

# Ayurveda's Role in Managing Diabetes: A Case Study

Dr. Vikram Chauhan<sup>1</sup>, Dr. Meenakshi Chauhan<sup>2</sup>

<sup>1</sup>MD in Ayurveda (Dravyaguna), B.A.M.S, N.D.D.Y

<sup>2</sup>MD in ALT-MEDICINE, B.A.M.S (GOLD MEDALIST)

## Abstract

Diabetes is also known as Diabetes mellitus (DM) which is characterised by high blood sugar levels over a long period. The raised level of Blood Glucose leads to frequent urination. This may occur when the pancreas is unable to produce the proper level of insulin or the inability of body cells to absorb the glucose properly. Insulin regulates the level of glucose in the bloodstream, so its deficiency leads to a rise in the glucose levels in the bloodstream. The condition of Diabetes may lead to various complications if it is not managed properly. A 50-year-old male patient presented with complaints of frequent urination, increased thirst and hunger. The clinical findings and symptoms of the patient are related to Type 2 Diabetes. Diabetes is correlated to Madhumeha in Ayurveda. The patient was given Dia-Beta Plus capsules, Karela capsules, Madhumehantak churna, Fenugreek capsules and Diaplan tea. After 2 months, the patient feels some relief in his symptoms. The random sugar levels of the patient decreased from 240 mg/dL to 130 mg/dL. After the complete course of Ayurveda medication, the blood sugar level of the patient was managed effectively.

**Keywords:** Diabetes, Madhumeha, Dia-Beta Plus capsules, Karela capsules, Madhumehantak churna, Fenugreek capsules, Diaplan tea, Blood glucose level

## Introduction:

Diabetes Mellitus (DM) is a chronic condition which occurs when the pancreas of the body is unable to produce sufficient insulin or body cells are unable to use insulin. Diabetes is a group of common endocrine diseases in which the sugar level of blood is raised. The condition of hyperglycemia is the result of uncontrolled Diabetes. The prolonged condition of Diabetes leads to severe damage to the body's organs. This condition can be diagnosed by assisting the symptoms of the patient and by testing blood glucose. The long-term condition of Diabetes leads to various complications like heart disease, foot ulcers, diabetic ketoacidosis and also affects the eyes.

## There are many forms of diabetes but the most common are:

- 1. Type 1 Diabetes-** It is also called Insulin-dependent Diabetes mellitus or Juvenile diabetes. There is a loss in the production of Beta cells that are responsible for insulin production.
- 2. Type 2 Diabetes-** It is Non-Insulin-dependent or adult-onset diabetes. This is the most common type of Diabetes with a ratio of 95%. In this form of Diabetes, there is insulin resistance. A reduced insulin secretion can lead to insulin resistance due to which the body is unable to use the insulin in the proper amount. Type 2 diabetes may include risk factors like obesity, older age, sedentary lifestyle or any

family history of Diabetes. Hypertension, high cholesterol and high triglycerides level also increases the risk of Type 2 Diabetes.

**3. Gestational Diabetes-** This type occurs as a result of hormone change during pregnancy. Obese pregnant females are at high risk of this type of Diabetes.

The incidence of Diabetes is estimated to be approximately 29.3 million people that are diagnosed with Diabetes and about 9.7 million adults are still undiagnosed. The treatment of Diabetes according to modern medicine includes

- The first line of treatment for Type 2 Diabetes is associated with improving glucose levels and reducing the complications related to this Diabetes. Some of the common drugs that are used for the management of Type 2 Diabetes are Metformin and Sulphonylureas.
- Metformin is the common drug which is used for the management of type 2 diabetes. It is the first line of treatment for Diabetes management of class Biguanides

Metformin is the most preferred treatment option for Type 2 Diabetes which inhibits hepatic glucose production which helps in lowering blood glucose levels. This is the drug of choice for obese patients. Metformin causes adverse effects like abdominal discomfort, diarrhoea and bloating. Sulphonylureas stimulates insulin secretion for Beta cells of the pancreas. The side effects of weight gain, increased hunger, sweating and excess use can cause low blood sugar. Ayurveda plays a major role in the management of Type 2 Diabetes and managing healthy life very effectively. A balanced diet and lifestyle help in aiding the health of the patient very well. Ayurvedic herbs are used to keep body health in a balanced manner.

