Diagnostic correlation of elemental derangement findings through *Panchapatchi sasthiram* (Five bird diagnostic sign) in patients of *Madhumegam* (Diabetes mellitus)

Research Article

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Abstract

Panchapatchi Sasthiram or five bird diagnostic methodology is one among the diagnostic methods that relies on the concept of *Panchabootha* theory. *Panchaboothas* are represented by five birds (*Patchi*) in *Panchapatchi Sasthiram* (five bird diagnostic sign) which helps in cost effective diagnosis of various diseases. Objective: To evaluate the representative *Patchi & Humours* associated with Madhumegam (Diabetes Mellitus) patients as per *Panchapatchi Sasthiram (five bird diagnostic sign)* during consultation. Materials & Methods: A cross sectional study was conducted among 100 Madhumegam patients reported in the OPD of Ayothidoss Pandithar hospital. *Panchapatchi* calculation is the methodology of identifying the relevant affected action corresponding to each bird which may be further correlated to identify the affected Panchabhootham and affected humour in turn based on the waxing and waning of moon. Results: According to Siddha text; *Pithavatham*, *Vathapitham* and *Vathakabam* are the predominant humours in *madhumegam*. Among 100 patients assessed by means of *Panchapatchi sasthiram (five bird diagnostic sign)*, 32 patients had *pithavatham*, 26 patients had *vathakabam*, 14 patients had *vathapitham*, 18 patients had *kabavatham*, 5 patients had *kabapitham*, 5 patients had *kabam* and it is observed that 72% participants possessed where of *Naadinadai* (Estimated through *Panchaptchi sasthiram (five bird diagnostic sign)*) as per the *madhumegam* literature. Conclusion: *The Naadinadai (pulse play)* mentioned in the literature agrees more than 70% with that of *Panchapatchi* based estimation. Hence it is hypothesized that *Panchapatchi sasthiram* based humoral assessment can be further evaluated as it is found helpful in the estimation of *Naadinadai* in diabetes mellitus. More over by means of this tool we can diagnose a condition with contactless evaluation.

Key Words: *Panchapatchi sasthiram*, Diagnostic tool, Humours, *Madhumegam*, Diabetes mellitus.

Introduction

In Siddha system of medicine, diseases can be diagnosed through various tools called eight modes of examination *Ennvagai Thervu (Naadi, Spariam, Naa, Niram, Mozhi, Vizhi, Malam, Moothiram,) Manikkadai Nool, Jothidam* (Medical Astrology), *Panchapatchi* Sasthiram (Five bird diagnostic sign) etc. Among these diagnostic tools *Panchapatchi* is one of the unexplored areas which is based on the ancient Tamil literature. '*Pancham*' means five, '*Patchi*' means bird. This astrological instrument is used as a diagnostic method that relies on the concept of *Panchabootha theory*. Since both nature and human body is made up of five elements (*Piruthivi, Appu, Theayu, Vaayu, Aagaayam*) and this diagnostic technique is based on five elements

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if properly done, it may pave a way to explore new horizon in siddha diagnostic techniques.

Panchaboothas (Five elements) are represented by five birds in *Panchapatchi sasthiram* namely *Vallooru* (Vulture) which denotes Fire element, *Aanthai* (Owl) denotes Air element, *Kaagam* (Crow) which denotes earth element, *Kozhi* (Hen) which indicates Water element and *Mayil* (Peacock) denotes *Aakaya bootham*. Every bird is associated to each *bootham* based on their characteristic changes by using Waxing and Waning craters of moon. The birds given in the *Panchapatchi sasthiram* is mentioned to have special sequence and action (*Oon*-Eating, *Nadai*-Gait, Arasu-Reigning, *Thuyil*-Sleep, *Saavu*-Death) in every *Saamam* (2 hours &24 minutes) during day and night with alternating nature. The action of the bird that depends on the days, the *patcham* (waxing half or waning half cycle) of the moon. 12 hours in a day (30 *Naazhigai*) is divided into five equal portions called *Saamam (6 naazhigai*) and given different activities of the bird. This birds influence and control all our actions, they rule the 27 *Natchathiram* (stars).

