



# NEED & POTENTIAL OF TRANSDISCIPLINARY RESEARCH IN LIFESTYLE DISORDER

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## ABSTRACT:

This paper presents a transformative contention for the concept of diabetes in the improvement of human health and by selecting perfect lifestyle.

In India, the history of the disease 'Madhumeha' is recorded since ancient time. Vedic literature is the oldest literature in the world. In Atharvaveda (2500B.C) the disease is mentioned by 'Aasravan' which means Mutraatisara that is excessive urination or polyuria.

The present study focused on understanding the relation between the lifestyle of the person and the cause of diabetes. The type of prameha according to Ayurveda and modern is enlisted and analyzed. The patients were analyzed by their history, diet consumption, their lifestyle and genetic factor too. The increased chance of attack of the disease is also their; if diet and exercise is not properly followed.

**KEYWORDS:** Prameha , Lifestyle, Diabetes mellitus , Madhumeha.

**AIMS AND OBJECTIVES:**

- To study the concept of diabetes.
- To understand the causes of diabetes.
- To know the factors involved in diabetes.

**INTRODUCTION:**

**Madhumeha** as a disease in which urine of the patient is sweet like honey and quantitatively increased as well as of astringent, pale and rough quality. The basic Sanskrit term Madhumeha is composed of Madhu+ Meha where Madhu is equal to sweet or honey and Meha is equal to excessive urination or excess Pravrutti . It is considered a Dhatupakajanya Vikriti that is derangement in the body tissues take place due to defective Dhatupaka or defective metabolism<sup>1</sup>.

**Definition of diabetes mellitus:**

Diabetes means a passer through and mellitus means honey therefore it means a disease which resembles honey. It is a clinical syndrome which is characterised by hyperglycaemia due to deficiency or diminished effectiveness of insulin. Hyperglycaemia is defined as increase in blood sugar level above normal fasting range.

We have been hearing about diabetes here and there as it has become a common disorder mainly due to lifestyle these days. It is a national burden to India with high number of diabetic patients. Diabetes is one of the leading causes of death world wide. There are estimated 72.96 million cases in entire population of India. Obesity being the main reason behind it especially central obesity and increased visceral fat due to physical inactivity and consumption of high calorie/fat/sugar diet are major contributory factors , but ever wondered how did it reach at this stage ? Where did it start from? It's birth, took its first steps and grown this far well, the answers lie in your gut!!!!

According to Ayurveda mostly all the disease Yoni Sthana/Utpatti or birth place, is in ' Amashaya ' that is the gut and this includes basic metabolism that is what one eat, what gets digested absorbed and thrown out of from body . Its need to understand that this single system rules everything in your body; where as everyone gives more importance to other systems like nervous system. Even a mild indigestion or constipation if ignored many grievous and chronic disease could be manifested.

Now let us go through the types of Prameha according to Ayurveda, its generic characteristics and modern correlation<sup>2-3</sup>.

Prameha is of 3 types : Vataja , Pittaja and Kaphaja .

**Kaphaja Prameha:**

| Types             | General characteristics  | Modern correlation       |
|-------------------|--|--------------------------|
| 1.Udakameha       | Urine is transparent abundant, white, cold, odourless and water like. Specific gravity of urine becomes equivalent of water. | Diabetes incipidus       |
| 2.Ikshuvalika     | Excreted excessive urine which is sweet , cold, slimy ,turbid like sugarcane juice.  | Alimentary glucose Urea. |
| 3.Sandrameha      | Urine when left over at night precipitates. Thickness and turbines of urine .  | Phosphaturia             |
| 4.Sandrprasadmeha | Partly precipitates and partly clear   | Acetonuria               |
| 5.Shukrameha      | Semen like or urine charged with semen   | Spermaturia              |
| 6.Shuklmeha       | Urine frequently passed white and flour like   | Chyluria                 |
| 7.Shetameha       | Urine frequently, excessively sweet and cold.  |                          |
| 8.Siktameha       | Passes small particles ,scattered morbidity in urine with pain.  | Lithuria                 |
| 9.Shanairmeha     | Passes urine with difficulty and slowly without any urge , urine gushes out at intervals in jets                             | Anuria                   |
| 10.Alalameha      | Excreted urine similar to saliva appears threads and slimy   |                          |

Lavanameha : according to Sushruta Samhita urine becomes non viscid and acquires saline taste . Modern correlation is oxaluria.