In Ayurveda Diabetes can be correlated with Madhumeha which is made up of two words Madhu (Honey) and Meha (Urine). Madhumeha is a condition in which the colour of the urine becomes pale and the quantity is increased than normal. The colour, taste, consistency and smell of urine are similar to honey according to Ayurvedic texts. Madhumeha is discussed under Prameha in various Ayurvedic texts. Prameha is a broad term which includes various types of Diabetes. Due to the continuous consumption of Kapha Aggravating foods like milk, curd, meat, freshly harvested food, jaggery etc. Continued use of these factors along with a sedentary lifestyle leads to an increase in the mucus, bile and flesh in the body increase in large form. Due to their increase, the stagnant air becomes agitated and enters the urinary bladder along with Ojas leading to Diabetes. The Doshas involved in Madhumeha are Kapha, Pitta and Vata and the Dushyas involved are Meda, Rakta, Sukra, Ambu, Vasa, Lasika, Majja, Rasa, Oja and Mamsa. Madhumeha is a Type of Vataj Prameha. The diagnosis of Madhumeha depends on the Dosha involvement. Both Shamana (Pacifying) and Shodhana Chikitsa (purification therapy) have been mentioned for Diabetes or Madhumeha after assessing the proper age and strength of the patient and season.

**Table 1. Similarities between Diabetes and Madhumeha**

Diabetes	Madhumeha
Frequent urination	Polyuria
Increased thirst	Pipasa-adhikaya
Weakness	Klama

Glycosuria Urine Turbidity	Mutra Madhuryata Avila Mutrata
Hyperglycemia	Tanu Madhuryata
Polyphagia	Bahu Akankshi

### Case study

In the year of 2019, the patient had to urinate frequently and he started feeling more thirsty. He started feeling weakness and blurry vision. So he went for a CBC count to check for any abnormality. As per the results of the CBC report the random blood glucose level of the patient is 260 mg/dL. Then he went to the local hospital in Muktsar for treatment. The patient took allopathic treatment for Diabetes for 4 years. He took Metformin hydrochloride 1000 mg once a day. On continuous consumption of metformin, the patient feels abdominal discomfort and bloating though he didn't get good results in the management of blood glucose levels. Then, the patient visited Planet Ayurveda on 25 November 2022 and Consulted Dr Vikram Chauhan at Planet Ayurveda, Mohali with a 240 mg/dl random blood sugar count on 25 November 2022.

**Diet History:** The diet history of the patient shows that he consumes milk daily at night time and takes fried food, flesh food and Alcohol occasionally or once a week. He also skipped his meals many times.

**Drug History:** The patient had no history of any other medical condition.

**Family History:** The patient had a family history of Diabetes. The patient's father was suffering from Type 2 Diabetes.

### Findings:

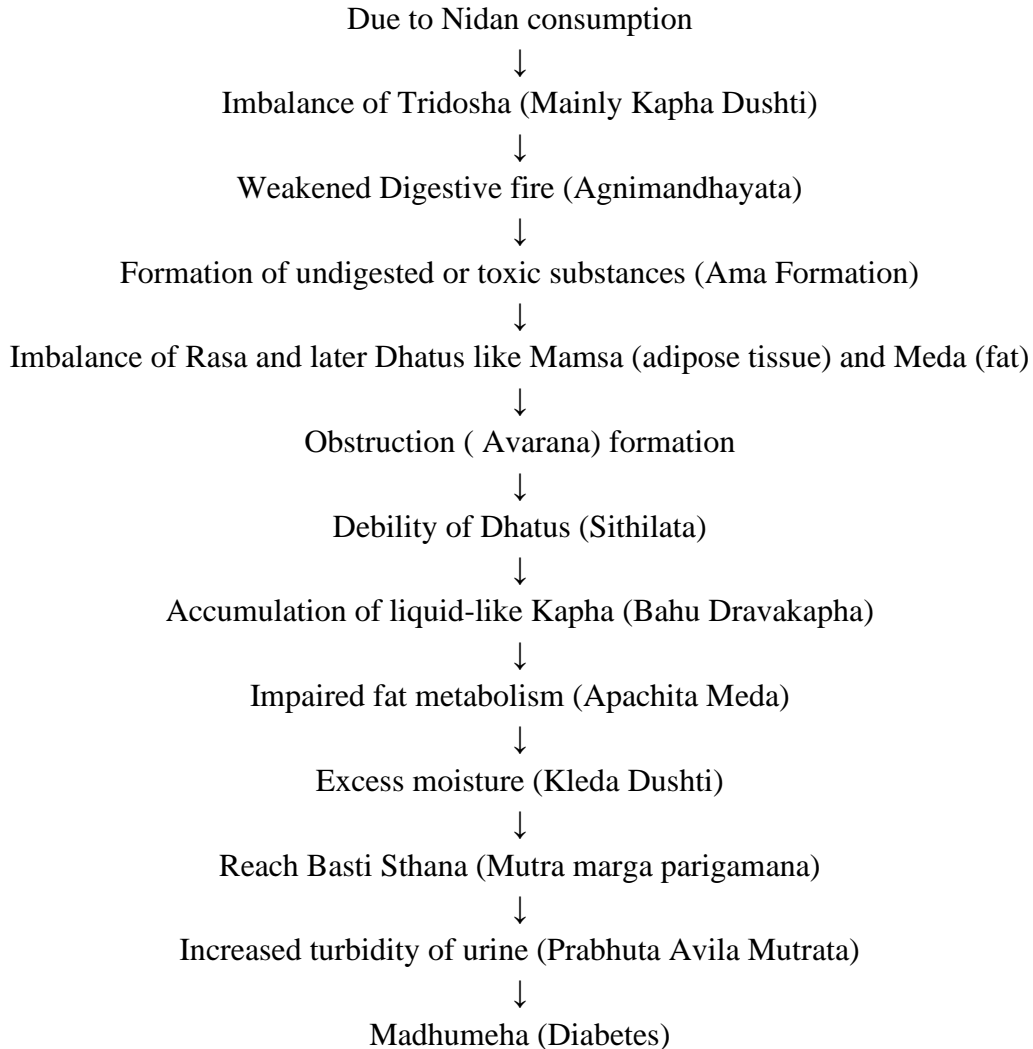
- 1. General Assessment-** There was no history of any serious sickness in the patient. His pulse rate was 74 beats per minute and his blood pressure was 116/82 mmHg. He had an addiction to alcohol. He had to go for micturition very often.
- 2. Local Inspection-** The patient had no severe deformity.
- 3. Systemic Investigation-** The patient was aware of the date, time, and location. His respiratory and cardiovascular systems were also normal. At rest, the respiratory rate of the patient was 16 breaths per minute. The findings of the eightfold examination were as follows:
  - **Nadi (Pulse)** Vata Pradhan and Kaphanubandhi
  - **Mutra (Urination)** and Mala (Bowel) were normal
  - **Jivha (Tongue)** Normal
  - **Shabda (Speaking)** was normal
  - **Drik (Vision)** was normal (6/6 in both eyes)
  - **Akriti (Built)** was normal