There are recent advances in diagnostic techniques in Modern system of medicine, it still exists as a high end in many developing countries like India,

so if tools like *Panchapatchi* is developed for conditions especially in conditions like diabetes it will be helpful people who belong to low economic countries. Because In India 1 in 11 adults have diabetes, India accounts for 1in 7 of all adults living with diabetes worldwide. The number of people living with diabetes is predicted to increase by 69% to 152 million by 2045. Over 1 in 2 (51.2%) adults living with diabetes are undiagnosed. Diabetes is responsible for 747.000 deaths in 2021. Total diabetes related expenditure in the region amounts to USD 10 billion the second lowest of all IDF regions. 1 in 4 live births are affected by hyperglycemia in pregnancy. While considering all these facts this study was proposed and done to find out the Diagnostic correlation of elemental derangement findings through *Panchapatchi sasthiram* (Five bird diagnostic sign) in patients of *Madhumegam* (Diabetes mellitus). And the study revealed that this diagnostic tool can be further evaluated and established as a tool in diagnosing Diabetes.

There were no research studies carried out related to *Panchaptchi sasthiram*. Hence, we have taken up this research to diagnose *madhumegam* through this cost effective method.

Materials and Methods

A cross-sectional study was conducted in the outpatient department of *Noi Naadal* in Ayothidoss pandithar hospital, National Institute of Siddha. This study was approved by IEC (Institutional Ethics Committee)- NIS/IEC2020/MP- 37; 09-05-2020. The study is registered in CTRI (Clinical Trial Registry India) CTRI/2020/06/026009. In this study, 100 outpatients in 30-70 age group were selected without any bias. The study details were collected in the pre-designed data collection forms.

SOP for *Pancha patchi calculation*

According to *Panchapatchi sasthiram* each day (24 hours) is divided into 10 parts, five falls under day time and five under night time. Each part is spelled as *saamam*

1. Initially, the sunrise time should be noted (For the day in which *Panchapatchi* is to be calculated)
2. Then on the basis of time of sunrise each day should be divided into five parts during day and five parts in the night respectively.
3. The calculations will differ according to *Valarpirai* or *Theypirai*, so it should be taken into account.
4. The patient consulting time with the investigator should be noted.
5. Followed by that action of the bird at that particular time should be calculated.
6. Then the investigator then identifies the bird in its *Thuyil* and *Saavu* action and correlates it with corresponding *bhootham* and humors.
7. Finally, the investigator will be able to derive the affected humor and *Panchabhootham* of the patient which helps in diagnosis.

The activity order for birds in particular time period is mentioned below, this order should be taken into account while doing Panchapatchi calculation.

Image 1

Order of activities during Waxing (*Valarpirai*) day	Order of activities during Waxing (*Valarpirai*) night	Order of activities during Wanning (*Theypirai*) day action	Order of activities during Wanning (*Theypirai*) night action
Oon (Eating)	*Oon* (Eating)	*Oon* (Eating)	*Oon* (Eating)
Nadai (Gait)	*Arasu* (Reigning)	*Saavu* (Death)	*Thuyil* (Sleep)
Arasu (Reigning)	*Saavu* (Death)	*Thuyil* (Sleep)	*Nadai* (Gait)
Thuyil (Sleep)	*Nadai* (Gait)	*Arasu* (Reigning)	*Saavu* (Death)
Saavu (Death)	*Thuyil* (Sleep)	*Nadai* (Gait)	*Arasu* (Reigning)

Bootham representing each bird during waxing and wanning is explained below, this *bootham* representation will help to derive affected humour.

During *Valarpirai*

Vulture represents fire element, *Owl* represents air element, *Peacock* represents ether element. *Crow* represents Earth element and *Cock* represents Water element.
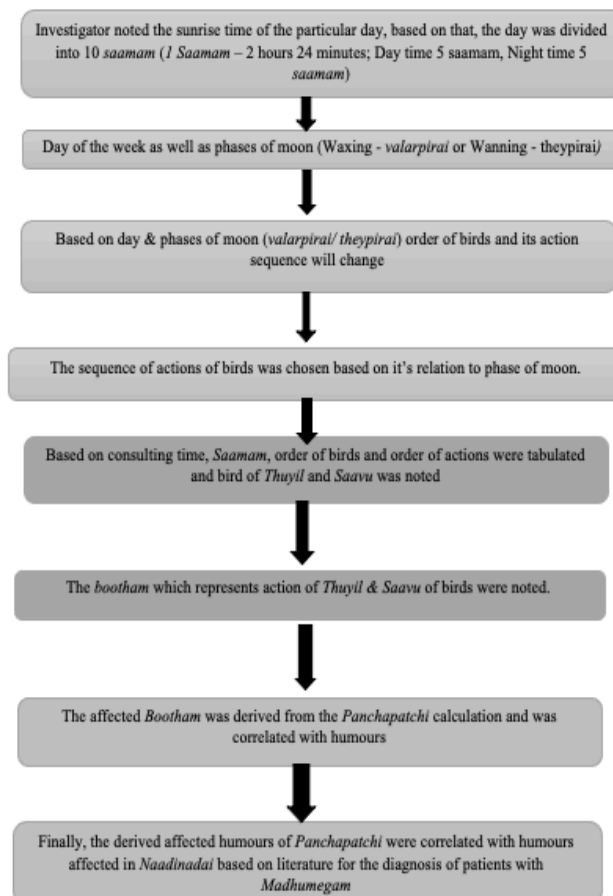
During *Theipirai*