**Pittajprameha:**

| <u>Types</u>    | <u>General characteristics</u>   | <u>Modern correlation</u>   |
|-----------------|--|---|
| 1.Ksharameha    | Passes Kshara or alkali like urine with respect to its colour touch and smell.           | Occurs in enlarged prostate ,urinary stricture and chroniccystitis. |
| 2.Kalameha      | Passes hot and black colour urine.   | Advanced stage of haematuria .Malenuria                             |
| 3.Nilameha      | Passes sour urine having bluish colour like casa bird frothy and transparent             | Indicanuria   |
| 4.Lohitameha    | Urine is having fleshy smell, saline ,hot and red .                                      | Hematuria   |
| 5.Manjisthameha | Urine frequently like decoction of Majistha with fleshy smell                            | Urobilnuria   |
| 6.Haridrameha   | Urine like the decoction of Haridra(yellow turmeric) , pungent and burning micturation . | Bile increased particularly seen in jaundice.                       |

**VATAJ PRAMEHA:**

| <u>Types</u> | <u>General characteristics</u>                      | <u>Modern correlation</u>  |
|--------------|---|--|
| 1.Vasameha   | Passes urine frequently mixed with muscle fat       | Lipuria  |
| 2.Majjameha  | Frequent urine and passes marrow with it.           | Blood content+ lipase in case of abscess of kidneys ,tuberculosis etc. |
| 3.Hastimeha  | Passes urine excessively like an excited elephant.  | Happens in false continence of urine ,paralyses of excretory centre    |
| 4.Madhumeha  | Passes urine as astringent, sweet , pale and rough. | Diabetes mellitus  |

**Classification of Madhumeha<sup>4,5</sup>:**

Classification according to the following categories-

1. Etiology (causes), Body constitution & Predominance of Doshas
2. Sadhyasadhyatva

### 1. Etiology :

- a) Sahaja (genetic) :- Beeja Dushti -juvenile Diabetes.
- b) Apathyanimittaja (acquired):- by overeating habits and lack of physical activities.

### 2. According to prognosis :

- a) Sadhya -Sukhasadhya
  - Kastasadhya
- b) Asadhya – Yapya
  - Pratyakhya

Madhumeha : a) Dhatukshaya

b) Avrutajanya

### **CLASSIFICATION OF DIABETES MELLITUS( in Contemporary Science of Medicine)**

Clinical classification of Diabetes mellitus-

- 1) Insulin dependant
- 2) Non Insulin dependent
  - a) Non obese
  - b) Obese
- 3) Malnutrition related Diabetes mellitus
- 4) Other types associated with certain conditions and syndromes like :
  - a) Pancreatic disease
  - b) Diseases of hormonal Etiology
    - c) Drug induced or chemically induced condition
    - d) Abnormalities of Insulin or its receptors
  - e) Certain genetic syndromes
- 5) Impaired glucose tolerance
- 6) Gestational DM

**DIFFERENCE BETWEEN IDDM AND NIDDM:**

|                 | IDDM                        | NIDDM  |
|-----------------|-----------------------------|--|
|                 | Type 1 ,juvenile onset type | Type 2 ,maternity onstage type ,obese and lean |
| Genetic locus   | Chromosome 1                | Chromosome 2                                   |
| Age of onset    | <30                         | >40  |
| Body habits     | Normal or lean              | Obese or normal                                |
| Plasma insulin  | Low or absent               | Normal or high                                 |
| Plasma glycogen | High , suppressible         | High , resistant                               |
| Therapy         | Insulin only                | Diet, exercise, OHG agents or insulin          |
|                 |                             |  |

**CAUSES OF MADHUMEHA:**

In Ayurvedic classics the Hetu that is the cause stands first in the examination of disease. These causes should be stopped in order to get the control of the disease (Nidana Parivarjana).If medication are given and the causes are continued there is no result or the disease cannot be managed .

For any disease the causes has been classified on the principles of ‘ Nyayadarshanam’.

- The Samavayi Karana(Inherent or material cause )
- Asamavayi Karana (non Inherent cause )
- Nimitta Karana (initiating or efficient cause)

All the body tissues or the Dhatus are Samavayi cause of the disease. The Dosha Dushya Sammurchana (the union of imbalanced Doshas with Dhatus) is Asamavayi. Active principles that are Vata, Pitta and Kapha are Nimitta Karana of this disease.

The different foods, drugs and activities(mental or physical etc) which excites the ‘Doshas’ to produce diseases are Sahakari Karanas that is accessory causes of the disease. The study of the cause of Diabetes mellitus is very essential for the treatment point of view because the avoidance of these causes is the first step of treatment in Ayurveda .

In the disease Madhumeha the body tissues Meda (fat) , Mamsa(muscle), Kleda( fluid), Vasa(muscle fat) , Lasika (tissue fluid) , Majja(marrow), Rasa(lymph),Ojas(essence of all the Dhatus ) and Pishita(muscle tissue) are the material causes. Association of these Dhatus with affected Doshas are the un-inherent causes and the bodily principles Vata, Pitta and Kapha are the efficient causes.

The excessive indulgence in sweet foods, sleep, eating in excessive quantity, Abhishyandi Bhojana, curd, Drava Bhojana etc are the accessory causes. While interrogating diabetic patients; even though some of them

are regularly consuming more sugar intake ,the others who are consuming moderate sugar and carbs , the digestive system was not functioning properly which means mal functions were occurring in metabolism and absorption. They suffered from indigestion, feeling heaviness of abdomen, lethargic, irregular stool and urine excretion and sweating is either excessive or less.

