of convenience. The arm cuff of sphygmomanometer is tied around upper arm, above the cubital fossa. Cuff should not be too tight or too loose. It is connected to sphygmomanometer and blood pressure can be measured by auscultatory method.

- **Ausculatory method**

Ausculatory method is the most accurate method to determine arterial blood pressure. After determining the systolic pressure in palpatory method, the pressure in the cuff is raised by 20 mm Hg above that level, so that the brachial artery is occluded due to compression. Now, the chest piece of the stethoscope is placed over the antecubital fossa and the arm cuff is slowly deflated. While doing so, series of sounds are heard through the stethoscope. These sounds are known as **Korotkoff sounds,** named after the discoverer Korotkoff (1905). While reducing the pressure, Korotkoff sounds have five phases:

Phase I: First appearance of clear, tapping sound. It represents the systolic blood pressure.
Phase II: Tapping sounds are replaced by soft murmurs.
Phase III: Murmurs become louder.
Phase IV: Muffling of sounds.
Phase V: Disappearance of sounds.

Thus in auscultatory method, the appearance of clear tapping sound during the first phase indicates the systolic pressure and disappearance of the muffling sound in fifth phase shows diastolic pressure.

- **Automatic Blood Pressure Instrument**

Nowadays automatic blood pressure instrument is widely used. The instrument determines the pulse rate also. Automatic instrument does not need expert personnel to measure the blood pressure since it has the self-measuring facilities. **Microprocessor** controlled blood pressure **monitors** that are fixed around wrist or finger are also available.

REGULATION OF BLOOD PRESSURE

The mechanisms involved in regulation of blood pressure can be divided into two broad categories: (1) Short-term regulation and (2) Long-term regulation. Short-term regulation is mainly neutral and long-term regulation is mainly hormonal.

Short-term regulation (Neural Regulatory Mechanisms)

Arterial blood pressure and high pressure sinoaortic baroreceptors are linked in a negative feedback loop. Any increase in blood pressure increases sinoaortic baroreceptor discharge, which in turn, inhibits VMC and restores blood pressure back to normal. The reverse is also true. The neural regulation of blood pressure is very sensitive and has reflex time of only a few seconds. This mechanism helps to maintain normal arterial blood pressure. During pathological states such as hemorrhage, strong vasomotor discharge is the first line of defense against fall of blood pressure. If neural mechanism is inadequate for the maintenance of blood pressure, activation of renin-angiotension II system and increased secretion of antidiuretic hormone provides further help to maintain cardiovascular homeostasis.

Long-term Arterial Blood Pressure Regulation

When the blood pressure change is slow over a period of many days, the neural mechanism loses almost all of its ability to react to the change. Therefore, there has to be a long term regulatory mechanism which maintains the arterial blood pressure in the normal range, week-after-week and month-after-month. The kidneys play a dominant role in this long term regulation of blood pressure. The long term regulation of blood pressure is achieved by changes in the blood volume (actually blood volume). The kidneys have an ability to regulate the ECF volume by regulation of salt (NaCl) and water excretion. In addition, the renin-angiotensin-aldosterone system helps in the regulation of salt and water excretion by the kidneys. In normal individuals, any persistent increase in arterial blood pressure leads to increased urinary salt and water retention resulting in a decrease in ECF volume and arterial blood pressure and vice versa. A failure of this long-term regulatory mechanism is believed to be the fundamental problem in the pathogenesis of hypertension.

HYPERTENSION

Definition

Systemic hypertension is the persistent rise of basal blood pressure above the arbitrary level of 140/90 mm of Hg recorded on three or more successive occasions. There may be only systolic hypertension. In such cases systolic BP becomes 140 mm of Hg or above.

Isolated Systolic Hypertension

This is said to be present when systolic blood pressure is > 140 mm Hg and diastolic blood pressure is < 90 mm Hg. It is commonly seen in old age.

Accelerated Hypertension

A significant recent increase in blood pressure over previous hypertension levels, associated with evidence of vascular damage on fundoscopic examination, but without papilloedema.

Malignant Hypertension

A triad of blood pressure of > 200/140 mm Hg, grade IV retinopathy(papilloedema) and renal dysfunction.

White Coat Hypertension

A transient increase in blood pressure in normal individuals, when BP is recorded in a physician's consulting room or in a hospital.

[BRITISH HYPERTENSIVE SOCIETY]

TABLE 7: CLASSIFICATION OF HYPERTENSION

Category	Systolic BP (mm Hg)	Diastolic BP (mm Hg)
Blood Pressure		
Optimal	< 120	< 80
Normal	< 130	< 85
High Normal	130 – 139	85 – 89
Hypertension		
Stage I	140 – 159	90 – 99
Stage II	160 – 179	100 – 109
Stage III	180 – 209	110 – 119
Stage IV	> 210	> 120

(Textbook of Medicine, 3rd edition, Krishna Das, pg. 578)

Classification of Hypertension

- **Essential or Idiopathic hypertension**
  Here no obvious cause is found to account for high blood pressure (90%-100% of cases).
- **Secondary or Symptomatic hypertension (5%-10% of cases)**
  1. Renal causes(common): Acute nephritic syndrome, Chronic nephritis, Polycystic kidney, Hydronephrosis, Chronic pyelonephritis, Renal artery stenosis, Renin secreting tumour, Renal tumour.
  2. Cardiovascular causes: increased intra vascular volume, increased cardiac output, rigidity of aorta, polyarteritis nodosa.
  3. Endocrine causes: Thyrotoxicosis and myxoedema, Acromegaly, Cushing's syndrome, Primary aldosteronism (Conn's syndrome), Phaeochromocytoma.
  4. Metabolic causes: Diabetes mellitus, Chronic gout, Toxaemias of pregnancy, Atheosclerosis.
  5. Drugs: Contraceptive pills, Steroids, Licorice.
  6. Collagenosis and miscellaneous disease: SLE, Polyarteritis nodosa, Scleroderma, Dermatomyositis, Pseudoxanthoma elasticum.
  7. Congenital: Coarctation of aorta.
  8. Psychogenic.
  9. Neurological: Encephalitis, Brain tumour, Cerebrovascular accidents, Diencephalic syndrome.
  10. Blood disease: Polycythaemia

11. Renovascular hypertension: Particularly I Renal artery stenosis.
12. Miscellaneous: Pregnancy, Cyclosporin, NSAID.

ESSENTIAL (PRIMARY) HYPERTENSION

Aetiology

1. **Family history** is usually seen in several members of the same family.
2. **Genetic factor :** Homozygos or the dominant gene is usually seen to be severely affected than the heterozygous.
3. **Age :** Commonly about near 40 years but varies from 25 years to 55 years.
4. **Sex:** Commonly seen in males.
5. **Structural changes in arterioles:** Thickening of the arteriolar wall and narrowing of the lumen lead to resistance in the blood flow.
6. **Salt intake:** If the salt intake is more than the average, hypertension may result.
7. **Influence of sympathetic nervous system:** Excessive sympathetic nervous activities may result in hypertension.
8. **Neurogenic hypertension:** Lesion of the carotid sinus and aortic baroreceptor may lead to hypertension.
9. **Psychic factor:** It acts via the central pathway.
10. **Renin angiotensin system:** Renin acts on Angiotensinogen or renin substrate to convert it into Angiotensin I. This is acted upon by Angiotensin II. This is a potent vasoconstrictor and stimulate aldosterone release from Adrenal gland. Though this system has an important bearing on regulating blood pressure yet possibly it has no primary role in the pathogenesis of essential hypertension.
11. **Defect in natriuresis:** In presense of elevated BP, high serum Na^+ or blood volume, normal individual will have increased natriuresis. In hypertensives, this Na^+ excretion ability is diminished. So this results in increased blood volume and high BP.
12. **Intracellular Na^+ and Ca^+ :** In essential hypertension, intracellular Na^+ and Ca^+ are elevated.
13. **Miscellaneous:** Excessive alcohol, smoking, steroids and NSAID, low potassium intake, exercise, Polycythemia, etc.

Pathogenesis of essential hypertension

Whatever may be the factors that influence hypertension, they probably cause hypertension by two mechanism:

- Excess sodium retention
- Hypertrophy of smooth muscle and vasoconstriction.

Genetic factors along with environmental factors decrease renal sodium excretion leading to increase salt and water retention, ultimately causing increased fluid volume and high cardiac

output. To prevent over perfusion, the peripheral vessels undergo vasoconstriction increasing the peripheral resistance and blood pressure. Similar situation arises if there is vessel wall hypertrophy, neurogenic factor or renin release. There cause thickening and constriction of vessel wall increasing the peripheral resistance and thereby the blood pressure.

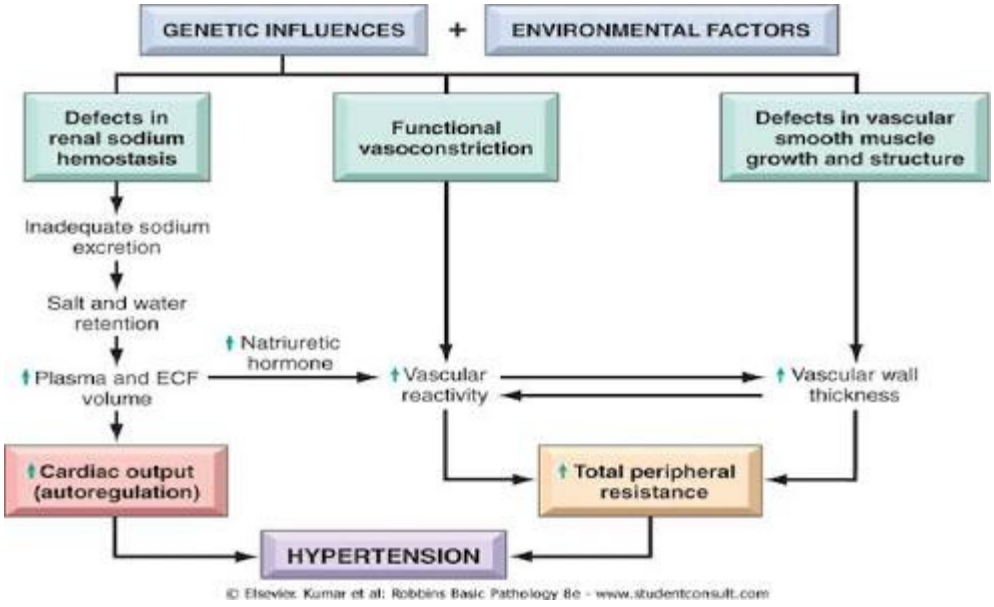


FIG 1: PATHOPHYSIOLOGY OF HYPERTENSION

Clinical features

Symptoms are usually variable and at times very vague. There may be no symptom and if present they are the following:

1. Pulsating headache often occipital and occurs particularly in the morning.
2. Easy fatiguability.
3. Insomnia.
4. Dizziness.
5. Lack of concentration.
6. Loss of memory.
7. Occasional palpitation.
8. Breathlessness.

Complications

1. **Cardiac – Hypertensive Heart Disease**
   Left ventricular hypertrophy develops in 10%- 30% of chronic cases. It may produce

- Myocardial ischaemia.
- Ventricular arrhythmia.
- Congestive cardiac failure.

- Sudden death.

2. Cerebral

Cerebrovascular complications are more closely related to systolic rather than diastolic BP.

- Cerebral haemorrhage.
- Cerebral thrombosis.
- Lacunar infarcts.
- Hypertensive encephalopathy.
- TIA.
- Subarachnoid haemorrhage.
- Dementia.

3. Retinal

- Dimness of vision.
- Thickening of arteries with narrowing of lumen, haemorrhage and exudates, papillodema.
- Detatchment of retina, vitreous haemorrhage.

4. Renal

- Renal arteriosclerosis (Nephrosclerosis).
- Uraemia.
- Renal infarct.

5. Aortic dissection

6. Atherosclerotic complications

7. Hypertensive crisis

This includes 2 conditions.

1. Hypertensive urgencies where blood pressure reduction is required comparatively slowly.
2. Hypertensive emergencies (which also include accelerated malignant hypertension) where immediate (within one hour) reduction of blood pressure is required.

   In hypertensive urgencies the diastolic pressure is more than 130 mm of Hg. In case of hypertensive emergencies, the systolic BP is greater than 210 mm of Hg and diastolic BP greater than 130 mm of Hg.

   If left untreated, patients die out of CVA or relatively gradually fron renal insufficiency.

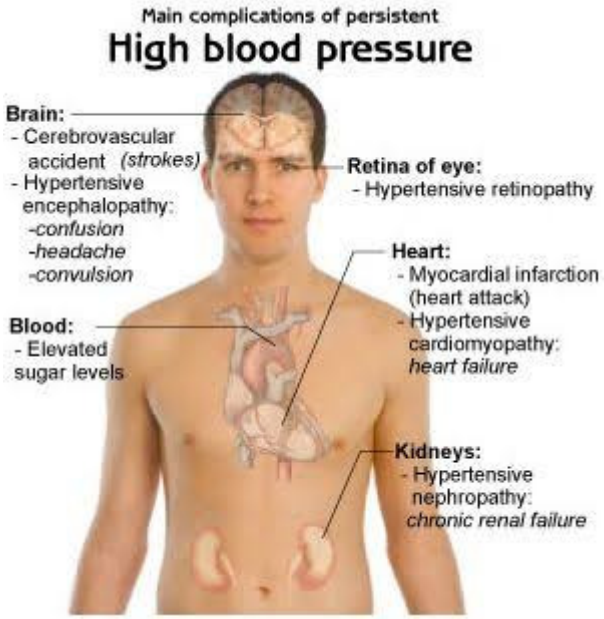


FIG 2: COMPLICATIONS OF HYPERTENSION

Mode of Termination

1. Acute left ventricular failure (60%).
2. Cerebral haemorrhage and allied episodes (35%).
3. Uraemia rare (5%).

SIDDHA DIAGNOSTIC METHODOLOGY

The diagnostic methodology in siddha system is unique as it is made purely on the basis of clinical acumen of the physician. The diagnosis is arrived from,

- Poriyaal arithal and pulanaal arithal (examination of sense organs)
- Vinaathal (Interrogation)
- Ennvagai thervu (Eight types of examination)
- Manikkadai nool (Wrist circumference sign)
- Assessment of deranged tridosham (humours), 7 udal thathukkal and 96 principles.

PORIYAAL ARIDHAL AND PULANAAL ARIDHAL

The physician should examine the patients porigal and pulangal by means of his porigal and pulangal

1. Mei – To feel the temperature, skin texture, inflammation
2. Vaai – For taste
3. Kann – For visualizing the abnormalities
4. Mooku – For smelling the odour of urine/faeces/sweat
5. Sevi – For hearing patients complaints

VINAADHAL (INTERROGATION)

The physician should interrogate the patient's name, age, occupation, hometown, socioeconomic status, dietary habits, present complaints, past history and aggravating factors.

ENN VAGAI THERVU (Eight types of examination)

"நாடி பரிசம் நாநிறம் மொழிவிழி
மலம் மூத்திரம் மருதுவராயுதம்"

- தேரையர்

The eight types of examination are as follows

1. Naadi (Pulse)
2. Sparisam (Touch)
3. Naa (Tongue)
4. Niram (Colour)

5. Mozhi (Voice)
6. Vizhi (Eyes)
7. Malam (Stools)
8. Siruneer (Urine)

1. Naa (Tongue)

The tongue is for taste and speech. The colour, white coating, pigmentation, taste sensation, fissure, salivation, deviation are observed in the tongue.

In vitiated pitha conditions, tongue will be either bitter or sour in taste. A white coated tongue is an indication of constipation.

2. Niram (Colour)

The normal colour of the body is observed. Any pigmentation or patches present all over the body is also observed.

Vatha Disease – Black Colour
Pitha Disease – Yellow Colour
Kapha Disease – White Colour
Thontha Disease – Mix of two Udal Colours

3. Mozhi (Voice)

Vatha disease – Normal voice
Pitha disease – High-pitched voice
Kapha disease – Low-pitched voice

Any wheezing sound present is also noted.

4. Vizhi (Eyes)

The colour of the conjunctiva (Black and Muddy in vatha disease, yellow or red in pitha disease, white in kapha disease), palpebral conjunctiva, moisture, burning sensation, excrements are all noted.

5. Naadi (Pulse)

"வழங்கிய வாதம் மாத்திரை ஒன்றாகில்
வழங்கிய பித்தம் தன்னில் அரைவாசி
அழங்கும் கபந்தான் அடங்கியே காலோடில்
பிழங்கிய சீவிற்குப் பிசகொன்று மில்லையே"

The ‘Pulse diagnosis’ is a unique method in siddha system. The pulse should be examined in the right hand for male and left hand for female. The pulse is recorded at the radial artery using the forefinger, middle finger and ring finger of the physician. Pulsation in the fore finger, middle finger and ring finger represents vatha naadi, pitha naadi and kapha naadi respectively.

Any variation that occurs in the three humours is reflected in the naadi. So Naadi serves as a good indicator of all ailments.

The expansile nature, habit of the pulse, pulse play, pulse reading season are all noted.

6. Sparisam (Skin)

The temperature, sweat, sensation, tenderness are all noted.

Vatha Disease – warm
Pitha Disease – hot
Kapha Disease – chill and sweaty

7. Malam (Stools)

The no. of stools per day, consistency, quantity and colour of the stools are noted.

Vatha disease – Black, constipated
Pitha disease – Reduced quantity, warm yellow or red in colour
Kapha disease – White and chill

8. Siruneer

The colour, odour, specific gravity, froth and deposits are observed as Neerkuri.

“அருந்தூறிரதமும் அவிரோதமாய்
அஃகல் அலர்தல் அகாலவூன் தவிர்ந்தாதற்
குற்றளவருந்தி உறங்கி வைகறை
ஆடிக்கலசத் தாவியே காது நீரின்
நிறக்குறி நெய்க்குறி நிருமித்தல் கடனே”

A drop of oil is instilled in the bowl of urine and the spreading pattern of the oil drop is examined.

1. Aravu (Snake like pattern of spread) indicates Vatha disease
2. Aazhi (Ring like pattern of spread) and Vattam (Round like pattern of spread) indicates Pitha disease
3. Muthu (Pearl like pattern of spread) indicates Kapha disease

“அரவென நீண்டினஃகே வாதம்
ஆழிபோல் பரவின் அஃதே பித்தம்
முத்தொத்து நிற்கின் மொழிவதன் கபமே”

- அகத்தியர் வைத்திய ரத்தின சுருக்கம்

MANIKADAI NOOL (Wrist circumetric sign)

Agathiyar soodamanikayaru soothiram ..