Vulture represents earth element, *Owl* represents water element, *Peacock* represents ether element, *Crow* represents fire element and *Cock* represents air element.

Bootham Humours relationship
- Ether, Air corresponds to *Vatham*
- Fire corresponds to *Pitham* and
- Water, Earth corresponds to *Kabam*

Materials and Methods

Observations and Results

Table no 1: *Naadi Nadai* (Pulse play)

Naadi Nadai (Pulse play)	Number of patients
Vathapitham	45
Vathakabam	11
Pithavatham	41
Pithakabam	1
Kabavatham	2
Total	N=100

Table no 2: Humours Affected based on Panchapatchi calculation

Humours Distribution	Number of patients
Vathakabam	26
Kabavatham	18
Kabam	5
Vathapitham	14
Pithavatham	32
Kabapitham	5
Total	N=100

Table no 3: Fasting blood sugar level range of patients

Fasting blood sugar (mg/dl)	Number of patients
70-120	14
121-150	26
151-180	27
181-200	12
201-250	14
Above 250	7
Total	N=100

Table no 4: Postprandial blood sugar level range of patients

Postprandial blood sugar (mg/dl)	Number of patients
120-180	15
181-220	21
221-250	14
251-280	17
281-320	16
Above 320	17
Total	N=100

Figure 2: Comparison of Humours with fasting blood investigation
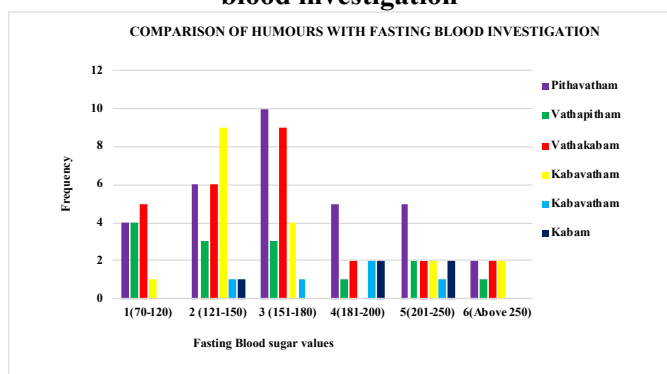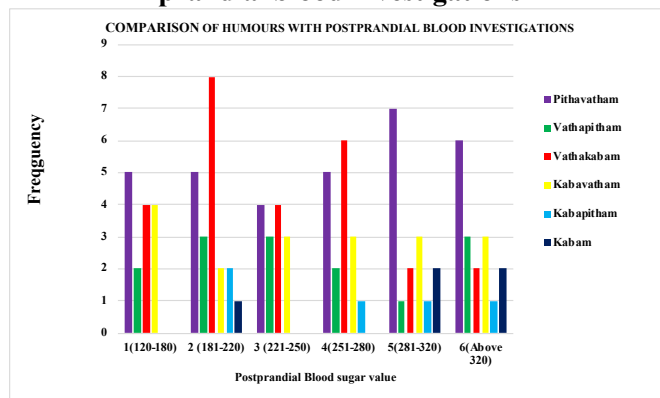

Figure 3: Comparison of Humours with post-prandial blood investigations

Inference

Among 100 subjects who were recruited in the study, 32 % had *pithavatham*, 26% had *vathakabam*, 18% patients had *kabavatham,* 14% had *vathapitham,* 5% had *kabapitham,* 5% had *kabam.*

Panchapatchi revealed that sizable no (32%) of the subjects had *Pithavatham* humour in *Madhumegam* (Diabetes mellitus).