The prodromal symptoms occur in an early stage which most of them ignore and then it piles up and the disease manifests.

By changing the lifestyle and the diet of the person during the early stages, type 2 diabetes can be completely avoided. Most of the patients seen obese due to their diet and lack of exercise in these cases the insulin receptor cells are being suppressed by the fat cells. Therefore even though there is functioning pancreas and good insulin production but there is no receptor cells to accept them and do their function which results in type 2 diabetes.

Acharya Charaka , the great physician in ancient India has written about the inherent nature of the disease. According to him , a person who is born with Prameha or a person who is suffer from Madhumeha is a said to be incurable because the defect is present in the gametes of the parents before birth . As genetic cause is inherent and cannot be prevented from the affect one can express it as material cause of Madhumeha .

According to Ayurveda, any disease is caused by the imbalance of the three bodily principles namely Vata,Pitta and Kapha . In all types of Prameha, Kapha plays a predominant role along with Vata and Pitta. In case of Madhumeha ; Kapha along with Vata. Ayurvedic classics have mentioned the causes as :

- Indulgence in sitting on soft cushions for a longer period
- Lack of physical activities
- Lavishness
- Sleeping for a long time
- Excessive use of curd and flesh of domestic, aquatic or marshy land animals
- Milk and milk products
- Fresh grain fresh water
- Puddings of jaggery and sugar
- And other factors that increase kapha in the body.

“Asyasukham “means lack of physical activities. In modern age these types of working habits are seen especially in those people doing executive jobs like software engineer, tech team, doctor, advocates, businessman etc. are prone to predispose more by the disease. On the contrary they have to do more mental work. Charaka has enlisted mental causes like Shoka and Manovega that is anxiety and excitement as predisposing cause of Madhumeha (Vataja Prameha).

According to Acharya Sushruta : a man indulges in day sleep or follows sedentary pursuits or has a habit of taking sweet liquids or cold and fatty or emollient food will become victim of the disease.

The specific causes of Vatika Prameha has been described by Charaka and these can be seen in our daily life now a days :

- Astringent, Pungent, bitter, rough, cold food items. Now a day's junk food and food items like ice-cream can be considered.
- Sexual intercourse in excess.
- Excess physically exercises, people going to gym to work out beyond their capacity can be considered.
- Non unctuous enema.
- Evacuation in excess.
- Suppression of natural urges.
- Excessive fasting.
- Injury, exposure to the sun.
- Mental disorders, anxiety, excitement, depression.
- Uneven body postures.

### **ETIOLOGY OF DIABETES MELLITUS:**

According to modern medicine there is genetically predispose forms of Diabetes mellitus and those which are not predisposed genetically. Diabetic hereditary of the individual makes them more prone to Diabetes mellitus. According to current notions, predisposition to diabetes is governed by two or more genes and it is affected with participation of endogenous and exogenous factors. Depending on the pathogenesis Diabetes mellitus can be of<sup>6-9</sup> :

- Insulin dependant or type 1
- Non Insulin dependent or type 2

Type 1 is associated with the main genetic system HLA(human leucocyte agent ). It has been found that type 1 diabetes is associated with antigens B8, Bw15, B18, Dw3, Dw4, DRWB.

An extensive research in the past decade is revealed that there was several fold increased in occurrence of IDDM in person possessing certain HLA.

The prevalence of B8, B15, B18, B40, B12, B21, DR2, DR4, DQ in various combinations are much higher among patients of IDDM then in general population while the combination A3, B7,DR2 may be protective .

Individuals possessing both HLA DR3 and DR4 may be 25 -50 times more susceptible to developers IDDM than those having neither of two.

### **PANCREATICPATHOLOGY:**

In diabetes the Pancreatic pathological disorders causes destruction of the pancreas and leads to impaired secretion and release if insulin for example : Pancreatic hemocromatocis , carcinoma , cystic degeneration, calcified fibrosis etc. can all cause DM.

In Ayurveda there are many you postures to improve the function of pancreas which is advisable to the diabetic patients.

### **HORMONAL IMBALANCE:**

Diabetes mellitus occurs because of abnormal concentration of the hormones in the circulation which are insulin antagonists. Adrenocorticals such as cortisol raises the concentration of glucose in the blood by increasing protein breakdown and inhibiting utilization of glucose by peripheral tissues. Adrenaline, thyroid increase may also precipitate diabetes.

A good diet and also with the help of proper physical exercise, medication, meditation hormones can be balanced.

### **DRUGS:**

Certain drugs like corticosteroids, thiazidiazines etc are also the causes of Diabetes mellitus.

### **LIVER DISORDERS:**

Cirrhosis of liver, hepatitis, fatty liver may precipitate Diabetes mellitus.

### **CONCLUSION:**

By this study we could understand various kinds of diabetes according to Ayurveda and its modern correlation the causes of diabetes mellitus in which lifestyle plays a major role and by avoiding those causes one can prevent complications of Diabetes mellitus and lead a healthy life.

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