### The tenfold examination revealed

- 1. Dushya** (Any tissue of the body that gets vitiated) was Meda, Rakta, Sukra, Ambu, Vasa, Lasika, Majja, Rasa, Oja and Mamsa
- 2. Desha** (Habitat)- Sadharan
- 4. Bala** (Strength)- Madhyam
- 5. Kala** (Time)- Sheeta Ritu (Winters)

6. **Agni** (Digestive fire) – Mandya
7. **Prakriti** (Body constitution)- Vata-Kapha
8. **Vaya** (Age)- Madhyam (Middle age)
9. **Satva** (Psychic condition)- Madhyam
10. **Satmya** (Homologation)- Sheet Jala (Cold water)
11. **Ahar** (Diet)- Salty taste 3-4 times a day

## 12. Madhumeha Samprapti-



## 13. Investigation

To confirm the diagnosis of Diabetes, the patient was suggested to do HbA1C, Fasting Sugar test and Random blood sugar test. The increased blood glucose level indicates Diabetes. So, based on the medical history and family history given by the patient and pathological reports show the diagnosis of Type 2 Diabetes.

## 14. Therapeutic measures

The patient was instructed to take medicines like Dia-Beta Plus capsules, Karela capsules, Madhumehantak churna, Fenugreek capsules and Diaplan tea. Dia-Beta plus capsules and

Madhumehantak Churna were taken by the patient twice daily with lukewarm water before food and Karela capsules and Fenugreek capsules twice daily with lukewarm water after food daily. Diaplan Tea must be taken by him once a day. Take prescribed medicines at a gap of 5 minutes.

**Table 2. Lists the ingredients for DIA-BETA PLUS CAPSULES in detail**

Sr. no.	Sanskrit name	Common name	Botanical name	Rasa	Vipaka	Veerya	Action
1	Gurmaar	Meshashringi	<i>Gymnema sylvestre</i>	Kashay, Tikta	Katu	Ushna	Pacify kapha and pitta dosha
2	Karela	Bitter gourd	<i>Momordica charantia</i>	Tikta, Katu	Katu	Ushna	Pacify kapha and pitta dosha
3	Saptrangi	Saptrangi	<i>Salacia oblonga</i>	Kashay, Tikta	Katu	Ushna	Pacify kapha and pitta dosha
4	Vijaysar	Vijaysar	<i>Pterocarpus marsupium</i>	Kashay, Tikta	Katu	Sheet	Pacify kapha and pitta dosha
5	Ashwagandha	Ashwagandha	<i>Withania somnifera</i>	Katu, Tikta, Kshaya	Katu	Ushna	Balances tridosha
6	Tulsi	Tulsi	<i>Ocimum tenuiflorum</i>	Katu, Tikta	Katu	Ushna	Balance Kapha and Vata

**Results and Follow up-**

**1st Follow-up Results (After 30 days):-** The patient reported that he was doing well after taking 1st-month medications.