Discussion

Siddha system has many diagnostic modalities *like Ennvagai thervu, Manikkadai nool, Jothidam, Panchapatchi sasthiram, etc. Panchapatchi sasthiram* is used even today by the traditional Siddha practitioners of Tamil Nadu as one of the diagnostic tools described in the Siddha literature.

Among 100 patients, regardless of consultation time 20 patients' *Panchapatchi* calculation was known to be indicating *crow* and *peacock*; 1 patient showed *vulture* and *crow;* 10 patients' showed *peacock* and *owl;* 8 patients showed *owl* and *cock;* 3 patients' *cock* and *vulture;* 4 patients' showed *vulture* and *crow*; 1 patient showed *crow* and *cock*; 9 patients' showed *crow* and *owl*; 14 patients' showed *peacock* and *cock*; 12 patients' showed *vulture* and *peacock*; 14 patients' showed *owl* and *vulture*; 14 patients' showed *cock* and *crow.*

Among 100 patients, 23 cases had ether and water elements affected ;10 cases had earth and air elements affected; 5 cases had water and earth elements affected; 14 cases had air and fire elements affected; 32 cases had fire and ether elements affected; 3 cases had air and earth elements affected; 7 cases had water and air elements affected; 5 cases had earth and fire elements affected.

Among 100 patients 14 patients had fasting blood sugar in between 70-120 mg/dl range, 26 patients had fasting blood sugar in between 121-150 mg/dl, 27 patients had fasting blood sugar in between 151-180 mg/dl, 12 patients had fasting blood sugar in between 181-200 mg/dl, 14 patients had fasting blood sugar in between 201-250 mg/dl, 7 patients had fasting blood sugar above 250 mg/dl it was mention in table no:3

Among 100 patients 15 patients had Postprandial blood sugar in between 120-180 mg/dl range, 21 patients had Postprandial blood sugar in between 181-220 mg/dl, 14 patients had Postprandial blood

sugar in between 221-250 mg/dl, 17 patients had Postprandial blood sugar in between 251-280 mg/dl, 16 patients had Postprandial blood sugar in between 281-320 mg/dl, 17 patients had Postprandial blood sugar above 320 mg/dl it was mention in table no:4

According to the Siddha Early stage of disease is indicated as 'pithavatham'while examining *Naadi* or any kind of diagnostic technique like wise of a condition is chronic 'kabam' will be predominant.

In this study also patients with short duration of diabetes came with deranged *pithavatham* in *Naadinadai* (pulse play) as well as *Panchapatchi* and chronic cases depicted *kabanaadi* as well as *Kabam* in *Panchapatchi* which is a proof of concept.

According to the Siddha text *Vaithya Sathagam, Pithavatham, Vathapitham* and *Vathakabam* were the predominant humour combos perceived in *Madhumegam*. This study has been conducted as an observational study and did not have a control group in which 100 diabetic patients were assessed with the tenets of *Panchapatchi sasthiram*. 32 patients had *pithavatham*, 26 patients had *vathakabam,* 14 patients had *vathapitham*, 18 patients had *kabavatham,* 5 patients had *kabapitham* and 5 patients had *kabam*, which seems to be concordant with *Naadi* literature.

According to the text of *Noinaadal Noi muthal Naadal part II Pithavatham Vathapitham* and *Vathakabam* are the predominant humours in *madhumegam*. The trihumoral states of diseases can be diagnosed through *Panchapatchi sasthiram,*a cost effective method.

Since the sample size is very small, the result is positive in 72% of cases only. If the sample size is large, the positive result percentage may be increased. In future further studies will be conducted with larger sample. This is an initial step to know about the techniques of *Panchapatchi Sasthiram* for diagnostic purpose. This study would help in the further evaluation of Siddha diagnostic tool standardization.

Conclusion

This study concludes that, *Panchapatchi Sasthiram* paved a pathway to interpret individual *patchi, Bootham*(elements) and *Mukkutram* (trihumoral vitiation) in *Madhumegam*. The *Naadinadai* given in the literature agrees more than 70% with that of *Panchapatchi* based estimation. Hence it is

hypothesized that *Panchapatchi sasthiram* based calculation, a cost-effective method can be further evaluated as it is helpful in the estimation of *Mukkutram* in diabetes mellitus. This study is the initial step for this diagnostic tool. Further studies will be conducted based on this study.

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