Int J Trans Res Ind Med 2023, 5(1): (P) 14 – 18

Case Study

ISSN 2582-0109

International Journal of Translational Research in Indian Medicine
www.ijtrim.com
Volume 5, Issue 1 – 2023

ROLE OF MANIKADAI NOOL IN THE DIAGNOSIS OF MATHUMEGAM (DIABETES MELLITUS) – A CLASSICAL SIDDHA APPROACH

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ABSTRACT

Background: Role of Manikadai Nool in the diagnosis of Mathumegam (Diabetes Mellitus) – A Classical Siddha Approach. Objectives: Manikkadai-Nool is an ancient Siddha treatise of anthropometric based predictions very much acclaimed for its diagnostic value in clinical practice. This study is to standardize the Siddha Medical diagnostic tool Manikkadai Nool for Madhumegam patients by calculating the wrist circumference. Methods: For this study 10 patients were selected from outpatient department (OPD) subjected to satisfaction of the inclusion and exclusion criteria at Sri Sairam Siddha Medical College and Research Centre, Chennai. Results: On measure of Right hand wrist circumference in finger breadth space (fbs) 70% of the sample falls under the range between 9 ¼ - 9 ¾ fbs. Remaining 30% of the sample has 7 ¾ - 8 fbs range. Conclusion: It can be concluded that the Siddha diagnostic procedure Manikkadai nool differentiates the patients of Madhumegam from the healthy persons.

KEY WORDS: ***Mathumegam, Diabetes mellitus, Manikadai nool, Siddha diagnosis.***

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1. Introduction

Siddha system of medicine is a distinct therapeutic science which depicts human body as a conglomeration of three humours which are *Vatham*, *Pitham*, *Kabam* and seven basic body constituents which are Plasma, Blood, Muscle, Fat, Bone, Bone marrow and Reproductive fluid. The equilibrium of these vital humours is consider as health and its disturbance or imbalance leads to disease [1].

According to siddha system, the disease can be diagnosed by the examination of eight elements *Nadi* (Pulse), *Sparisam* (Skin), *Naa* (Tongue), *Niram* (colour of the body), *Mozhi* (Tone of speech), Vizhi (Eye), *Malam* (feces), *Moothiram* (Urine). *Manikkadai Nool (MKN)* is considered as one the diagnostic and prognostic tool to identify the state of disease. It is indicated as *"Agasthiyar Soodamani Kajiru Soothiram"* in the ancient literature *"Pathinen Siddhar Naadi Nool"* [1]. Diabetes mellitus is indicated as *Mathumegam* One of 20 types of mega nooi depicted in siddha literature [2]. According to world health organisation Diabetes is a serious, chronic disease that occurs either when the pancreas does not produce enough insulin (a hormone that regulates blood glucose), or when the body cannot effectively use the insulin it produces [3]. As per the estimate the number of people with diabetes has risen from 108 million in 1980 to 422 million in 2014. In 2012, an estimated 1.5 million deaths were directly caused by diabetes. WHO projects that diabetes will be the 7th leading cause of death in 2030[4].

The treatment in traditional system will be more valid if the disease is diagnosed by its own Perspective. So the present study was carried out to validate the Siddha diagnostic procedure Manikkadi nool for Mathumegam.

2. Materials and Methods

2.1. Study Design & Setting

This is an observational study carried out in Out Patient Department (OPD) at Sri Sairam Siddha Medical College and Research Centre, Chennai.

2.2. Sampling techniques and Sample size

The subjects were selected by simple random method with respect to inclusion and exclusion criteria, 10 samples were selected and subjected to the study

2.3.Inclusion Criteria

Age between 25 years to 75 years,both the genders with laboratory findings having blood sugar range of more than 150 mg% (fasting) and more than 200 mg% (post prandial) were included for the study

2.4. Exclusion Criteria

Age below 25 years and above 75 years, serious complications associated with any other systemic disease were excluded from the study.