“கமலக்கை மணிக்கையில் கயறு சூத்திரம்
விமலனே நோக்கியே வேடமாமுனி
திமிலாம் பிணியது சேரச் செப்பியே
அமலனா முனிக்கு முன்னருளிச் செய்ததே”

- பதிணென் சித்தர் நாடி நூல்

According to the Pathinen Siddhar Naadinool, Manikadainool is also helpful in diagnosis. This manikkadai nool is a parameter to diagnose the state of disease by measuring the circumference of the wrist by means of a thread and then dividing the measured circumference with the patient’s finger. By this measurement the disease can be diagnosed. When the Manikkadai nool is 11 fbs, the person will be stout and he will live a healthy life for many years. When the Manikkadai nool measures between 4 to 6, it indicates poor prognosis of disease and the severity of the illness will be high and it leads to death.

ALAVU		**INFERENCE**
• 10 fbs	-	Pricking pain in chest and limbs, gastritis and ulcer result.
• 9 ¾ fbs	-	Fissure, dryness and cough will be resulted.
• 9 ½ fbs	-	Odema, increased body heat, burning sensation of eye, fever, mega noi and anorexia.
• 9¼ fbs	-	Dysuria, insomnia, sinusitis and burning sensation of eye.
• 9 fbs	-	Impaired hearing, pain around waist, thigh pain, unable to walk.
• 8¾ fbs	-	Increased body heat, skin disease due to toxins, abdominal discomfort, cataract, sinusitis.
• 8½ fbs	-	Leucorrhoea, Venereal disorder and infertility will occur.
• 8¼ fbs	-	Stout and painful body, Headache, sinusitis, and toxins induced cough.
• 8 fbs	-	Abdominal discomfort, gastritis, anorexia and venereal diseases
• 7¾ fbs	-	Piles, burning sensation of limbs, headache, numbness occur. Within 2 years cervical adenitis and epistaxis results.
• 7½ fbs	-	Osteoporosis, abdominal discomfort, burning sensation of eyes,

increased body temperature.Within 6 days all the joints of the limbs presents a swelling.

- 7¼ fbs - Lumbar pain, increased pitha in head, anemia, eyepain, odema and somnolence.
- 7 fbs - Pitham ascends to head, haemetemesis, phlegm, burning sensation of limbs and constipation.
- 6¾ fbs - Eye ache, dizziness, testis disorder. Within 3 years it causes anuria, pain and burning sensation over limbs, facial sweating results.
- 6½ fbs - Thirst, anorexia, increased body heat and vatham results.
- 6¼ fbs - Diarrhoea, belching, vommiting and mucous dysentery.
- 6 fbs - Reduced weight, phlegm in chest. It results in death within 20 days.
- 5¾ fbs - Delirium dizziness, loss of conciousness. It results in death even if the patient takes gruel diet.
- 5½ fbs - Severity of illness is increased. Toxins spread to the head. Tooth darkens. Patient will die in 10 days.
- 5¼ fbs - Patient seems to be sleepy and death results on the next day.
- 5 fbs - Pallor and dryness of the body. Kapham engorges the throat and the person will die.
- 4¾ fbs - Dryness of tongue and tremor present. Patient will die in 7 days.
- 4½ fbs - Shrunken eyes, odema will present and death result in 9 days.
- 4¼ fbs - Tremor, weakness of limbs and darkening of face occurs. Finally death results in 2 days.
- 4 fbs - Pedal odema will be present. Patient will die in 5 days.

MATERIALS AND METHODS

MATERIALS

The clinical study on Urathapithavatham was carried out in the out patient ward in the post graduate department of Noinaadal at Govt. Siddha Medical College, Chennai.

40 cases with clinical signs and symptoms of Urathapithavatham of both sexes of different ages were studied under the guidance of faculties of post graduate department

Selection of patients:

The clinical study was done in 68 patients. Out of that, 40 cases were selected on the basis of clinical symptoms indicated in the siddha text.

Selection of Criteria

Inclusion Criteria

1. Age 30 and above
2. Sex : Both Male and Female
3. Patients with BP range between 140/90 mm Hg to 179/109 mm Hg
4. Patients presenting with symptoms like
    a. Anger
    b. Irritability
    c. Diarrhoea
    d. Confusion
    e. Insomnia
    f. Redness of eyes
    g. Obesity
5. Type A Personality

Exclusion Criteria

1. Age below 30 years
2. Symptoms associated with major cardiac disease
3. Symptoms associated with renal disease
4. Symptoms associated with Diabetes Mellitus

METHODOLOGY

STUDY DESIGN

Observational type of study

STUDY ENROLLMENT

In the study, patients reporting at the PG NoiNaadal OPD of GSMC, Chennai with the clinical symptoms of "Urathapithavatham" will be referred to the research group. Those patients will be screened using the screening proforma and examined clinically for enrolling in the study based on the inclusion and exclusion criteria. Based on the inclusion criteria, the patients will be included first and excluded from the study on the same day if they hit exclusion criteria.

The patients who are to be enrolled would be informed about the aim and objectives of the study in the language and terms understandable for them.

After ascertaining the patient's willingness, a written informed consent would be obtained from them in the consent form. All these patients will be given unique register card which contains patient's register number of the study, address, phone number, doctor's phone number etc. This is given so as to report to research group easily if any complication arises.

Complete clinical history, complaints and duration, examination findings all would be recorded in the prescribed history proforma, clinical assessment and lab investigation forms.

INVESTIGATIONS DURING THE STUDY

The patients will be subjected to basic laboratory parameters during the study.

Blood

- Total WBC count
- Differential count
- Erythrocyte sedimentation Rate
- Haemoglobin
- Blood Sugar (Fasting/ Random/ Post prandial)
- Blood Urea

Urine

- Albumin
- Sugar
- Deposits

Special Investigation

- Lipid Profile

TREATMENT DURING THE STUDY

Normal treatment procedure followed in GSMC will be prescribed to the study patients and the treatment will be provided at free cost.

STUDY PERIOD

- Total Period : 24 months
- Recruitment for the study : 18 months
- Data entry analysis : 4 months
- Report preparation and submission : 2 months

OBSERVATION AND RESULTS

Results were observed with respect to the following criteria

1. Age distribution
2. Sex distribution
3. Body Mass index
4. Aayul Kaalam
5. Seasonal changes
6. Personal habits
7. Clinical symptoms
8. Uyir thaathukkal
9. Udal thaathukkal
10. Thegi
11. Ennvagai thervu
12. Manikkadai nool
13. Lab investigation

1. AGE DISTRIBUTION

TABLE 8: AGE DISTRIBUTION

S. No.	Age	No. of cases	Percentage
1	30-40 yrs	8	20%
2	41-50 yrs	9	22.5%
3	51-60 yrs	17	42.5%
4	61-70 yrs	5	12.5%
5	71-80 yrs	1	2.5%

Among the 40 cases, 42.5% came under 51-60 yrs, 22.5% came under 41-50 yrs, 20% came under 30-40 yrs, 12.5% came under 61-70 yrs and 2.5% came under 71-80 yrs.

2. DISTRIBUTION OF GENDER

TABLE 9: SEX DISTRIBUTION

S. No.	Sex	No. of cases	Percentage
1	Male	24	60%
2	Female	16	40%

Among the 40 cases, 60% were males and 40% were females.

3. DISTRIBUTION OF BODY MASS INDEX

TABLE 10: BMI DISTRIBUTION

S.No.	BMI	No. of cases	Percentage
1	Normal	20	50%
2	Overwight	13	32.5%
3	Obese	7	17.5%

Among the 40 cases, 50% were normal weight, 32.5% were overweight and 17.5% were obese.

4. AAYUL KAALAM

TABLE 11: AAYUL KAALAM DISTRIBUTION

S.No.	Aayul Kaalam	No. of cases	Percentage
1	Vatha Kaalam	1	2.5%
2	Pitha Kaalam	36	90%
3	Kabha Kaalam	3	7.5%

Among the 40 cases, 90% belong to pitha kaalam, 7.5% belong to kabha kaalam and 2.5% belong to vatha kaalam .

5. BP RANGE

TABLE 12: BP RANGE DISTRIBUTION

S.No.	BP Range	No. of cases	Percentage
1	Stage I SBP – 140-159 DBP – 90-99	13	32.5%
2	Stage II SBP – 160-179 DBP – 100-109	27	67.5%

Among the 40 cases, 32.5% had Stage I hypertension and 67.5% had Stage II hypertension.

6. BODY MASS INDEX

TABLE 13: BMI DISTRIBUTION

S.No.	BMI Range	No.of cases	Percentage
1	Normal	17	42.5%
2	Overweight	16	40%
3	Obese	7	17.5%

Among the 40 cases, 42.5% had Normal BMI, 40% were overweight and 17.5% were obese.

7. TOTAL CHOLESTEROL

TABLE 14: TOTAL CHOLESTEROL DISTRIBUTION

S.No.	Total Cholesterol	No. of cases	Percentage
1	Normal (upto 200)	29	72.5%
2	Borderline (201-239)	6	15%
3	High (>240)	5	12.5%

Among 40 cases, 72.5% had Normal Total cholesterol level, 15% had Borderline cholesterol and 12.5% had high level of Total cholesterol.

8. HDL

TABLE 15: HDL DISTRIBUTION

S.No.	HDL	No. of cases	Percentage
1	Low (<30)	2	5%
2	Normal (30-60)	35	87.5%
3	High (>60)	3	7.5%

Among 40 cases, 5% had low HDL level, 87.5% had normal HDL level, 7.5% had high HDL level.

9. LDL

TABLE 16: LDL DISTRIBUTION

S.No.	LDL	No. of cases	Percentage
1	Normal (<100)	5	12.5%
2	Borderline (100-190)	33	82.5%
3	High (>190)	2	5%

Among 40 cases, 12.5% had normal LDL level, 82.5% had Borderline LDL level and 5% had high LDL level.

10. TRIGLYCERIDES

TABLE 17: TRIGLYCERIDES DISTRIBUTION

S.No.	Triglycerides	No. of cases	Percentage
1	Normal (<150)	27	67.5%
2	Borderline (150-199)	11	27.5%
3	High (200-499)	2	5%

Among 40 cases, 67.5% had normal Triglycerides level, 27.5% had Borderline Triglycerides level and 5% had high Triglycerides level.

11. NAA

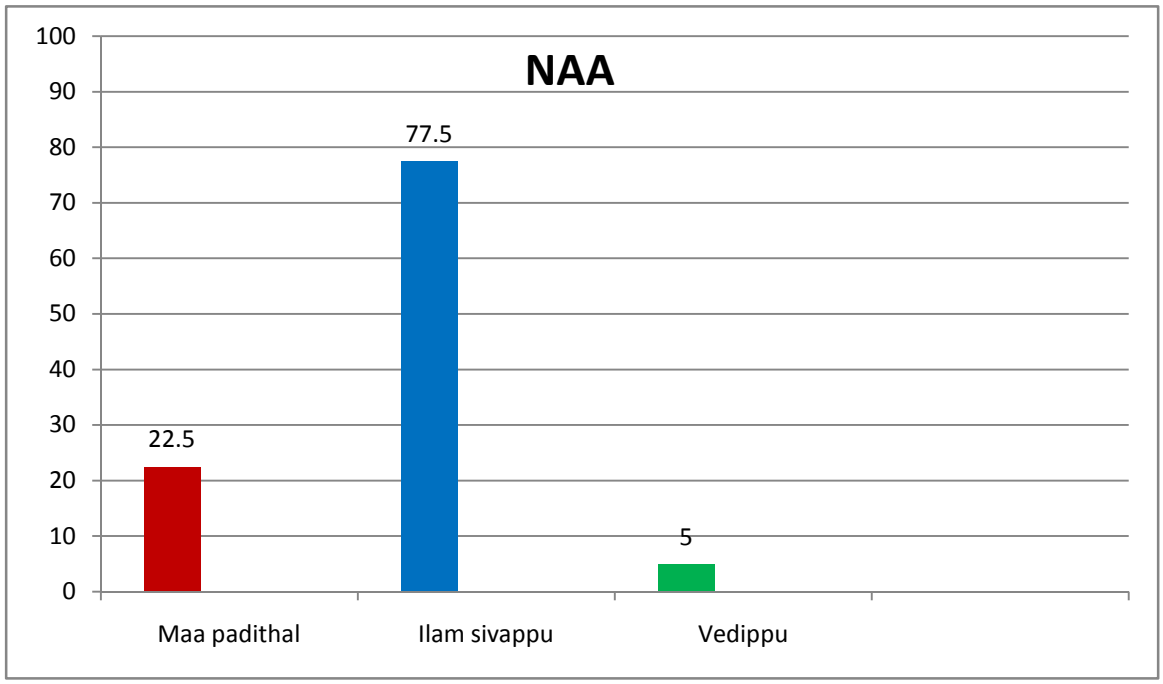


FIG 3: NAA

Among 40 cases, 22.5% had coated tongue, 5% had fissure, the rest 77.5% had normal pink coloured tongue.

12. NAA (SUVAI)

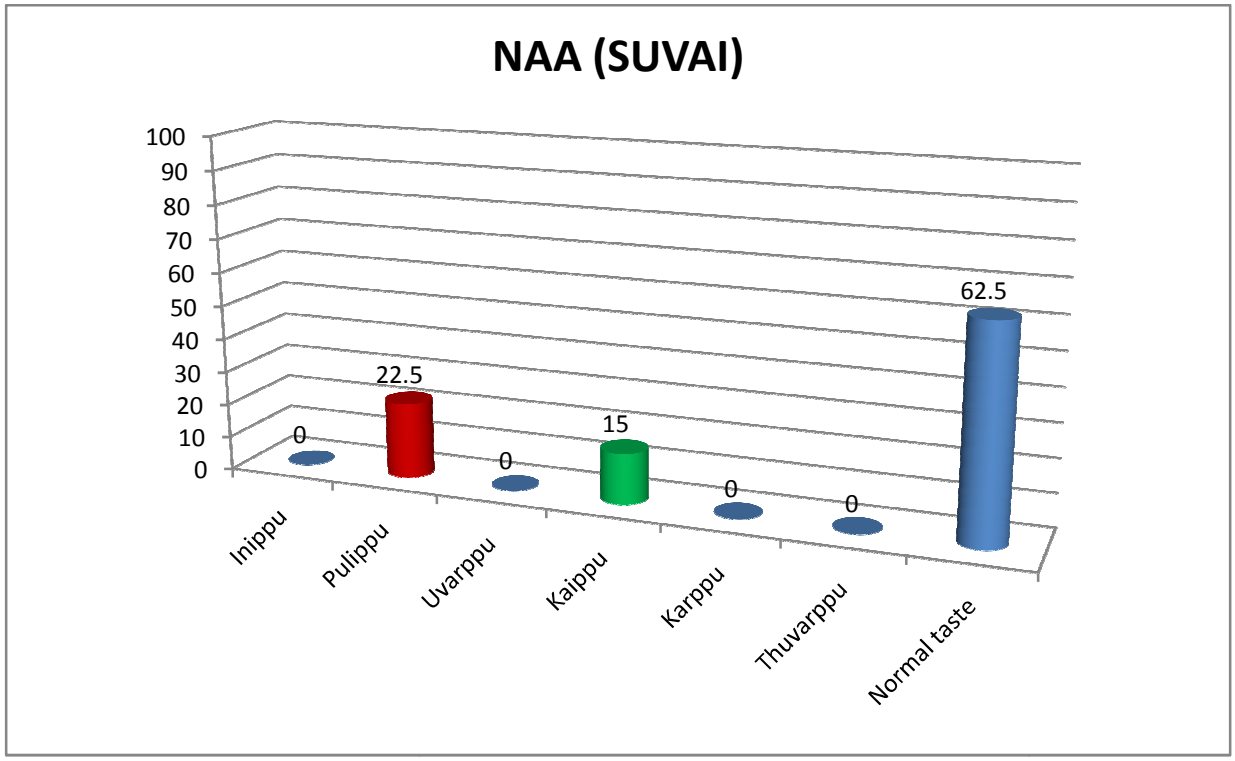


FIG 4: NAA(SUVAI)

Among the 40 cases, 15% had bitter taste, 22.5% has sour taste and 62.5% had normal taste sensation.

13. NIRAM

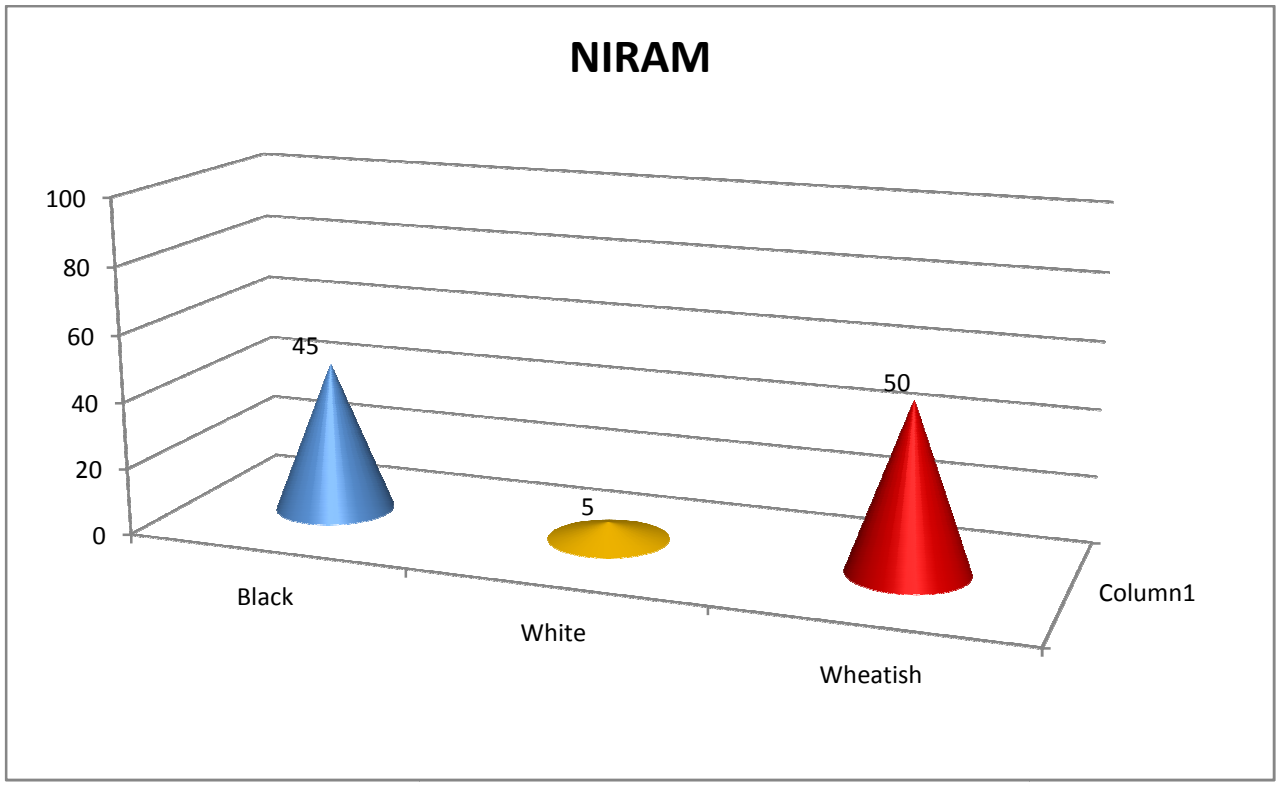


FIG 5: NIRAM

Among the 40 cases, 45% were black in colour, 50% were wheatish in colour and 5% were white in colour.