2.5. Study enrollment

Patients were informed about the study and a oral consent was obtained as this study contains lower then the minimal risk. Complete clinical history, complaints, duration and examination findings were recorded in a prescribed format in history and clinical assessment forms separately

2.6. Study procedure

To measure the wrist circumference in finger units, the patient was asked to keep his left hand`s four fingers just below the right thumb, then the doctor measured the circumference of the right wrist just below four fingers of the left hand of the patient using a twine, then the twine was removed from the wrist and placed on a plain surface and the measurement of the twine was taken by the patient's fingers. Total length of thread was counted in terms of finger units.

2.7. Literature review

Wrist Circummetric Sign *(Agathiyar Soodamani Kayaru Soothiram)*

"Kamalakkai manikkaiyil kayaru soothiram
Vimalane nokkiye vedamaamuni
Thimilaam piniyathu sera seppiye
Amalanaa munikku munnaruli seithathe"

"Manikadai naalviral thalli vanmaiyaay
Thanikkidaikkayaru pottalanthu paarkkaiyil
Kaniththidum viralthanai kandu sollave
Piniththidum noikalai piriththuraikkume"
-Pathinen siddhar naadinool

According to the Pathinen Siddhar Naadinool, Manikkadai nool is a parameter to diagnose the disease by measuring the circumference of the wrist by means of a thread and then dividing the measured circumference with the patient's fingers. By this measurement the disease can be diagnosed

Table : 1 Manikkadai nool inference

S.no	Manikkadai nool	Inference
1.	10 fbs	Pricking pain in chest and limbs, gastritis and ulcer
2.	9 ¾ fbs	Fissure, dryness and cough
3.	9 ½ fbs	Odema, increased body heat, burning sensation of eye, fever, meganoi and anorexia
4.	9 ¼ fbs	Dysuria, insomnia, sinusitis and burning sensation of eye
5.	9 fbs	Impaired hearing, pain around waist, thigh pain, unable to walk
6.	8 ¾ fbs	Increased body heat, skin disease due to toxins, abdominal discomfort, cataract and sinusitis
7.	8 ½ fbs	Leucorrhoea, venereal disorder and Infertility
8.	8 ¼ fbs	Stout and painful body, Headache, sinusitis and toxins induced cough
9.	8fbs	Abdominal discomfort, gastritis, anorexia and venereal diseases
10.	7 ¾ fbs	Piles, burning sensation of limbs, headache and numbness
11	7 ½ fbs	Osteoporosis, abdominal discomfort, burning sensation of eyes, increased body temperature
12.	7 ¼ fbs	Lumbar pain, increased pitha in head, anemia, eye pain, odema and somnolenc
13.	7 fbs	Pitham ascends to head, haemetemesis, phlegm, burning sensation of limbs and constipation
14.	6 ¾ fbs	Eye ache, dizziness, testis disorder
15.	6 ½ fbs	Thirst, anorexia, increased body heat and Vatham
16.	6 ¼ fbs	Diarrhoea, belching, vomiting and mucous dysentery
17.	6 fbs	Reduced weight, phlegm in chest
18.	5 ¾ fbs	Delirium, dizziness, loss of consciousness
19.	5 ½ fbs	Severity of illness is increased, Toxins spread to the head, Tooth darkness, Patient will be die in 10 days.
20.	5 ¼ fbs	Patients seems to be sleepy and death results on the next day.
21.	5fbs	Pallor and dryness of the body, Kabam engorges the throat and the person will die.
22.	4 ¾ fbs	Dryness of tongue and tremor present,Patient will die in 7 days.
23.	4 ½ fbs	Shrunken eyes, odema will present and death results in 9 days.
24.	4 ¼ fbs	Tremor, weakness of limbs and darkening of face occurs. Finally death results in two days.
25.	4fbs	Dizze, Pedal odema will be present, Patient will die in 5 days.