14. MOZHI

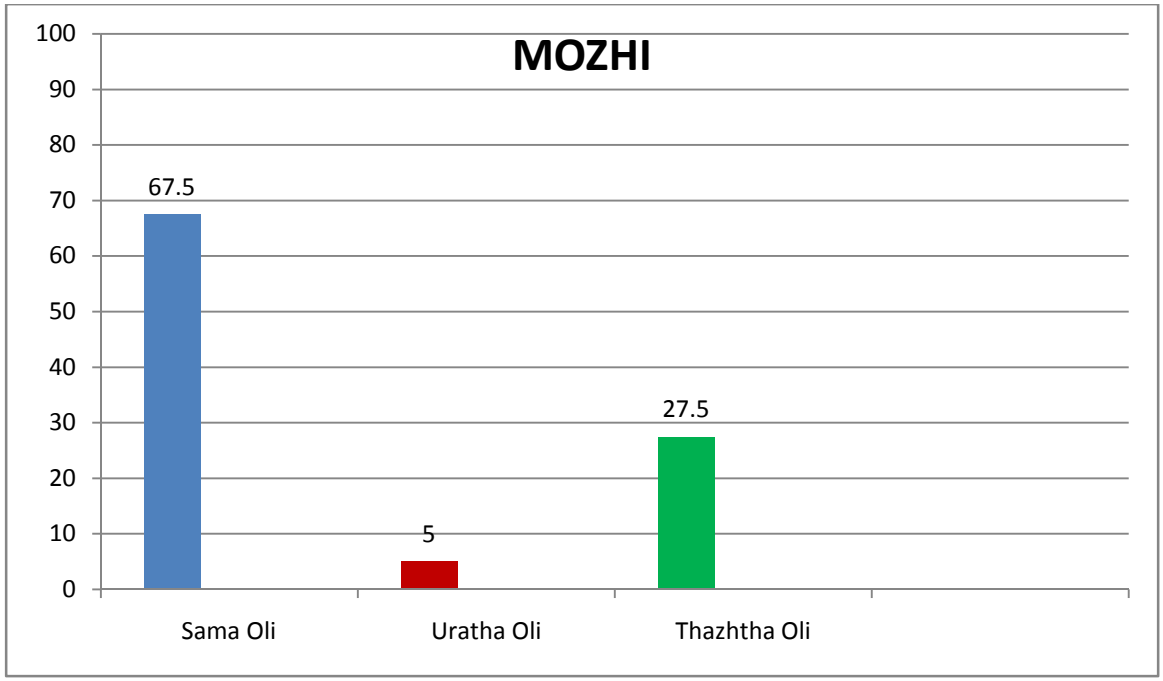


FIG 6: MOZHI

Among the 40 cases, 67.5% had medium pitched voice, 27.5% had low pitched voice and 5% had high pitched voice.

15. VIZHI (VEN VIZHI)

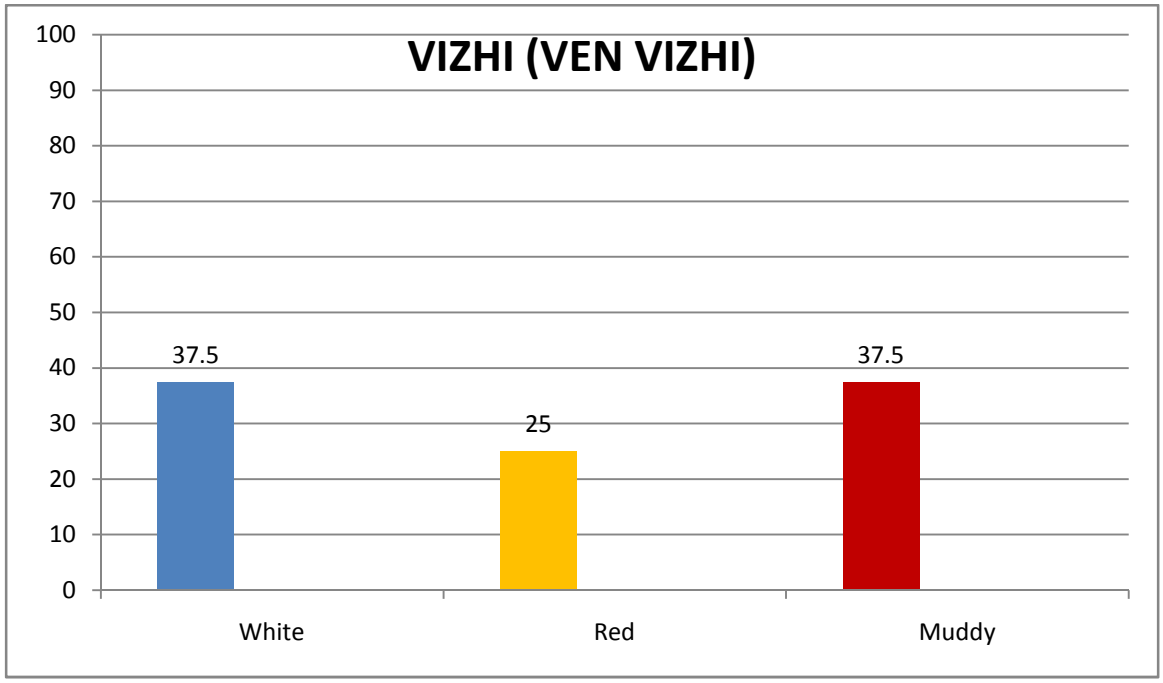


FIG 7: VIZHI(VEN VIZHI)

Among the 40 cases, 37.5% had white conjunctiva, 37.5% had muddy conjunctiva and 25% had red conjunctiva.

16. VIZHI (ERICHAL)

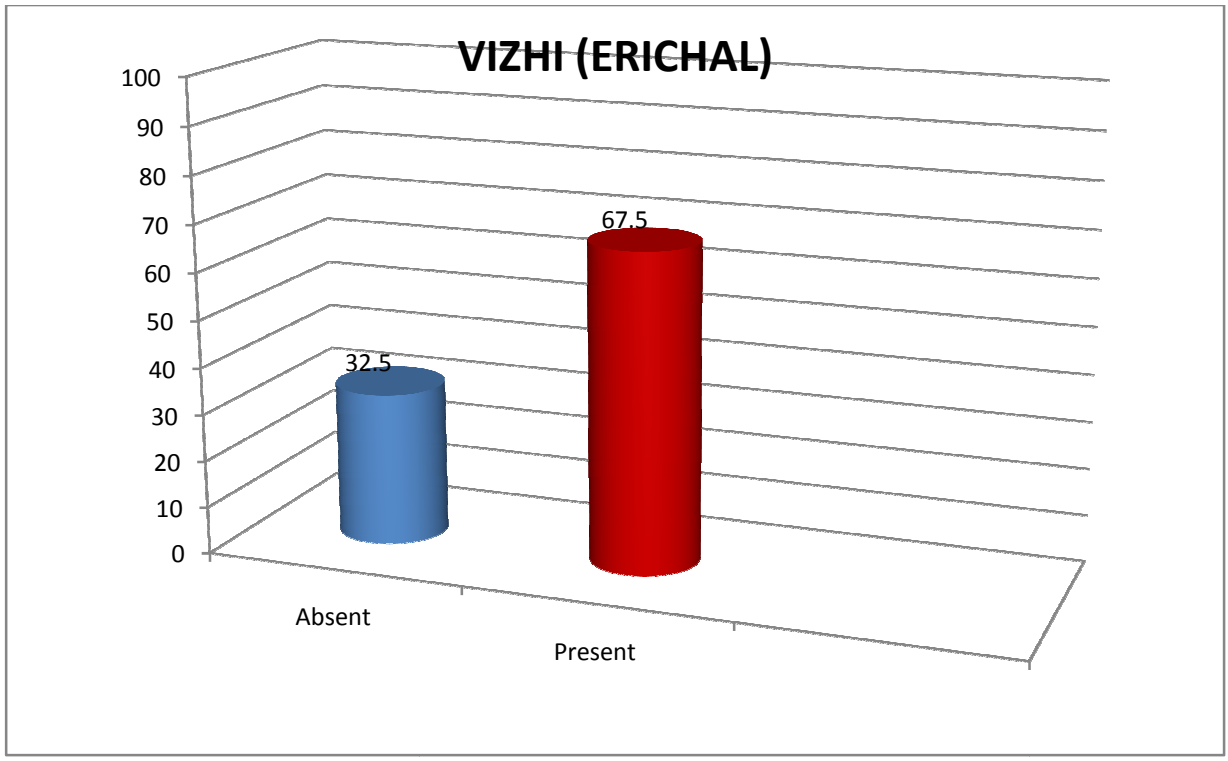


FIG 8: VIZHI(ERICHAL)

Among the 40 cases, only 32.5% had burning sensation of the eyes and the remaining 67.5% were normal.

17. MEIKKURI (VEPPA NILAI)

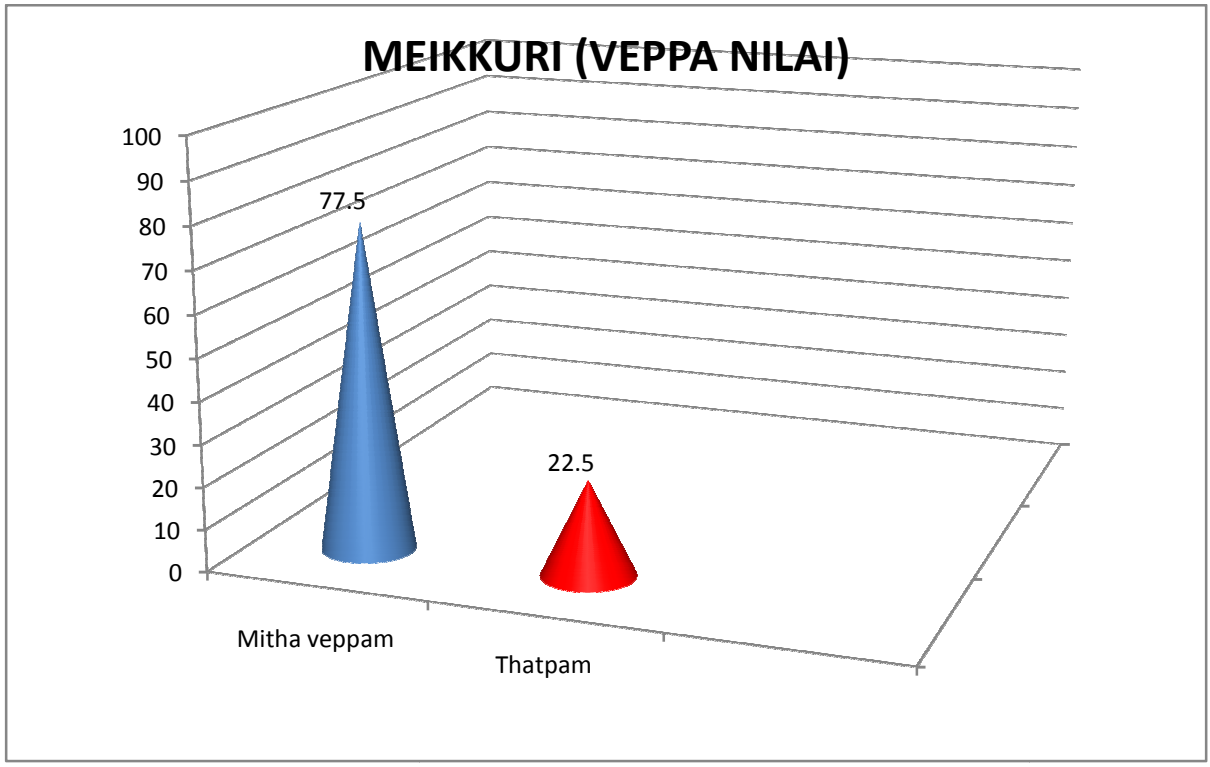


FIG 9:MEIKKURI(VEPPA NILAI)

Among the 40 cases, 77.5% showed mitha veppam and 22.5% showed thatpam while feeling the temperature.

18. MALAM (THANMAI)

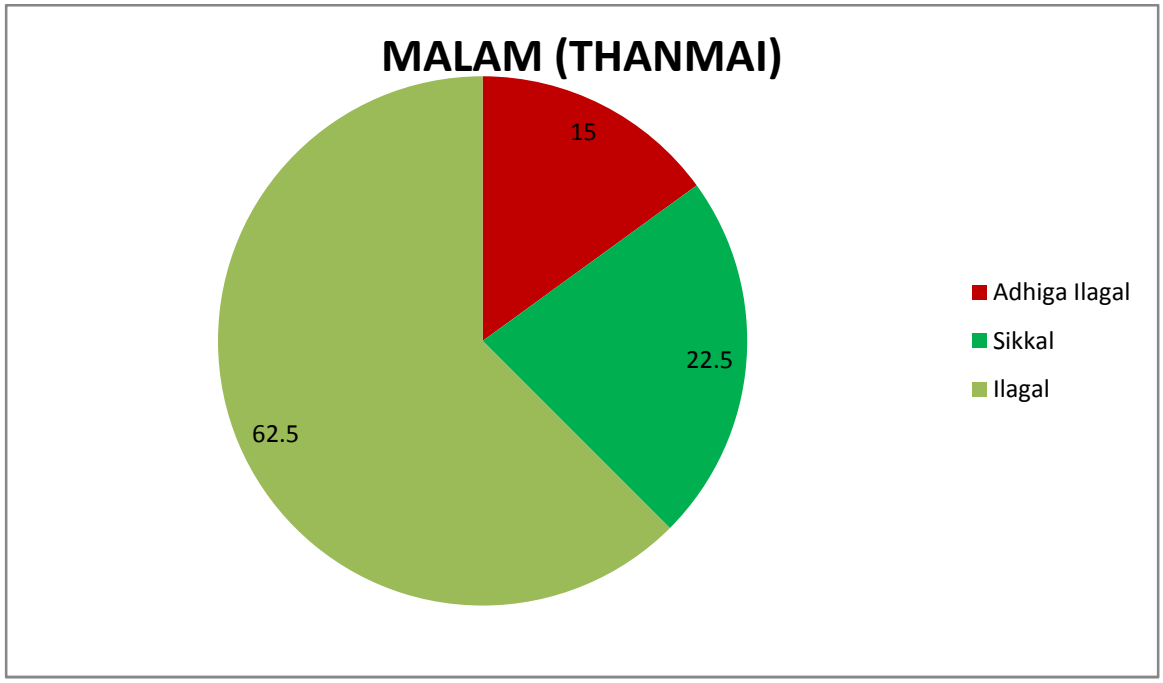


FIG 10: MALAM(THANMAI)

Among the 40 cases, 15% had loose stools, 22.5% had constipation and 62.5% had normal stools.

19. NEERKURI (COLOUR OF THE URINE)

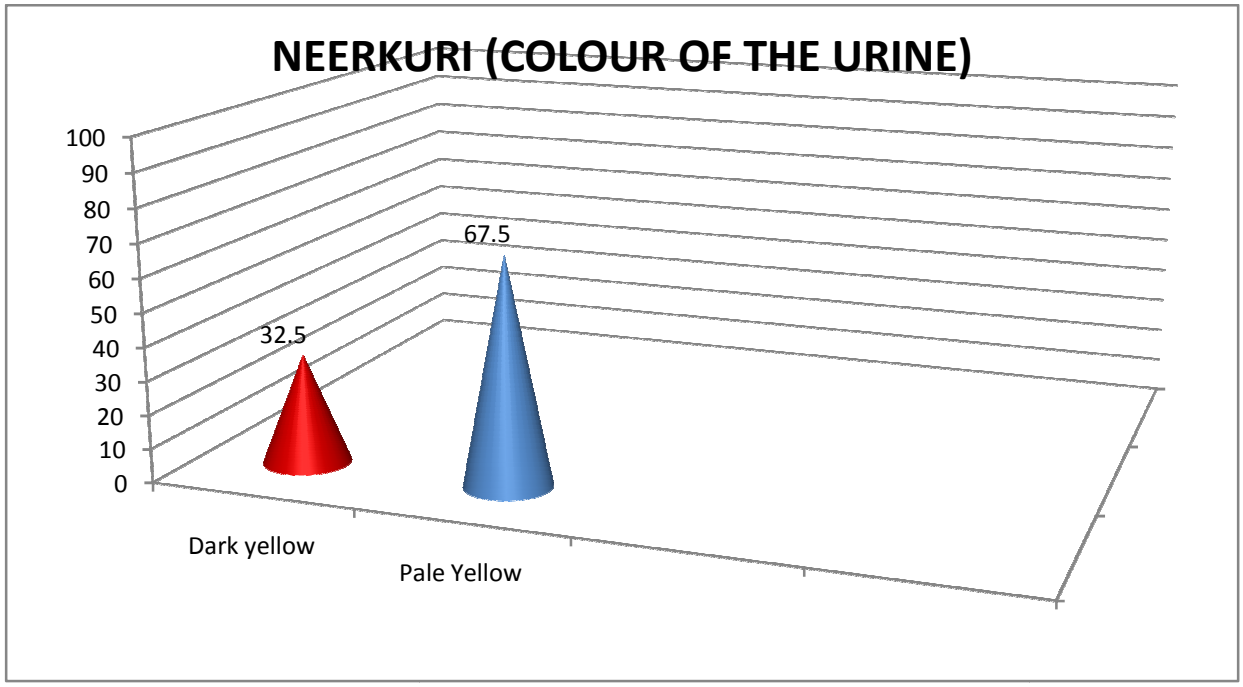


FIG 11: NEERKURI

Among the 40 cases, 32.5% had dark yellow coloured urine and 67.5% had pale yellow coloured urine

20. NEIKKURI

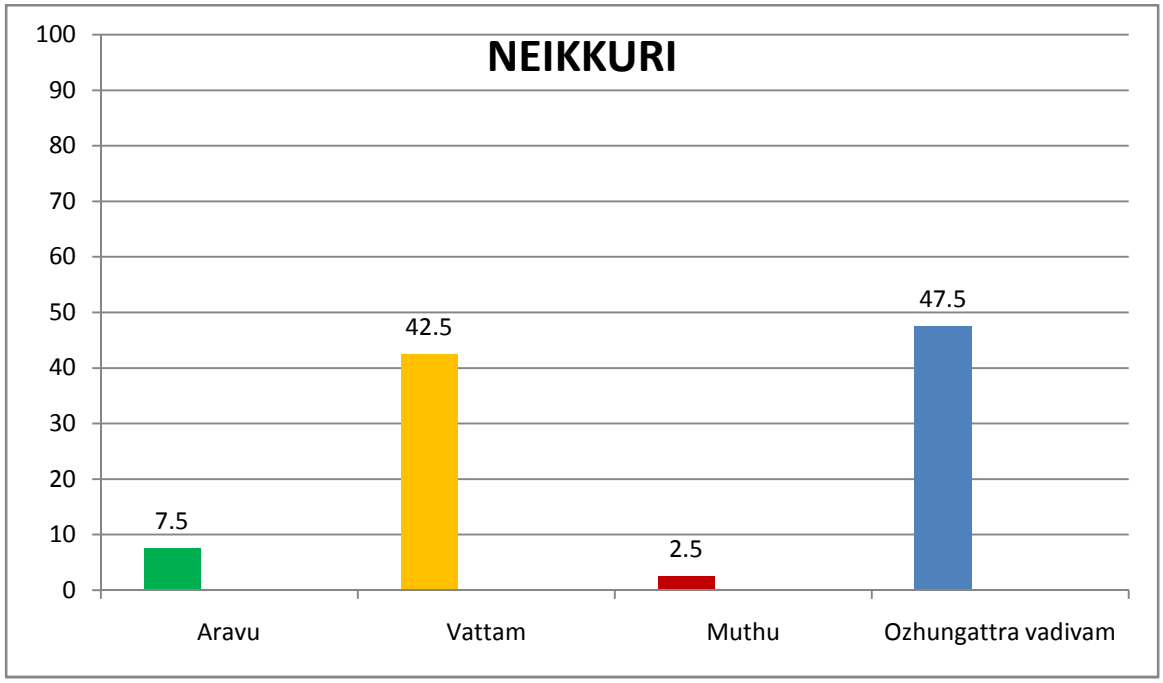


FIG 12: NEIKKURI

Among the 40 cases, 7.5% showed snake like pattern of spreading, 42.5% showed circular pattern of spreading, 2.5% showed pearl like pattern and 47.5% showed irregular pattern of spreading.

21. NAADI NADAI

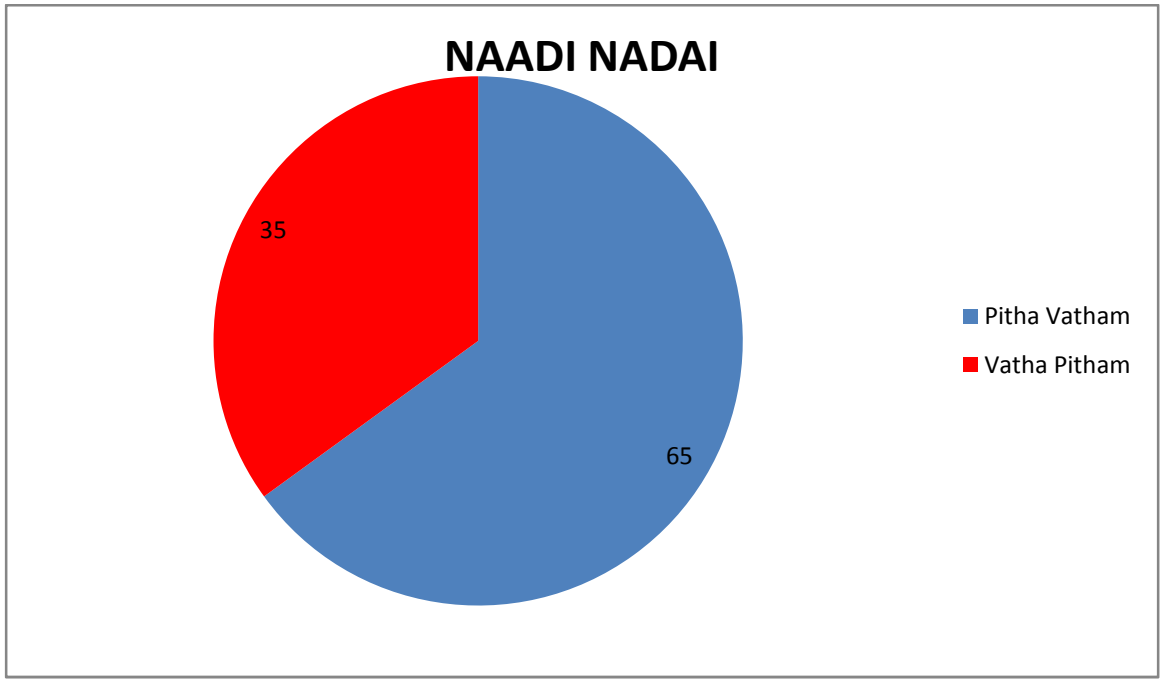


FIG 13: NAADI NADAI

Among the 40 cases, 65% had pitha vatha naadi and 35% had vatha pitha naadi.

22. MANIKKADAI NOOL

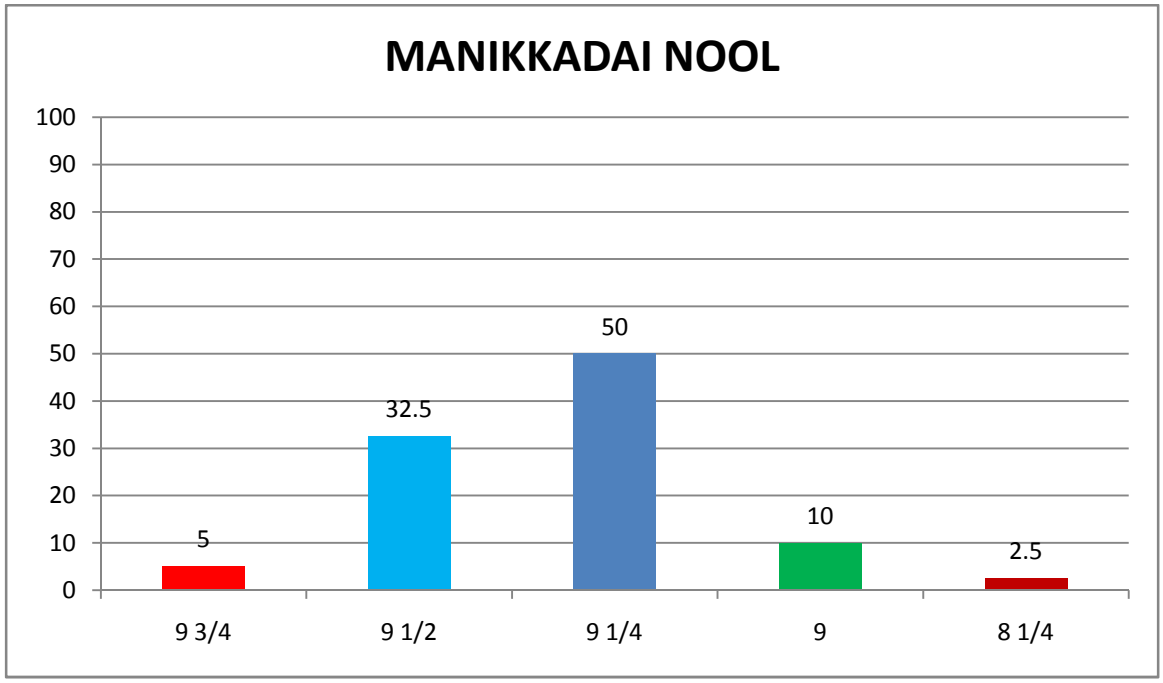


FIG 14: MANIKKADAI NOOL

Among the 40 cases, 5% had 9 ¾ fbs, 32.5% had 9 ½ fbs, 50% had 9 ¼ fbs, 10% had 9 fbs and 2.5% had 8 ¼ fbs.

23. UYIR THATHUKKAL – VALI

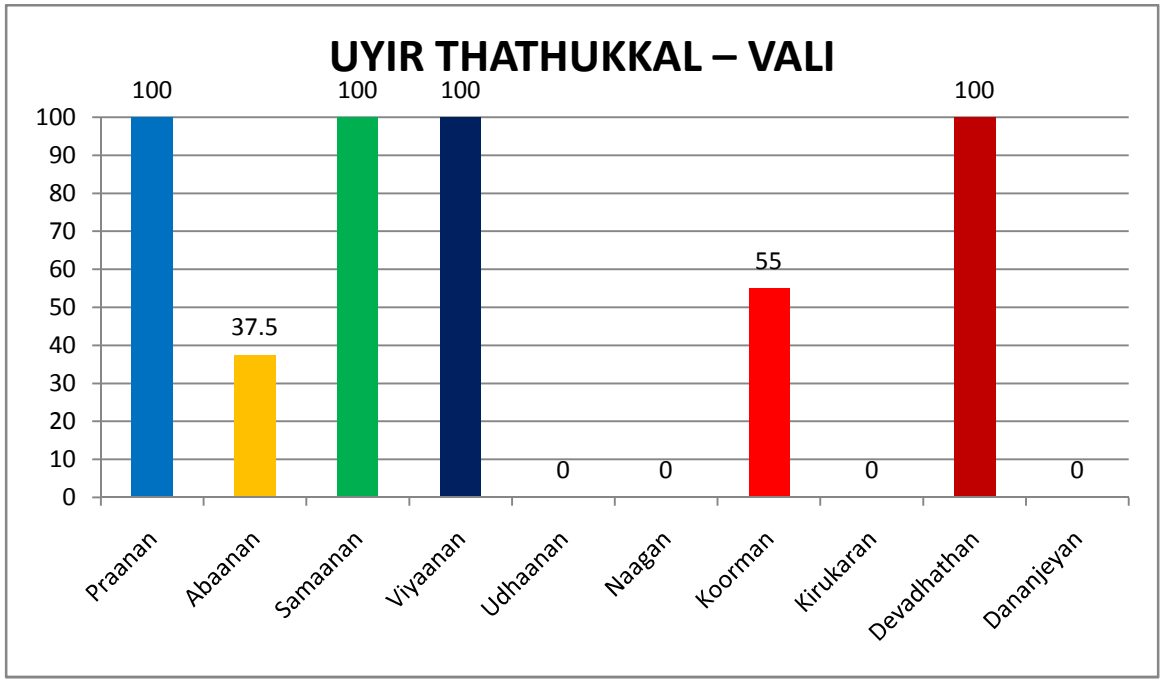


FIG 15: VALI

Among the 40 cases, praanan is affected in 100% of the cases, abaanan is affected in 37.5% of the cases, samaanan is affected in 100% of the cases, koorman is affected in 55% of the cases and devadhathan is affected in 100% of the cases.

24. UYIRTHATHUKKAL – AZHAL

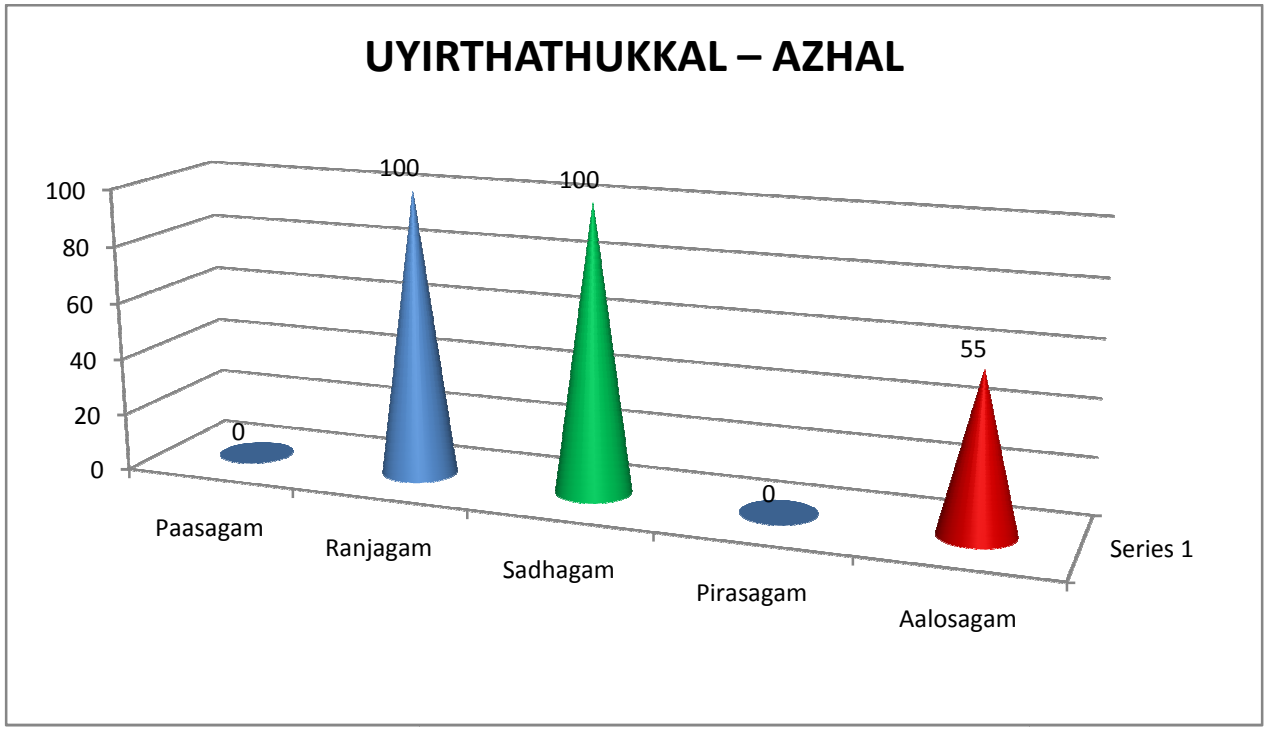


FIG 16: AZHAL

Among the 40 cases, ranjagam is affected in 100% of the cases, sadhagam is affected in 100% of the cases and aalosagam is affected in 55% of the cases.

25. UYIRTHATHUKKAL – IYAM

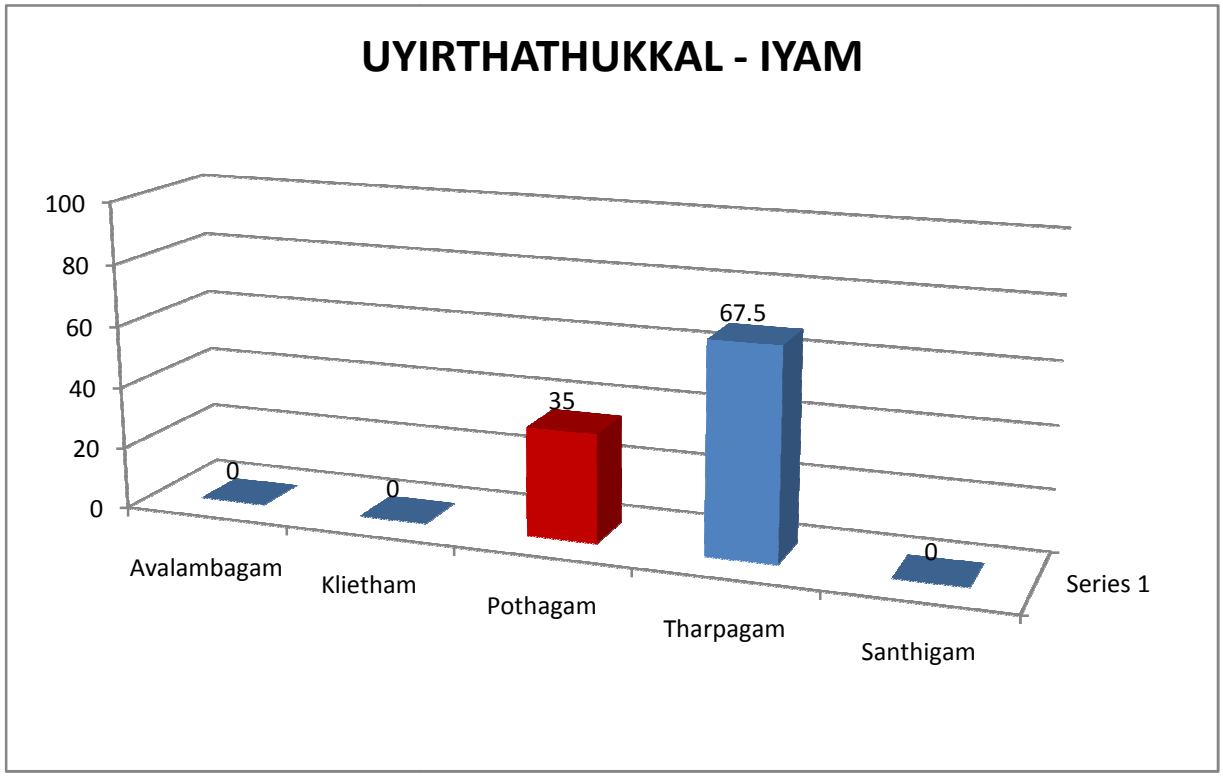


FIG 17: IYAM

Among the 40 cases, podhagam is affected in 35% of the cases and tharpagam is affected in 67.5% of the cases.