3. Result and Discussion

In this study it was tried to determine the significance of Manikkadai nool in the diagnosis of Mathumegam. Wrist circummetric sign is one of the many tools used in Siddha practice. The progress of the disease is calculated by the number of fingers in decreasing order. Lower the value poorer the prognosis. Usually, the length of the twine starts with four fingers breadth unit and ends with 11 finger breadth unit. Lower the value usually indicates poor prognosis, higher the value i.e 11 fbs and above indicates either the person is massive or wellness of an individual. In this study we observed the Manikkadai nool value for the disease Mathumegam (Diabetes mellitus) is in the fridge range between 9 ¾ to 9 ¼ fbs.

70% of the samples MKN value ranges from 9 ¾ - 9 ¼ fbs. According to Pathinen Siddhar Naadinool, 9 ¾ fbs value indicates *'Varatchi'* (dryness) which is correlated with xerostomia, People with diabetes experience salivary dysfunction, which can lead to decreased salivary flow and change in saliva composition. The estimated universal prevalence of xerostomia among diabetic patients ranges between 34% and 51% [5,6] and *'Pilavai'* which often correlated with Carbuncle is a broad, swollen, erythematous, deep and painful mass that usually open and drain through multiple channels. They are commonly associated with diabetic patients. Carbuncles are often found on the nape of the neck, shoulders, hips [7-11], 9½ fbs indicates *'Soodu'* (hyperthermia) the occurrence of an ulcer is often associated with hyperthermia [12], *'Vizhikaanthal'* (burning sensation of eyes) Dry eyes may be caused by impairment in the tear production or excessive tear evaporation and are associated with photophobia, red eyes, vision impairment, local pain and pruritus. It has been described that patients with Diabetes Mellitus (DM) may have a higher prevalence of dry eyes than normal population [13,14], 9 ¼ fbs indicates *'Neer kadupu'* (burning micturition) increased flow of urine is the primary suspecting factor for the case of diabetes which is often combined with burning sensation [15,16], *'Nithrirai kedal'* (insomnia) sleep restriction is associated with an increase in sympathetic nervous activity and a decrease in insulin sensitivity without adequate compensation in beta-cell function, resulting in an impact on glucose homeostasis and an elevated risk of diabetes[17,18] which are the commonly noticeable signs in Mathumegam.

8 fbs *'vaayu'* indicates (flatulence), *'vaitru porumal'* (gastroparesis), *'mantham'* (indigestion) [19], 7 ¾ fbs indicates *'kai kaal kaathal'* (peripheral neuropathy), *'maruthal'* (numbness)[20,21] are the symptoms of Mathumegam in chronic cases. These signs and symptoms of corresponding MKN fbs may present in the measured sample or if the condition were not treated or uncontrollable the above condition may appears.

Table : 2 Percentage distributions of subjects by gender

Gender	Number of patients	Percentage
Male	5	50%
Female	5	50%

Table : 3 Percentage distributions of subjects by age

Age	Number of patients	Percentage
41-50	4	40%
51-60	6	60%

Table : 4 Manikkadai nool measurements for Mathumegam

Diagnosis : Mathumegam (Diabetes mellitus)		
No of cases : 10		
Measurements	No of cases	Percentage
9 ¾ fbs - 9 ¼ fbs	7	70%
7 ¾ fbs – 8 fbs	3	30%

4. Conclusion

In this study of screening a selected sample of Mathumegam diseases for Manikkadai nool had more predilection, Manikkadai measure falling in the fringe range of 9 ¾ – 9 ¼ fbs. As per this study Manikkadai nool will be helpful as a screening and prognosis tool to detect the disease Mathumegam. A specific MKN value for Mathumegam which can be ascertained with further investigations during the clinical work ups

5.Declaration of patient consent

The authors certify that they have obtained all appropriate patient consent forms. In the form, the patient has given their consent for publication of the information pertains to the study and other clinical information to be reported in the journal. The patients understand that their identity will not be published.

6.Acknowledgement

The authors thank Sri Sairam Siddha Medical College and Research Centre for supporting us to conduct the study.

7. Financial support and sponsorship

Nil

8.Conflicts of interest

There are no conflicts of interest.

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