26. UDALTHATHUKKAL

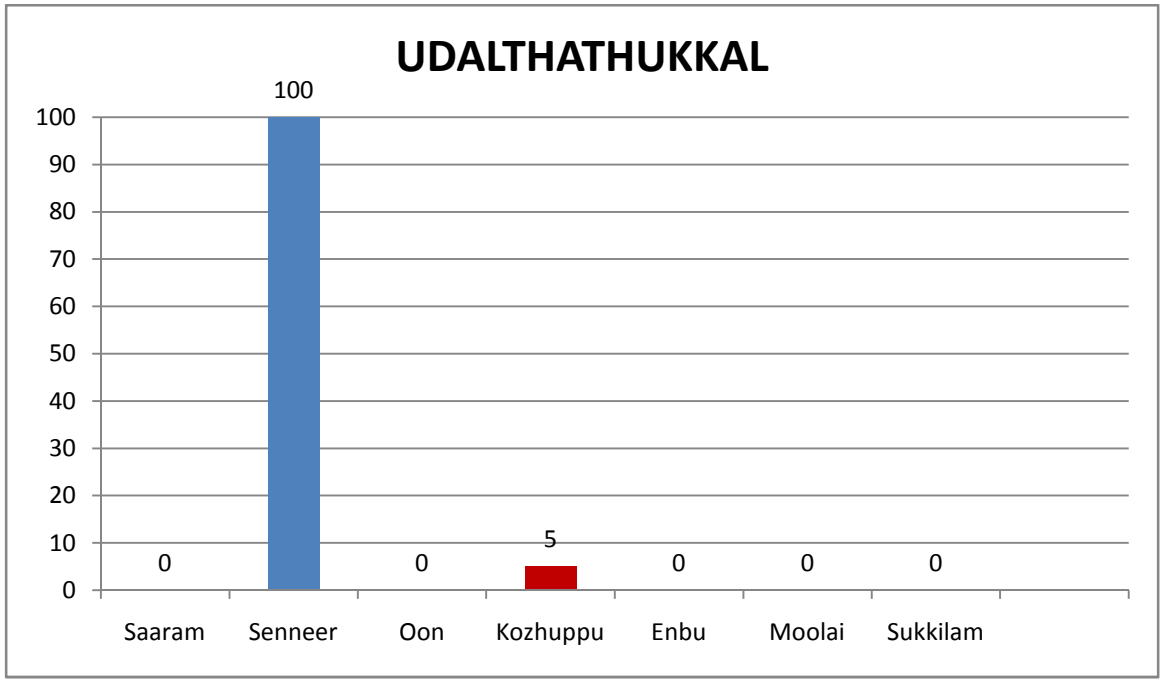


FIG 18: UDAL THATHUKKAL

Among the 40 cases, senneer is affected in 100% of the cases and kozhuppu is affected in 5% of the cases.

TABLE 18 – ENN VAGAI THERVU

S. No.	R. No.	OP No.	Age/ Sex	Naa	Niram	Mozhi	Vizhi	Naadi	Sparasim	Malam	Siruneer		Manikkadai
											Neer Kuri	Nei Kuri	
26	1	9989	62/M	IS	K	SO	P	PV	T	I	IM	Va	9 ½
27	2	35	56/M	IS	K	TO	P	VP	T	I	IM	O	9 ¾
28	3	103	57/F	MP	K	TO	P	PV	MV	I	M	Va	9 ¼
29	4	199	73/M	MP	Ma	SO	V	PV	T	I	IM	O	9 ½
30	5	47	70/M	IS	K	SO	P	PV	T	Iru	IM	O	9 ½
32	6	3694	55/M	IS	Ma	TO	S	PV	MV	Iru	M	O	9 ½
33	7	3754	69/M	IS	Ma	SO	P	PV	MV	I	IM	Va	9 ½
34	8	5507	44/F	IS	Ma	SO	V	PV	T	Iru	M	Va	9 ¼
35	9	5737	54/M	IS	K	TO	P	VP	MV	Iru	M	O	9 ¼
36	10	5800	30/M	IS	Ma	TO	V	VP	MV	I	M	O	9 ½
37	11	7713	52/M	IS	K	TO	S	PV	T	I	M	Va	9
38	12	8644	65/F	IS	K	TO	P	VP	MV	AI	IM	O	9 ¼
39	13	9716	56/M	IS	K	UO	V	VP	MV	Iru	IM	O	9 ½
41	14	1721	55/M	IS	K	TO	P	VP	T	AI	IM	Ar	9 ¼
42	15	1085	55/F	IS	Ma	SO	S	PV	MV	Iru	IM	Va	9
43	16	1827	38/M	IS	K	UO	S	PV	MV	Iru	M	Va	9 ¼
44	17	1828	38/M	MP	Ma	TO	P	PV	MV	I	IM	O	9 ¼
45	18	1975	44/F	IS	Ma	SO	V	PV	MV	I	M	O	9 ¾
46	19	3286	39/F	IS	Ma	TO	V	PV	MV	I	IM	Va	9 ½
47	20	3608	47/M	MP	Ma	SO	V	PV	MV	AI	IM	O	9 ¼
48	21	3863	40/M	MP	K	SO	S	PV	MV	I	IM	Va	9 ¼
49	22	3951	45/F	IS	K	SO	V	VP	MV	I	IM	Va	9 ¼
50	23	3973	64/F	MP	K	SO	P	PV	MV	Iru	IM	O	9 ½
51	24	4128	51/M	IS	Ma	SO	P	PV	MV	I	IM	O	9 ¼
53	25	5318	53/F	IS	Ma	SO	V	VP	T	I	IM	O	9 ¼
54	26	5581	60/M	MP	K	TO	S	PV	T	I	M	Va	9 ½

S. No.	R. No.	OP No.	Age/ Sex	Naa	Niram	Mozhi	Vizhi	Naadi	Sparasim	Malam	Siruneer		Manikkadai
											Neer Kuri	Nei Kuri	
55	27	7864	37/M	IS	K	SO	S	PV	MV	AI	IM	O	9 ¼
56	28	886	43/M	MP	Ma	SO	P	PV	MV	I	M	Ar	9
57	29	5404	59/M	IS	K	SO	P	PV	MV	I	M	M	9 ½
58	30	5725	40/F	IS	Ma	SO	V	PV	MV	AI	IM	O	9 ¼
59	31	8179	50/F	IS	K	SO	V	VP	MV	I	M	Va	9 ¼
60	32	9024	51/F	IS	Ma	SO	S	PV	MV	I	IM	Va	9 ¼
61	33	9083	44/F	IS	V	SO	V	VP	MV	I	IM	Va	9 ¼
62	34	1623	39/F	IS	Ma	SO	V	PV	MV	I	IM	Va	9 ½
63	35	4909	42/M	IS	V	SO	P	VP	MV	I	IM	O	9 ¼
64	36	4910	55/F	MP	Ma	SO	V	VP	MV	AI	IM	Ar	9
65	37	5115	53/F	IS,Ve	Ma	SO	V	VP	MV	Iru	M	O	9 ¼
66	38	8177	60/M	IS,Ve	Ma	SO	S	PV	MV	I	IM	Va	9 ½
67	39	4618	49/M	IS	K	SO	S	PV	MV	I	IM	O	9 ½
68	40	6545	51/M	IS	Ma	SO	P	VP	MV	I	IM	Va	9 ¼

IS – IlaMSivappu, MP – Maa Padithal, Ve – Vedippu, K – Karuppu, M – Manjal, V – Venmai, Ma – Maaniram, S – Sivappu, P – Pazhuppu, IM – Ila Manjal, SO – Sama Oli, TO – Thaazhntha Oli, UO – Uratha Oli, PV – Pitha Vatham, VP – Vatha Pitham, MV – Mitha Veppam, T – Thatpam, I – Ilagal, Iru – Irugal, AI – Adhiga Ilagal, Ar – Aravu, Va – Vattam, M – Muthu,
O – Ozhungattra vadivam.

TABLE 19 : LABORATORY INVESTIGATION

S. No.	R. No.	OP No.	Age/ Sex	BLOOD														URINE		
				TC	DC			ESR (1hr) mm	Hb gm %	SUGAR mg/dl			UREA mg/dl	LIPID PROFILE mg/dl				Albumin	Sugar	Deposits
					P %	L %	E %			F	R	PP		Total CHO	HDL	LDL	TGL			
26	1	9989	62/M	8200	55	40	5	12	13		87		28	187	21	138	139	NIL	NIL	NIL
27	2	35	56/M	7900	61	36	3	7	10		108		23	256	30	191	176	NIL	NIL	NIL
28	3	103	57/F	7600	62	33	5	15	9		87		28	295	57	212	131	NIL	NIL	NIL
29	4	199	73/M	8800	43	5	5	42	12			137	26	203	45	148	145	NIL	NIL	NIL
30	5	47	70/M	9400	67	28	5	53	13		83		29	184	30	140	81	NIL	NIL	4-5E
32	6	3694	55/M	9200	67	29	4	20	13.4		87		28	186	47	104	176	NIL	NIL	Occ.E
33	7	3754	69/M	6900	52	45	3	15	10		130		34	120	54	51	77	NIL	NIL	1-4E
34	8	5507	44/F	7600	62	34	4	40	10.8			130	20	181	54	106	105	NIL	NIL	NIL
35	9	5737	54/M	7200	63	34	3	12	10.4		108		23	182	58	118	150	NIL	NIL	NIL
36	10	5800	30/M	8200	60	35	5	7	11.8		83		29	224	66	127	154	NIL	NIL	NIL
37	11	7713	52/M	7400	63	35	2	12	10			169	23	178	42	139	72	NIL	NIL	1-5P
38	12	8644	65/F	8400	51	45	4	26	9.8	98			26	184	52	126	166	NIL	NIL	1-4P
39	13	9716	56/M	8900	57	39	4	15	12			122	26	182	36	108	188	NIL	NIL	Occ.E
41	14	1721	55/M	8500	60	36	4	20	12.6		120		28	185	67	109	141	NIL	NIL	NIL
42	15	1085	55/F	8500	49	46	5	45	10.2		89		34	177	30	134	66	NIL	NIL	NIL
43	16	1827	38/M	9200	63	31	6	20	12.4		90		30	168	29	107	159	NIL	NIL	Occ.E
44	17	1828	38/M	9800	76	27	7	45	13		127		20	242	38	156	241	NIL	NIL	Occ.E
45	18	1975	44/F	8000	63	33	4	38	9.8			147	23	244	47	109	201	NIL	NIL	Occ.P
46	19	3286	39/F	6600	54	41	5	5	8.6		80		18	184	54	137	153	NIL	NIL	0-4P
47	20	3608	47/M	7300	57	40	3	15	8.6		93		27	180	53	122	146	NIL	NIL	4-6E 0-3P
48	21	3863	40/M	8300	61	35	4	5	13.5		90		24	164	34	108	113	NIL	NIL	1-3P
49	22	3951	45/F	8400	61	35	4	10	10.4		98		24	226	65	144	84	NIL	NIL	0-5P
50	23	3973	64/F	7000	51	44	5	24	8.6		95		38	154	48	85	104	NIL	NIL	4-6E
51	24	4128	51/M	6400	72	23	5	5	9	97			33	184	37	118	142	NIL	NIL	Occ.E
53	25	5318	53/F	4900	55	38	7	28	11.7	95			21	249	30	187	160	NIL	NIL	Occ.P
54	26	5581	60/M	8500	56	40	4	30	12.8		150		25	177	57	106	159	NIL	NIL	1-5E

S. No.	R. No.	OP No.	Age/ Sex	BLOOD														URINE		
				TC	DC			ESR (1hr) mm	Hb gm %	SUGAR mg/dl			UREA mg/dl	LIPID PROFILE mg/dl				Albumin	Sugar	Deposits
					P %	L %	E %			F	R	PP		Total CHO	HDL	LDL	TGL			
55	27	7864	37/M	7600	62	34	4	5	14		97		21	175	47.3	98.3	147	NIL	NIL	1-3E
56	28	886	43/M	8900	60	36	4	12	13.6		137		27	209	56	139	67	NIL	NIL	Occ.E
57	29	5404	59/M	9000	42	54	4	20	12.4		84		28	195	46	151	92	NIL	NIL	Occ.E
58	30	5725	40/F	8400	54	42	4	6	10.2	87			14	199	43	139	81	NIL	NIL	1-2P 2-3E
59	31	8179	50/F	11000	63	32	5	58	12.1		89		23	183	52	123	112	NIL	NIL	NIL
60	32	9024	51/F	9700	67	29	4	40	12.7		99		28	189	44	122	116	NIL	NIL	2-3E
61	33	9083	44/F	9200	67	28	5	15	13		107		29	164	45	98	105	NIL	NIL	1-2P
62	34	1623	39/F	7000	60	34	6	30	12.2	96			15	153	39	96	85	NIL	NIL	1-2P Occ.E
63	35	4909	42/M	7700	52	31	7	12	16		108		28	198	45	138	73	NIL	NIL	NIL
64	36	4910	55/F	11000	52	31	7	12	16		87		27	189	41	133	77	NIL	NIL	NIL
65	37	5115	53/F	5600	62	34	4	15	13.5	89			24	203	58	123	109	NIL	NIL	Occ.P
66	38	8177	60/M	10500	71	26	3	25	14.3		119		33	159	42	103	63	NIL	NIL	1-3E
67	39	4618	49/M	8300	57	38	5	12	16.6		87		24	161	47	104	97	NIL	NIL	Occ.P
68	40	6545	51/M	12200	77	18	5	65	14		88		20	216	40	143	163	NIL	NIL	Occ.E

E – Epithelial cell, **P –** Pus cell, **Occ** - Occasional

NEIKKURI PHOTOS

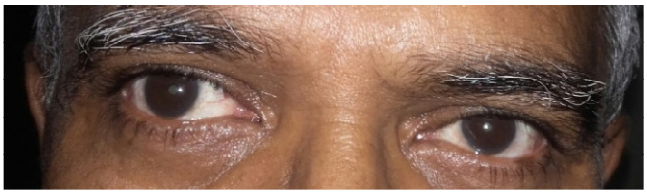
Patient Reg. No. : 4
OP No. : 199
Date : 24/7/15
Age/Sex : 73/M

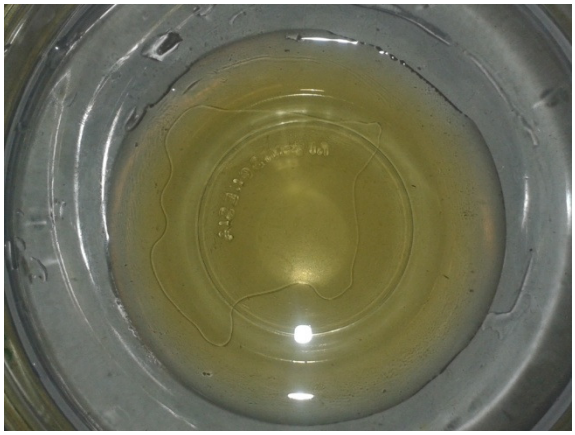
Neikkuri pattern : Ozhungattra vadivam

Manikkadai : 9 ¼

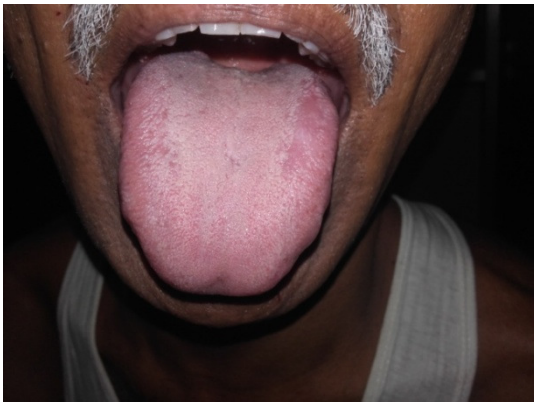
Naadi : Pitha vatham

Vizhi – Venmai

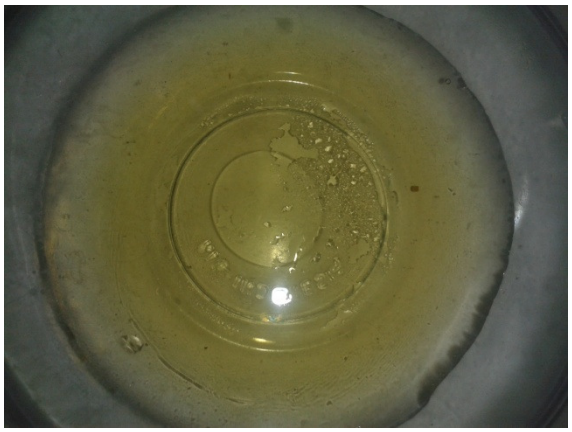




Naa – Maa padithal



31/7/15 – Neikkuri Pattern - Vattam



7/8/15 – Neikkuri Pattern - Vattam

NEIKKURI PHOTOS

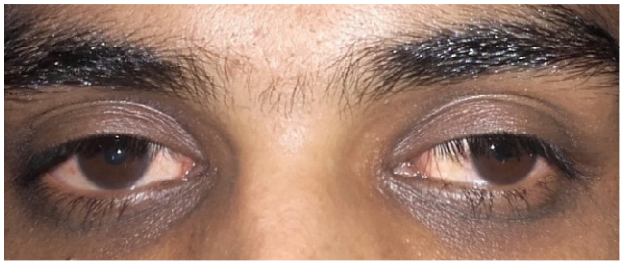
Patient Reg. No. : 17
OP No. : 1828
Date : 7/1/16
Age/Sex : 38/M

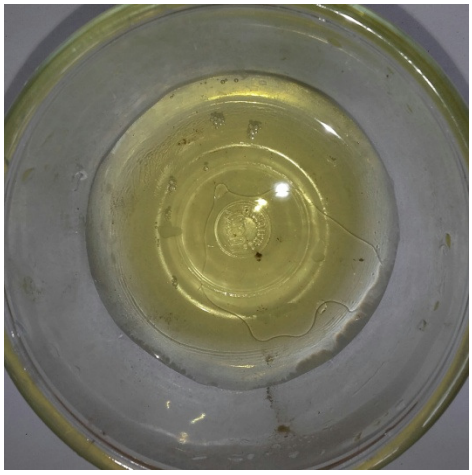
Neikkuri pattern : Ozhungattra vadivam

Manikkadai : 9 ¼

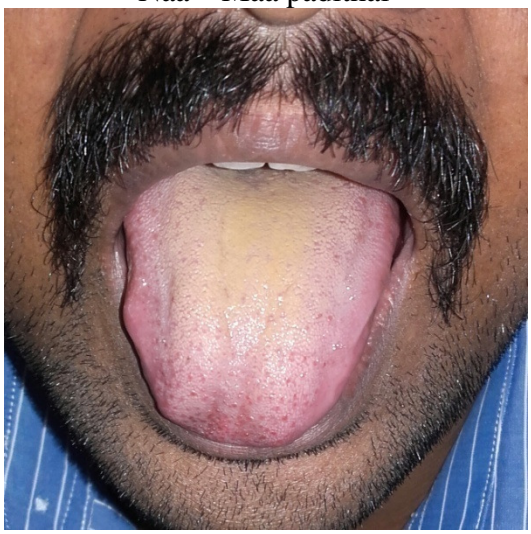
Naadi : Pitha vatham

Vizhi – Pazhuppu

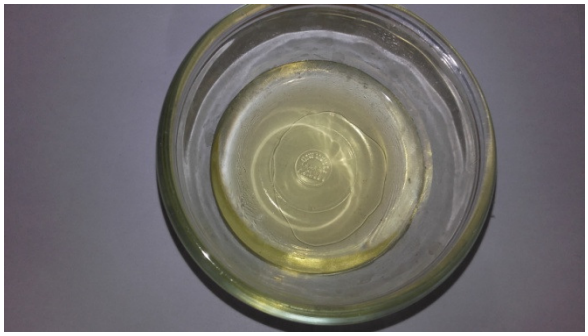




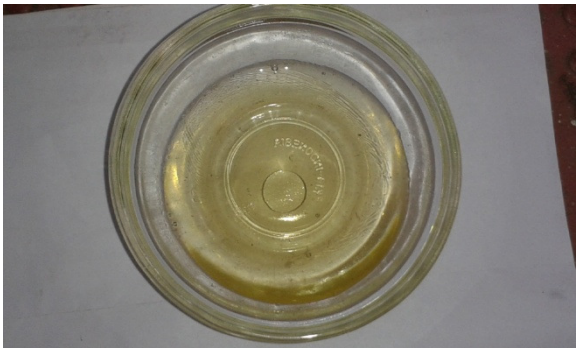
Naa – Maa padithal



14/1/16 – Neikkuri Pattern – Ozhungattra vadivam



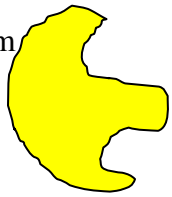
21/1/16 – Neikkuri Pattern – Vattam



NEIKKURI PHOTOS

Patient Reg. No. : 20
OP No. : 3608
Date : 13/1/16
Age/Sex : 47/M

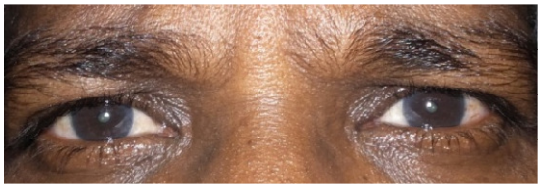
Neikkuri pattern : Ozhungattra vadivam



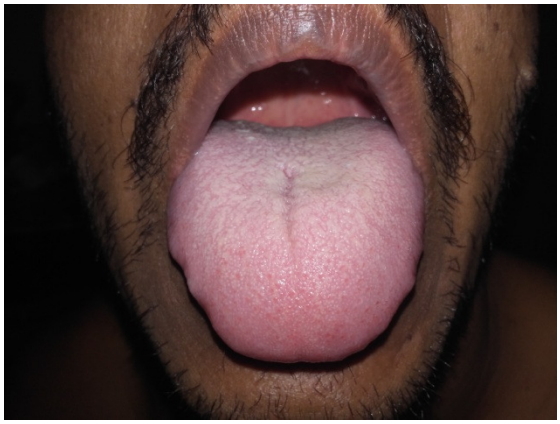
Manikkadai : 9 ¼

Naadi : Pitha vatham

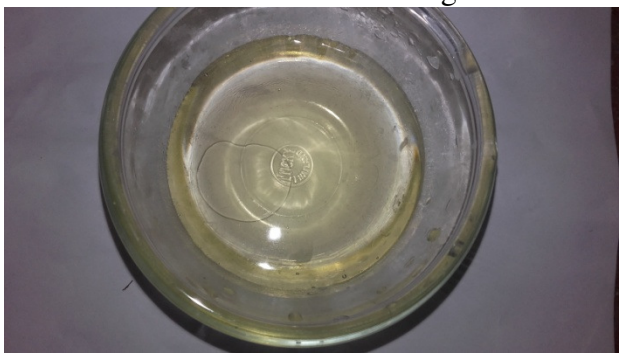
Vizhi - Venmai



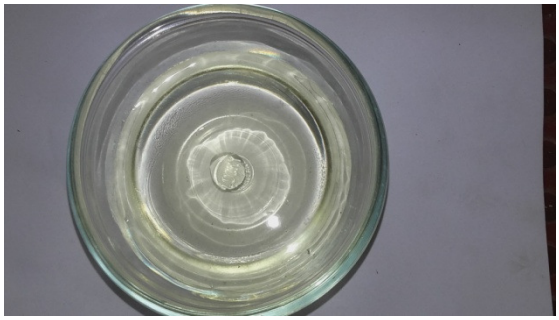
Naa – Maa Padithal



20/1/16 – Neikkuri Pattern – Ozhungattra Vadivam



27/1/16 – Neikkuri Pattern - Vattam



NEIKKURI PHOTOS

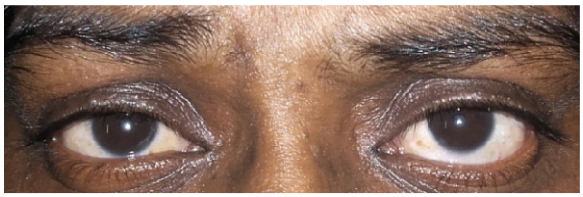
Patient Reg. No. : 22
OP No. : 3951
Date : 14/1/16
Age/Sex : 45/F

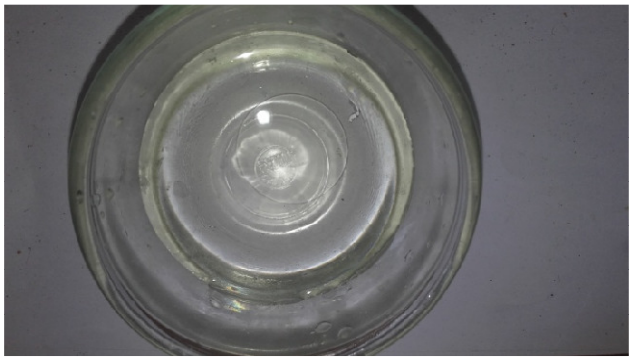
Neikkuri pattern : Vattam

Manikkadai : 9 ¼

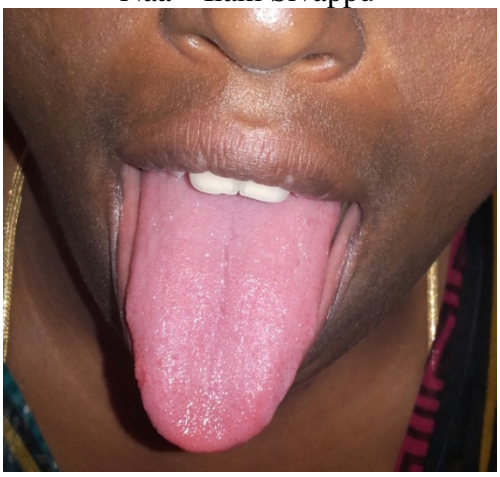
Naadi : Vatha pitham

Vizhi – Venmai

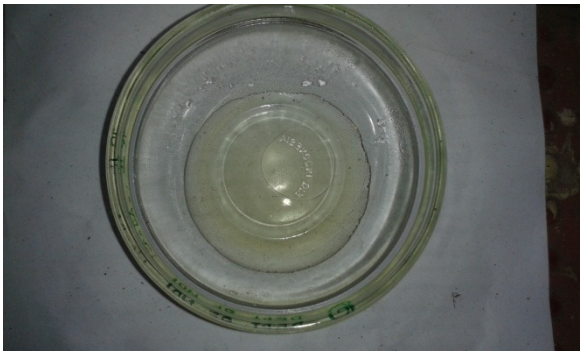




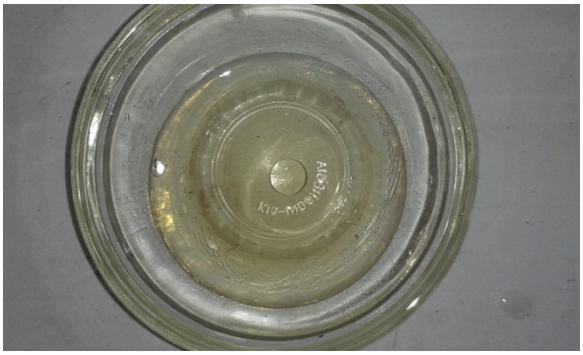
Naa – Ilam Sivappu



21/1/16 – Neikkuri Pattern - Vattam



28/1/16 – Neikkuri Pattern - Vattam

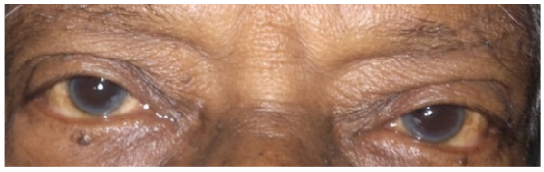
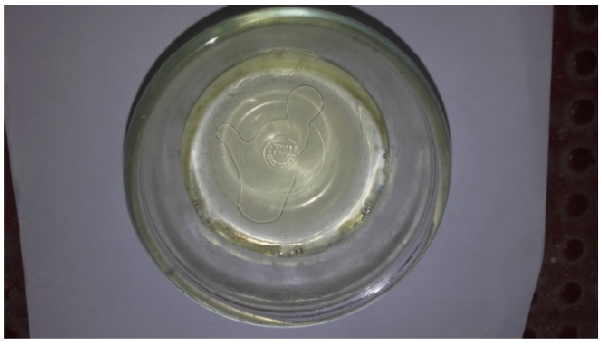
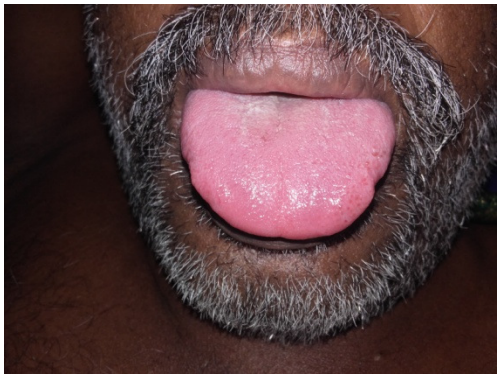
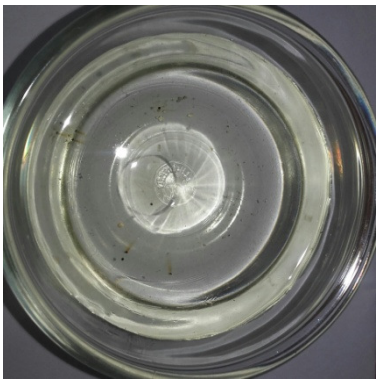


NEIKKURI PHOTOS

<table>
<tr>
<td>Patient Reg. No. : 24
OP No. : 4128
Date : 16/1/16
Age/Sex : 51/M
_____

Neikkuri pattern : Ozhungattra vadivam

Manikkadai : 9 ¼

Naadi : Pitha vatham
  </td>
<td>Vizhi – Pazhuppu
  </td>
</tr>
<tr>
<td>  </td>
<td>Naa – Ilam Sivappu
  </td>
</tr>
<tr>
<td>23/1/16 – Neikkuri pattern – Vattam
  </td>
<td>30/1/16 – Neikkuri pattern - Vattam
  </td>
</tr>
</table>

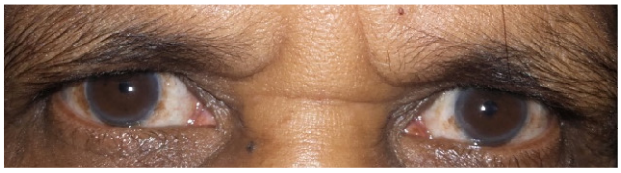
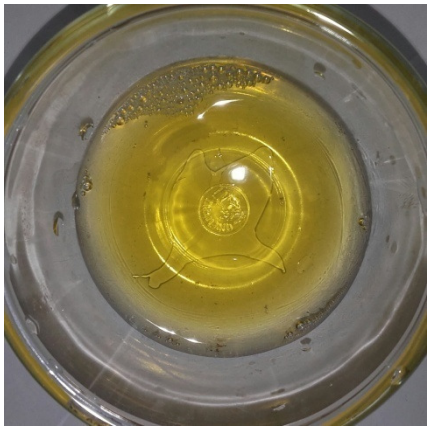
NEIKKURI PHOTOS

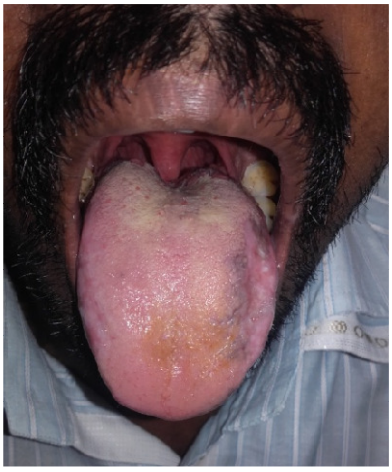
<table>
<tr>
<td>Patient Reg. No. : 28
OP No. : 886
Date : 13/2/16
Age/Sex : 43/M
_____

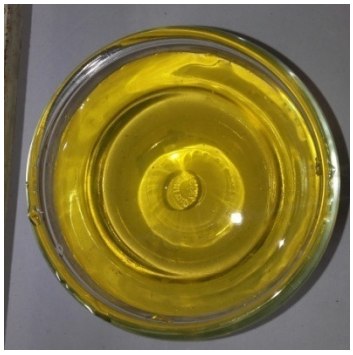
Neikkuri pattern : Ozhungattra vadivam

Manikkadai : 9

Naadi : Pitha vatham  </td>
<td>Vizhi - Pazhuppu

  </td>
</tr>
<tr>
<td>  </td>
<td>Naa – Maa Padithal

  </td>
</tr>
<tr>
<td>20/2/16 – Neikkuri Pattern – Ozhungattra Vadivam
  </td>
<td>27/2/16 – Neikkuri Pattern - Vattam

  </td>
</tr>
</table>

NEIKKURI PHOTOS

Patient Reg. No. : 29
OP No. : 5404
Date : 18/2/16
Age/Sex : 59/M

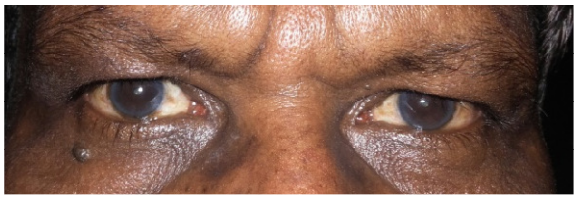
_____

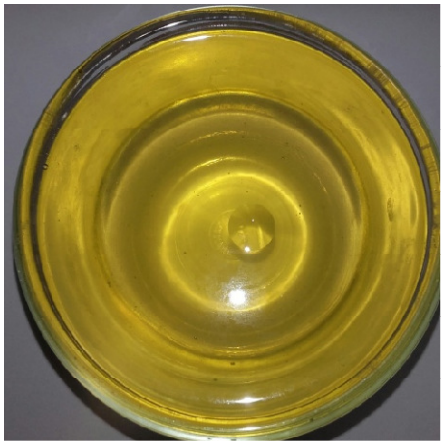
Neikkuri pattern : Muthu

Manikkadai : 9 ½

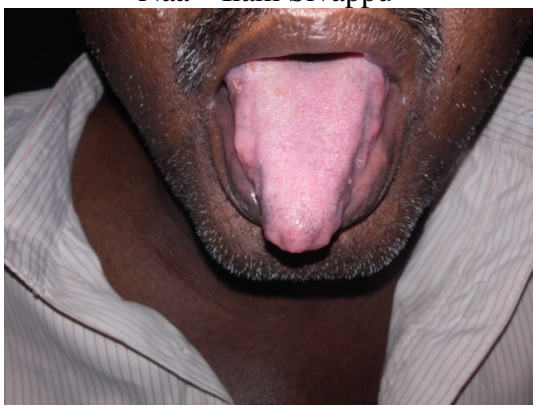
Naadi : Pitha vatham

Vizhi - Pazhuppu

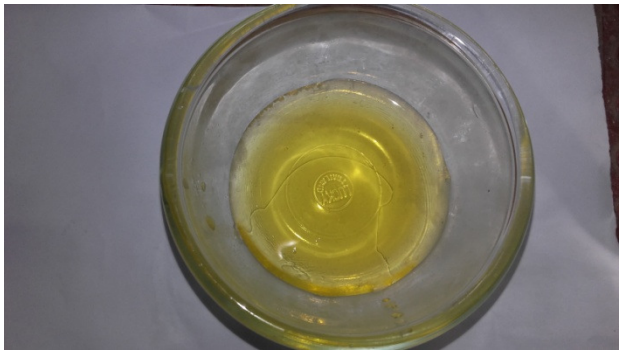




Naa – Ilam Sivappu



25/2/16 – Neikkuri Pattern – Ozhungattra vadivam



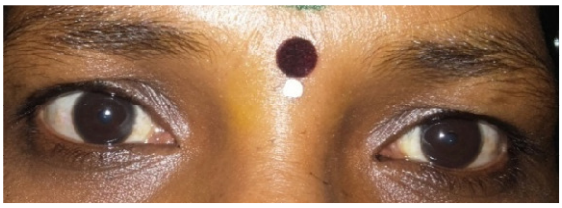
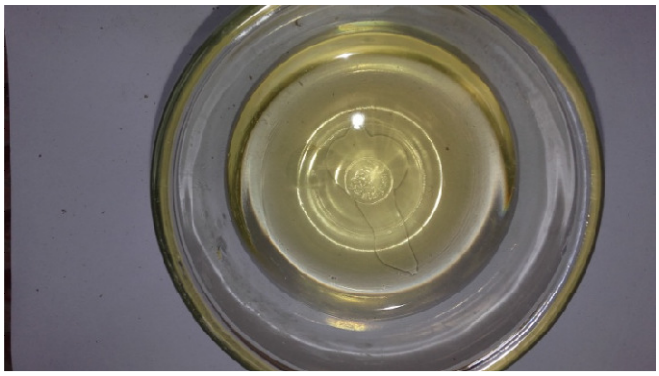
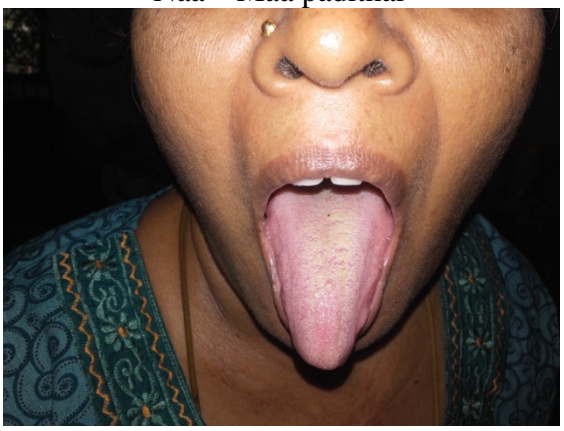
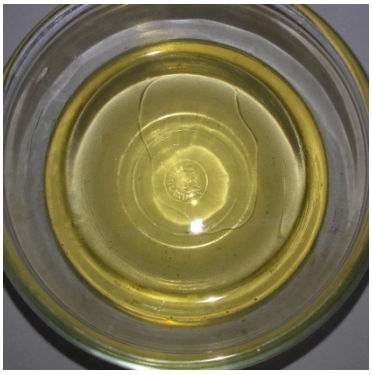
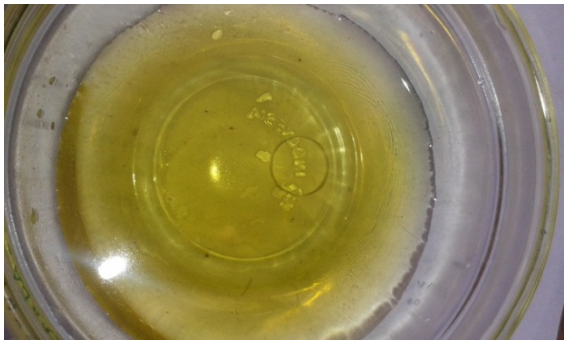
4/3/16 – Neikkuri Pattern – Vattam

NEIKKURI PHOTOS

<table>
<tr>
<td>Patient Reg. No. : 36
OP No. : 4910
Date : 17/3/16
Age/Sex : 55/F
_____

Neikkuri pattern : Aravu

Manikkadai : 9

Naadi : Vatha pitham
  </td>
<td>Vizhi - Venmai
  </td>
</tr>
<tr>
<td>  </td>
<td>Naa – Maa padithal
  </td>
</tr>
<tr>
<td>24/3/16 – Neikkuri Pattern – Ozhungattra vadivam
  </td>
<td>31/3/16 – Neikkuri Pattern - Vattam
  </td>
</tr>
</table>

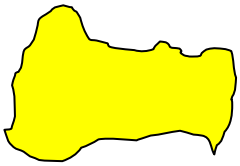
NEIKKURI PHOTOS

Patient Reg. No. : 37
OP No. : 5115
Date : 17/3/16
Age/Sex : 53/F

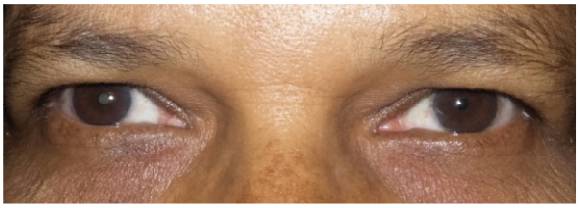
Neikkuri pattern : Ozhungattra vadivam

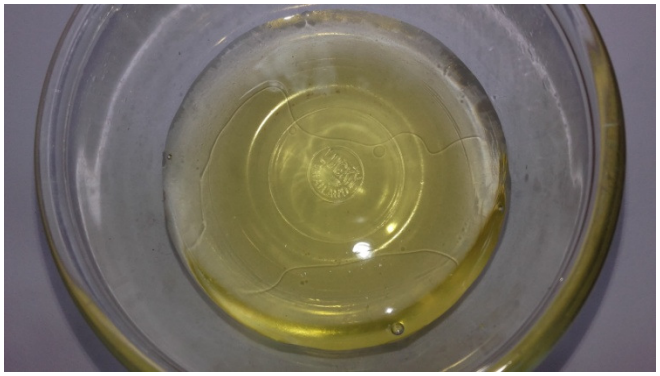
Manikkadai : 9 ¼

Naadi : Vatha pitham

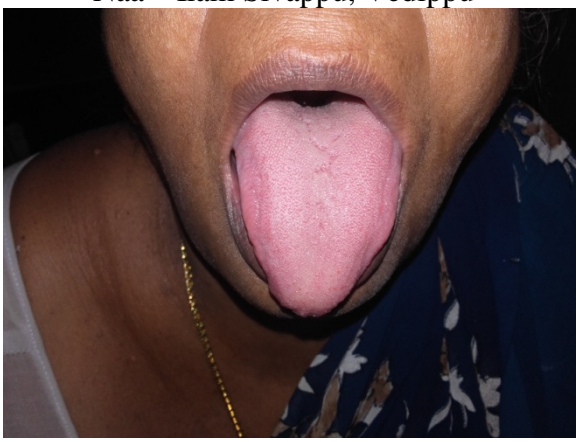


Vizhi - Venmai

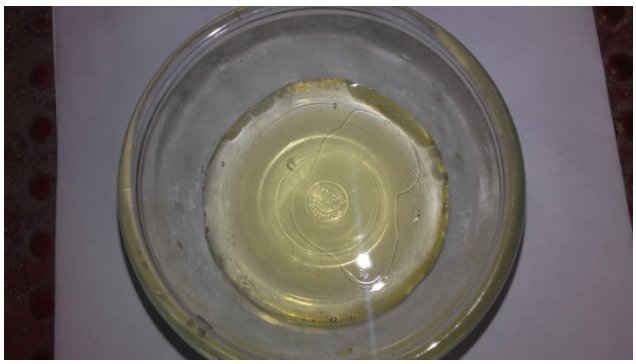




Naa – Ilam Sivappu, Vedippu



24/3/16 – Neikkuri Pattern – Ozhungattra Vadivam



31/3/16 – Neikkuri Pattern - Vattam

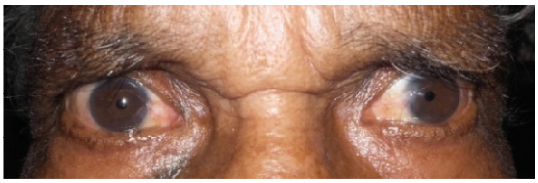
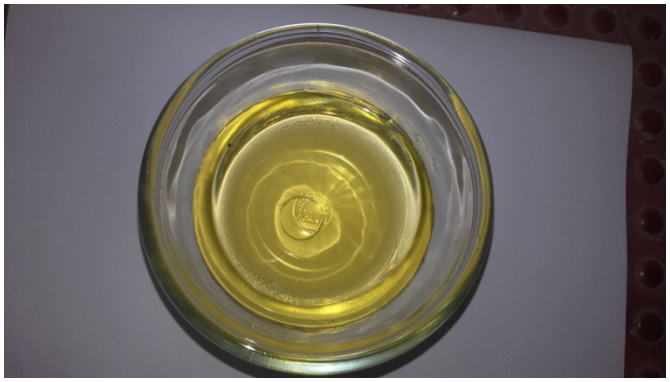
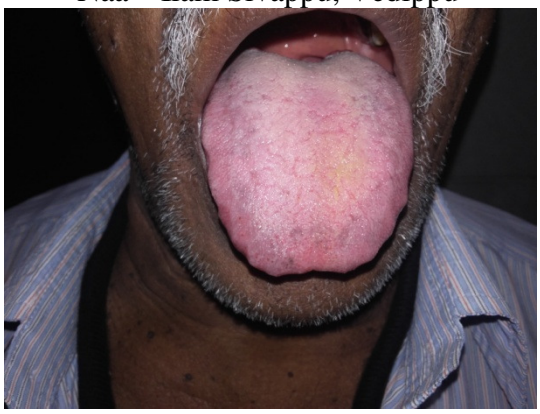
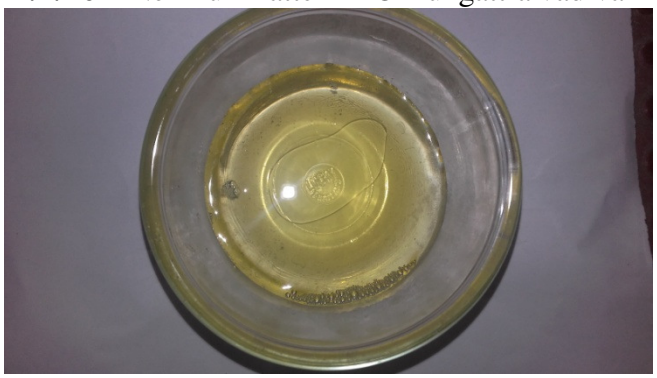
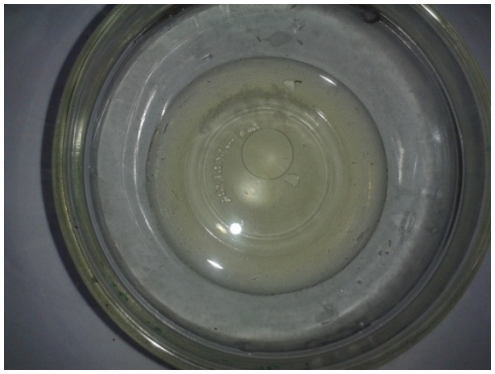
NEIKKURI PHOTOS

<table>
<tr>
<td>Patient Reg. No. : 38
OP No. : 8177
Date : 28/3/16
Age/Sex : 60/M
_____

Neikkuri pattern : Vattam

Manikkadai : 9 ½

Naadi : Pitha vatham</td>
<td>Vizhi - Sivappu

  </td>
</tr>
<tr>
<td>  </td>
<td>Naa – Ilam Sivappu, Vedippu
  </td>
</tr>
<tr>
<td>4/4/16 – Neikkuri Pattern – Ozhungattra vadivam
  </td>
<td>11/4/16 – Neikkrui Pattern - Vattam
  </td>
</tr>
</table>

HITECH DIAGNOSTIC CENTRE
Multi Speciality Reference Laboratory
Central Lab
1, Millers Road, Kilpauk, Chennai-10.
Tel : 4291 9999
CT Scan, LAB & Molecular Diagnostics
13, Dr. Nair Road, T.Nagar, Chennai-17
Tel : 4293 8200
Web : www.hitechlabsindia.com
An ISO 9001:2008 Certified Organisation
MYLAPORE 4207 4934 | SALIGRAMAM 4554 2183 | ANNA NAGAR 4261 2741 | TAMBARAM 4315 9190 | WASHERMENPET 4204 9452 | MKB NAGAR 2552 0015 | AMBATTUR 4208 6905 | PERAVALLUR 4278 9603 | VILLIVAKKAM 4355 4801 | TRIPLICANE 4351 8505 | ADYAR 4558 7973 | MADIPAKKAM 2247 5071 | TIRUVALLUR 2766 3878

Patient : P1845262 **Mr. MOHANA RANGAM (73/M)**
SID.No. : **102697**
Branch : **KILPAUK**
Address :

Ph :9150084100

Date :18/07/2015
Rec Time :08:09:22
Rpt Date :18/07/2015
Rpt Time :12:03:41
Page # :1 / 3
Final report

Referrer : **Dr.BABU.K.S B.SC.,MS(ENT)DLO.,FRSH**

TEST REPORT

Test	Result	Biological Reference Interval
BLOOD - BIOCHEMISTRY		
GLUCOSE (FASTING)	: 92 mg/dl	74 - 99 mg/dl : Normal. 100 - 110 mg/dl: IFG/Good Controle 110 - 126 mg/dl: IFG/Fair Controle > 126 mg/dl : DM / Poor Controle IFG- Impaired Fasting Glucose. Pls do GTT to confirm Diagnosis.
Specimen : FLUORIDE PLASMA		
Method : Hexokinase		
UREA - SERUM	: 16.3 mg/dl	17 - 43 mg/dl
Method : GLDH/Urease		
CREATININE - SERUM	: 0.61 mg/dl	Premature Neonates : 0.29 - 1.04 mg/dl Full Term Neonates : 0.24 - 0.85 mg/dl 2 - 12 Month : 0.17 - 0.42 mg/dl 1 - 3 yrs : 0.24 - 0.41 mg/dl 3 - 5 yrs : 0.31 - 0.47 mg/dl 5 - 7 yrs : 0.32 - 0.59 mg/dl 7 - 9 yrs : 0.40 - 0.60 mg/dl 9 - 11 yrs : 0.39 - 0.73 mg/dl 11 -13 yrs : 0.53 - 0.79 mg/dl 13 -15 yrs : 0.57 - 0.87 mg/dl Adult :- Male : 0.7-1.2 mg/dl Female : 0.5-0.9 mg/dl
Method : Jaffe's Kinetic		
LIPID PROFILE		
Specimen : SERUM		
Total Cholesterol :	203 mg/dl	NCEP guidelines ATP III classification (Coronary heart disease risk) Child(upto19 yrs) < 170 mg/dl : Desirable 170 - 199 mg/dl : Borderline High
Method : Enzymatic/CHOD/POD		

Mrs. Malini Parasuraman M.Sc., Chief Biochemist | Dr. Radhi Lawrence AB (Path) Chief Pathologist | Dr. Sp. Ganesan MBBS, DCP Medical Director

PLEASE SEE REVERSE FOR MORE INFORMATION

Patient : P1845262 **Mr. MOHANA RANGAM (73/M)**

SID.No. : **102697**

Branch : **KILPAUK**

Referrer : **Dr.BABU.K.S B.SC.,MS(ENT)DLO.,FRSH**

Ph :9150084100

Date :18/07/2015
Rec Time :08:09:22

Rpt Date :18/07/2015
Rpt Time :12:03:41
Page # :2 / 3

Final report

Test	Result	Biological Reference Interval
		>= 200 mg/dl : High
		Adult(Above 19 yrs)
		< 200 mg/dl : Desirable
		200 - 239 mg/dl : Borderline High
		>= 240 mg/dl : High
HDL Cholesterol Method : Homogenous Enzymatic Colorimetric	: 45 mg/dl	NCEP guidelines ATP III classification (Coronary heart disease risk) < 40 mg/dl : High Risk 40 - 60 mg/dl : Normal Risk >= 60 mg/dl : Low Risk
Triglycerides Method : GPO - POD	: 145 mg/dl	NCEP guidelines ATP III classification (Coronary heart disease risk) < 150 mg/dl : Desirable 150 - 199 mg/dl : Normal Risk 200 - 499 mg/dl : High Risk >= 500 mg/dl : Very High Risk
LDL Cholestrol Method : Homogenous Enzymatic Colorimetric	: 148 mg/dl	NCEP guidelines ATP III classification (Coronary heart disease risk) < 100 mg/dl : Optimal 100- 129 mg/dl : Near optimal 130-159 mg/dl : Borderline High 160-189 mg/dl : High >= 190 mg/dl : Very High
VLDL Cholesterol	: 29.0 mg/dl	
Total CHO/ HDL Ratio	: 4.5	Less than 3.5 : Low Risk 3.5 - 5.0 : Normal Risk > 5.0 : High Risk

Mrs. Malini Parasuraman M.Sc., Chief Biochemist | Dr. Radhi Lawrence AB (Path) Chief Pathologist | Dr. Sp. Ganesan MBBS, DCP Medical Director

PLEASE SEE REVERSE FOR MORE INFORMATION

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Sankaran IP/OP No. : 14644

Age : M/F :

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	242 mg/	130 - 220 mg/dl
	Triglyceride	241 "	upto 170 mg/dl
	HDL	38 "	30 - 70 mg/dl
	LDL	156 "	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 8.1.16

LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Shankaran IP/OP No. : 14726

Age : M / F

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	180	130 - 220 mg/dl
	Triglyceride	146	upto 170 mg/dl
	HDL	53	30 - 70 mg/dl
	LDL	122	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 18/1/16

LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Mrs. Valliammal IP/OP No.: 15072

Age : 45 yrs. M / F :

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	226	130 - 220 mg/dl
	Triglyceride	84	upto 170 mg/dl
	HDL	65	30 - 70 mg/dl
	LDL	144	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 18.1.16

LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Chidambaram IP/OP No. : 15425

Age : M/F :

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	184 mg%	130 - 220 mg/dl
	Triglyceride	142 "	upto 170 mg/dl
	HDL	37 "	30 - 70 mg/dl
	LDL	118 "	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 25/1/16

LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Subramani Raja IP/OP No. : 16235

Age : M/F :

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	209 mg%	130 - 220 mg/dl
	Triglyceride	67 "	upto 170 mg/dl
	HDL	56 "	30 - 70 mg/dl
	LDL	139 "	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 8/2/16

DS
LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Srinivasan ~~IP~~/OP No. : 16896

Age : M/~~F~~

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	195	130 - 220 mg/dl
	Triglyceride	92	upto 170 mg/dl
	HDL	46	30 - 70 mg/dl
	LDL	151	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 19/2/16

for

LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Savitha IP/OP No. : 18406

Age : M / F

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	189	130 - 220 mg/dl
	Triglyceride	77	upto 170 mg/dl
	HDL	41	30 - 70 mg/dl
	LDL	133	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 18.3.16

LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Gracemary IP/OP No. : 18404

Age : M / ~~F~~

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting	89	60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea	24	10 - 40 mg/dl
3.	Serum Creatinine	0·9	0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	203	130 - 220 mg/dl
	Triglyceride	109	upto 170 mg/dl
	HDL	58	30 - 70 mg/dl
	LDL	123	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 18·3·16

LAB INCHARGE

SIDDHA CENTRAL RESEARCH INSTITUTE

ARUMBAKKAM, CHENNAI - 600 106.

Biochemistry Department

LAB REPORT

Name : Barha IP/OP No. : 18989

Age : M / F :

Sl.No.	INVESTIGATION	RESULT	NORMAL VALUE
1.	**BLOOD SUGAR**		
	Fasting		60 - 100 mg/dl
	Post prandial		upto 160 mg/dl
	Random		80 - 120 mg/dl
2.	Blood Urea		10 - 40 mg/dl
3.	Serum Creatinine		0.5 - 1.4 mg/dl
4.	Serum Uric Acid		3.5 - 7.0 mg/dl
5.	**LIPID PROFILE**		
	Total Cholesterol	159	130 - 220 mg/dl
	Triglyceride	63	upto 170 mg/dl
	HDL	42	30 - 70 mg/dl
	LDL	103	90 - 160 mg/dl
6.	Serum calcium		8.5 -10.5 mg/dl
7.	HbA1c		4 - 6.5% Normal 6.5 - 7.5% Diabetes 8 - 9.5% High > 9.5% Very High
8.	Others (If any)		

Date : 29/3/16

LAB INCHARGE

DISCUSSION

Urathapithavatham is one of the forty two types of pitha diseases described by the Great Sage Yugi Munivar in his book Yugi Vaithiya Cinthamani 800.

Forty cases were selected for the study in Govt. Arignar Anna Hospital. The sample size of 40 cases for the study on the topic Urathapithavatham was approved by IEC.

Distribution of cases by Age group

Among the 40 cases, 42.5% of the cases were under the age group of 51-60 yrs. 90% of the patients come under pitha kaalam (ie) during 34-66 yrs (middle age group).

Distribution of cases by Sex

In the study population, 60% of the cases affected were males and 40% of the cases affected were females.

Distribution of cases by Personal Habits

77.5% of the cases had the habit of drinking tea. About 15% had the habit of drinking coffee. Only about 7.5% do not drink either coffee or tea.

Among the 40 cases, only 15% had the habit of smoking and 15% had the habit of alcohol.

Distribution of cases by Food Habits

Among the 40 cases, 92.5% of the cases were non-vegetarian.

Distribution of cases by Family History

Among the 40 cases, 67.5% of the cases had positive family history of hypertension.

Distribution of cases by Yakkai

Among the 40 cases, 57.5% of the patients were pitha vatha thegi.

Distribution of cases by Nilam

All the cases (100%) were from neithal nilam.

Distribution of cases by Etiology

62.5% of the patients had included increased salt, sour and pungent tastes in their food.

All the patients (100%) were easily prone to anger and irritability.

42.5% of the patients were under stress.

92.5% were deprived of sleep.

47.5% of the patients were exposed to hot and sultry environment.

Distribution of cases by clinical symptoms

All the patients (100%) were prone to anger.

62.5% had confusion.

62.5% had headache.

92.5% had insomnia.

Distribution of cases by Ennvagai Thervu

Distribution of cases by Naadi

The diagnostic methodology in siddha system is unique and among them, naadi plays a vital role. Out of the 40 sample size, 65% of the patients had pitha vatha naadi.

Distribution of cases by Naa

Among the 40 cases, 22.5% had coated tongue. 77.5% did not have any coating.

Among the 40 cases, 15% had bitter taste and 22.5% had sour taste. 62.5% of the patients had normal taste sensation.

Distribution of cases by Niram

Among the 40 cases, 45% had black colour and 50% had wheatish colour.

Distribution of cases by Mozhi

67.5% had medium pitched voice.

Distribution of cases by Vizhi

37.5% had white conjunctiva, 37.5% had muddy conjunctiva and 25% had red conjunctiva

Distribution of cases by Sparisam

77.5% were of mitha veppam.

Distribution of cases by Malam

62.5% had normal stools.

Distribution of cases by Neerkuri

67.5% had pale yellow coloured urine.

Distribution of cases by Neikkuri

47.5% showed irregular pattern of spreading.

Distribution of cases by Manikkadai Nool

50% had 9 ¼ fbs

Distribution of cases by Uyir Thathukkal

Derangement in Vali

Among 40 cases, Praanan, Samaanan and Devadhathan are affected in all the patients (100%), Abaanan is affected in 37.5% of the cases and Koorman is affected in 55% of the cases.

Derangement of Azhal

Among the 40 cases, Ranjagam and Sadhagam are affected in all the patients (100%). Aalosagam is affected in 55% of the cases.

Derangement in Iyam

Among the 40 cases, Tharpagam is affected in 67.5% of the cases and Pothagam is affected in 35% of the cases.

Distribution of cases by Udal Thathukkal

Among the 40 cases, Senneer is affected in all the patients (100%) and Kozhuppu is affected in 5% of the cases.

Distribution of cases by BP range

Among the 40 cases, 32.5% had Stage I hypertension and 67.5% had Stage II hypertension.

Distribution of cases by Body Mass Index

Among the 40 cases, 42.5% had Normal BMI, 40% were overweight and 17.5% were obese.

Distribution of cases by total cholesterol

Among 40 cases, 72.5% had Normal Total cholesterol level, 15% had Borderline cholesterol and 12.5% had high level of Total cholesterol.

Distribution of cases by HDL

Among 40 cases, 5% had low HDL level, 87.5% had normal HDL level and 7.5% had high HDL level.

Distribution of cases by LDL

Among 40 cases, 12.5% had normal LDL level, 82.5% had Borderline LDL level and 5% had high LDL level.

Distribution of cases by Triglycerides

Among 40 cases, 67.5% had normal Triglycerides level, 27.5% had Borderline Triglycerides level and 5% had high Triglycerides level.

Even though clinical symptoms like Anger, Irritability were found in 100% of the patients, Confusion was found in 62.5% of the patients, Insomnia was found in 92.5% of the patients, loose stools was present in only 15% of the patients and redness of eyes was present in 25% of the patients at the time of OP visit.

NOI KANIPPU VIVADHAM (Differential Diagnosis)

There are also other pitha diseases which resemble Urathapithavatham. They ar**e,**

இரத்த பித்தம்

உண்மையா யிருமற்றான் மிகவு முண்டா
யுதட்டியாய்க் குத்தியே ரத்தம் விழுந்து
அண்மையாய்ச் சரீ ரமது மிகவும் வற்றி
அடிவயிறு சுருங்கியே வற்றிக் காணும்
வண்மையாய் வாய்நீரிற் கவுச் சடிக்கும்
மறுகியே வல்லுடம்பு வாட்ட மாகும்
இண்மையா யிடுப்புதான் குடைச்ச லாகும்
இரத்த பித்தத்தி னியற்கை தானே!

(யூகி வைத்திய சிந்தாமணி, பக்கம்114)

- Severe productive cough with blood in sputum
- Emaciation
- Shrinking of lower abdomen
- Foul smelling of saliva
- Dullness
- Pain in lumbar region

SUMMARY

- The aim of this study is to evaluate the significance of the disease URATHAPITHAVATHAM with the help of siddha parameters Ennvagai Thervu, Manikkadai nool and Yakkai Ilakkanam.
- URATHAPITHAVATHAM is quoted in the book Yugi Vaithiya Cinthamani – 800. It is one of the pitha diseases characterized by anger, mood irritability, diarrhea, confusion, redness of the eyes, insomnia, obesity and oedema.
- The researcher had collected review of literature, definition, etiology and classification regarding the disease.
- From the clinical study, 40 cases (OPD) were selected for the observation as per the inclusion and exclusion criteria and the informed consent were observed from the patients.
- Case sheet proforma was maintained for 40 cases.
- Laboratory investigations were carried out during the study.
- Ennvagai Thervu and Yakkai Ilakkanam were focused in the study.
- In this study, following data were observed and discussed for the 40 cases.
- 100% of the cases presented with anger, 92.5% had insomnia, 62.5% had headache, 65% had pithavatha naadi, 50% had 9 ¼ fbs in manikkadai nool. 47.5% showed irregular pattern of spreading in Neikkuri and 57.5% were pithavatha thegi.

CONCLUSION

The disease **URATHAPITHAVATHAM** was taken for my clinical study with reference in Yugi Vaithiya Cinthamani – 800. The study of Urathapithavatham was carried out in this dissertation giving importance to the changes in the Uyir thathukkal and Udal thathukkal. The changes in the Uyir thathukkal and Udal thathukkal were assessed by Siddha parameters like Ennvagai Thervu, Manikkadai Nool and Yakkai Ilakkanam.

A paralleled modern diagnosis was derived through blood pressure monitoring and 40 cases were observed clinically in the outpatient division.

From this study, the following data were concluded.

- Maximum incidence of age was between 34 – 66 years ie. Pitha kaalam.
- Males were affected more than females.
- The aetiological factors like increased intake of salt, sour and pungent tastes in food, stress sleep deprivation and hot environment were strongly associated with the prevalence of the disease.
- 100% of cases were from neithal nilam.
- 100% were prone to anger, 62.5% had confusion, 62.5% had headache and 92.5% had insomnia.
- Praanan, Samaanan and Devadhathan were affected in all the cases.
- Ranjagam and Sathagam were affected in all the cases.
- Tharpagam is affected in 67.5% of the cases.
- This observational study reveals
    i. In Ennvagai Thervu,
    Naadi – 65% revealed Pithavatha naadi
    Neerkuri – 67.5% had pale yellow colour urine
    Neikkuri – 47.5% showed irregular pattern of spreading
    ii. In manikkadai nool
    50% of the patients had 9 ¼ fbs
    iii. In Yakkai
    57.5% were pithavatha thegi

The symptoms of Urathapithavatham may be correlated with Hypertension in modern medium.

LINE OF TREATMENT

In siddha system, the treatment is based on the deranged three doshas.

"விரேசனத்தால் வாதந்தாழும்

வமனத்தால் பித்தம் தாழும்

நசிய அஞ்சனத்தால் கபம் தாழும்".

Pitha disease can be brought down by "vamanam" with the emetic drugs. This emetic drugs are given according to the disease and patient's tolerance to drug.

The line of treatment of Urathapithavatham is as follows:

1. Laxatives	-	To bring the affected Vatham to normal equilibrium
2. Internal medicines	-	To bring down the vitiated Pitham
3. Diet	-	To maintain Tridoshas.
4. Yoga therapy	-	To maintain Dhasavayukal and to improve mental and body health
5. Prevention methods	-	To relieve anxiety and stress.

DIET:

Siddhars advice the diet regimen for pitha patients and they are explained below:

Diet to be added:

1. இருமுறை வடித்த சோறு (Double boiled rice).
2. கஞ்சி (Rice water).
3. அத்திப்பிஞ்சு (Ficus glomavata)
4. அவரைப்பிஞ்சு (Dolichos lab-lab)
5. மணத்தக்காளி கீரை (Solanum rubrum)

6. பொன்னாங்காணி (Alternanthera sessilis)
7. சிறுகீரை (Amaranthus gangeticus)
8. பசலைக்கீரை (Portulaca quadrifolia)
9. புளியாரை (Oxalis corniculata).
10. சுக்கங்கீரை (Rumex vesicarius).

Diet restriction :

Siddhars advice to avoid sour, salty and pungent food for Urathapithavatham. Nowadays all the patient were advised to take low sodium diet (less than 5mg per day) and to take low fatty diet (especially oils containing mono-unsaturated fatty acids (MUFA).

Yoga therapy:

Yogasanam is one of the part of Astanga Yogam. It controls mind and body by various mechanisms. So it has been applied to control various stress-related diseases nowadays as an adjuvant therapy.

Mechanism:

Every asanas require the spine to be kept erect and to keep riched blood supply to the pelvic region. This stimulates kundalini, which controls the mind and body.

In modern study, it seems to stimulate psycho-neurohormonal axis which controls the sympathetic overactivity. This in turn eliminates free radicals, catecholamines and secretes endorphins and encephalins which is a natural steroidal hormone which helps to maintain the body and mind active and relieve the stress.

Asanas beneficial in hypertension:

i. Padmasanam

ii. Pranaayamam

iii. Vajrasanam

iv. Savasanam.

Relaxation Therapy:

It is particularly useful for anxiety disorders, psychosomatic disorders (e.g hypertension) and in other conditions where anxiety is associated (e.g. smoking, sexual disturbances, sleeplessness). It is usually done in a calm room with a relaxed mind in the lying down posture with palms facing upwards for about 15 to 20 minutes twice daily. The underlying principle is the counterproductive nature of relaxation towards anxiety. so the cycle (anxiety leading to muscle tension which in turn aggravates anxiety) is broken by this approach.

Prevention:

1. Relieving the tension or the stress and strain of life by reducing unnecessary burden and responsibilities.
2. Transforming the attitudes and belief systems so as to reduce anxiety and excitement.
3. Good sleep.
4. Low sodium chloride intake (less than 5gm per day).
5. Totally avoiding intake of tobacco.
6. Stopping alcohol consumption or reducing it considerable.
7. Overcoming obesity.
8. Avoiding constipation.
9. Light regular exercise (avoid undue physical strain and exertion).
10. Practice of relaxation and positive thinking.

DIETARY REGIMEN

a. Morning (6.00 am – 7.00 am)

Mooligai Theneer – 1 glass / Triphala juice – 30 ml mixed with water – 1 glass

b. Breakfast (8.00 am – 9.00 am)

Idlis – 4 / Chappathi – 3 / Dosa – 3 / Pongal – ¾ Cup , chutney and sambhar with the above mentioned vegetables

c. Mid-morning (10.30am – 11.00am)

Vegetable soup – 1 cup / Buttermilk – 1 glass / Mooligai theneer – 1 glass

d. Lunch (1.00pm – 2.00pm)

Rice – 1 cup with sambhar, vegetable / keerai poriyal using vegetables and greens mentioned above, buttermilk, vegetable salad

e. Evening (4.00pm – 5.00pm)

Payaru, sundal with chukku coffee.

f. Dinner (7.00pm – 8.00pm)

Idlis – 4 / Chappathi – 3 with dhal / Chuntney and sambhar using the above mentioned vegetables.

g. Bedtime (9.00pm – 10.00pm)

Skimmed milk – 1 glass

BIBLIOGRAPHY

Agarathy:

1. T.V. Sambasivam Pillai
2. Tamil Lexicon
3. Stedmans Medical Dictionary

Siddha Literature :

1. Yugi Vaithiya Cinthamani
2. Siddha Maruthuvam Dr.K.N.Kuppusamy Mudaliyar H.P.I.M.
3. Siddha Maruthuva Noi Nadal Noi Mudal Nadal Part I & II Dr.Shanmugavelu.
4. Pararasa sekaram
5. Jeeva Ratchamirtham –Dr.Sababathi Muthaliar
6. Agasthiyar Vaithiya kaviyam - 1500.
7. Agathiyar Erandaayiram-3rd part
8. Sikicha Rathna Deepam – C.Kannusamy Pillai
9. Agathiyar Gunavagadam
10. Siddha maruthuvanga surukkam
11. Vaithiya Cinthamani – C.Kannusamay Pillai
12. Dhanvanthiri Vaithiyam
13. Noi Illa Neri by Dr.Durai Rasan HPIM

Modern Literature:

1. Essentials of medical physiology – K.Sembulingam
2. Textbook of Practical Physiology – G.K.Pal and Pravati Pal
3. A text book of pathology, Harsh Mohan - 6th edition.
4. Robbins pathologic basis of diseases - Cottran Kumar Robbins
5. Harrison’s principles of internal medicine vol I
6. Hutchison’s clinical methods (21st Edition) Michael swas
7. Davidson’s principles and practice of Medicine

ASSESSMENT FORMS

Form – I **Screening and selection Proforma**

Form – IA **History Proforma on enrollment**

Form – II **Clinical Assessment on enrollment**

Form – III **Laboratory investigations on enrollment during the study**

Form – IV **Consent form (Vernacular and English versions)**

Form – IVA **Patient Information Sheet (Vernacular and English versions)**

GOVERNMENT SIDDHA MEDICAL COLLEGE
Arumbakkam, Chennai-106

Communication Of The Decision Of Institutional Ethics Committee (IEC)

IEC No: GSMC-CH-ME-3/023/2014

Protocol title: A CLINICAL STUDY ON SIDDHA DIAGNOSTIC METHODOLOGY, LINE OF TREATMENT AND DIETARY REGIMEN OF URATHA PITHAVADHAM(HYPERTENSION).
Principal Investigator: DR.R.NEELA
Name & Address of Institution: Government Siddha Medical College, Arumbakkam, Chennai-106
☑ New Review ☐ Revised Review ☐ Expedited Review
Date of review (DD/MM/YY): 13-06-2014 Date of Previous Review, If Revised Application:
Decision of the IEC ☐ Recommended ☑ Recommended with suggestions ☐ Revision ☐ Rejected
Suggestions / Reasons / Remarks: 1. Simplify Diet chart
Recommended for a period of 2 years:

Please Note:

- Inform IEC immediately in case of any adverse events/serious drug reaction.
- Seek IECapproval in case of any change in the study procedure, site and investigator
- This approval is valid only for period mentioned above
- IEC member have the right to review the trial with prior intimation.

Dr.P.Jeyaprakashnarayanan
Chairman

Dr .V.Banumathi,
Member Secretary

INSTITUTIONAL ETHICS COMMITTEE

Date: 13.06.2014

Sub: IEC review of research proposals.

Ref:Your letter dated

MEMBERS	PARTICIPATION	SIGNATURE
DR.P.JEYAPRAKASH NARAYANAN M.D(S)., Chairman	✓	
DR.V.BANUMATHI M.D(S)., Member Secretary	✓	
DR.N.KABILAN M.D(S)., Clinician- Siddha	✓	
DR.P.SATHIYA RAJESWARAN M.D(S)., Clinician- Siddha	✓	
DR.G.AADINAAATH REDDY,M.Pharm, Ph.D., Pharmacologist	✓	
DR.S.THILAGAVATHY Msc.,Ph.D., Social Scientist	✓	
DR.T.MAHALAKSHMI M.A.,Ph.D., Linguistic Expert	✓	T. Maha
DR.P.VIDYA M.B.B.S., DMRD., Modern Medicine Expert	✓	
MR.P.SARAVANAN., Puplic Person	✓	

Dr.P.Jeyaprakashnarayanan
Chairman

Dr.V.Banumathi
Member Secretary

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

#69, Anna salai, Guindy, Chennai-600 032.

This certificate is awarded to

Dr./~~Mr.~~/~~Ms.~~ R. NEELA

for participating as ~~Resource~~ ~~Person~~ / Delegate in the Sixteenth Workshop on

"Research Methodology & Biostatistics"

for AYUSH Post Graduates & Researchers

Organised by the Department of Siddha

The Tamil Nadu Dr. M.G.R. Medical University from 04.08.2014 to 08.08.2014

Dr. N. KABILAN M.D. (Siddha)
Reader, Dept. of Siddha

Dr. JHANSI CHARLES, M.D.
Registrar

Prof. Dr. D. SHANTHARAM, M.D., D.Diab.,
Vice-Chancellor