**2nd Follow-up Results (After 60 days):-** After taking 2nd month of medications, the patient found some relief in his symptoms.

**3rd Follow-up Results (After 90 days):-** After taking medication for 90 days, the patient feels amazing changes in his symptoms and more than 60% of symptoms were reduced.

**4th Follow-up Results (After 120 days):-** After taking the proper course of medicines, the blood glucose levels of the patient decreased from 240 mg/dl to 130 mg/dl.

**Table 3 shows how medications affect haematological parameters, and Table 4 shows follow-up data up to one month after medication initiation.**

S. No	Time/ Duration	Patient's condition before Planet Ayurveda's treatment	Patient's condition after Planet Ayurveda's treatment
1. 1	1st month	240 mg/dl (25 nov 2022)	190 mg/dl (27 dec 2022)

2.	2nd month		160 mg/dl (27 Jan 2023)
3. 3	3rd month		145 mg/dl (1 mar 2023)
4.	4th month		130 mg/dl (31 mar 2023)

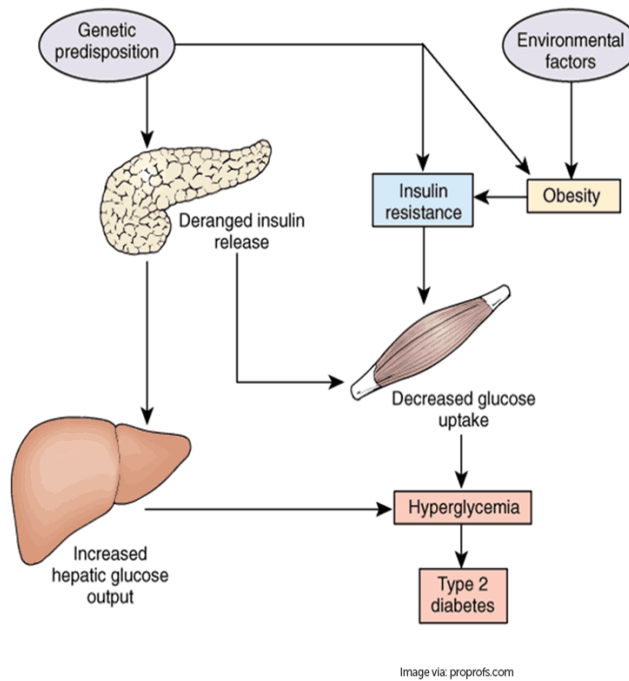
**Table 5. Follow-up line treatment**

Date	Treatment Plan	Aushadhi Sevana Kala	Symptoms observed on Follow-up
25 Nov 2022	Dia-Beta Plus capsules, Karela capsules, Madhumehantak churna, Fenugreek capsules and Diaplan tea	Dia-Beta Plus and Madhumehantak churna-Pragbhakta (before meal) All other medicines are taken Adhobhakta (After meal)	Some Relief in excess hunger and thirst
27 Dec 2022	Continue all medication	Same	Frequency of micturition is decreased
27 Jan 2023	Continue all medication	Same	The frequency of micturition is normal
1 Mar 2023	Continue all medication	Same	No major symptoms observed
31 Mar 2023	Continue all medication	Same	No major symptoms observed

### Discussion

The condition of diabetes can be correlated with Madhumeha (Vataj Prameha). Increased urine frequency is a common clinical symptom of Diabetes. The present cases of Diabetes patients have increased frequency of micturition, increased thirst and hunger. It can be correlated with Madhumeha in Ayurveda. Madhumeha is a disease in which urine is pale in colour and increased in quantity. Urine in Madhumeha is similar to honey in colour, taste, smell and consistency. The Doshas involved in Madhumeha are Kapha, Pitta and Vata.

**Pathology**



**Fig. 1 Pathology of Diabetes**

This case study describes a male patient who had Type 2 Diabetes. In this instance, Tridosha vitiation is predominantly linked to Diabetes. The patient had taken 2 capsules of Dia-Beta Plus capsules and 1 Teaspoon of Madhumehantak churna twice daily with lukewarm water before food. After the meal, the patient took 2 capsules of each of Karela capsules and Fenugreek capsules with lukewarm water. Diaplan tea was taken by the patient once daily for 30 days.

Sr. No.	Name of Medicines	Action
1.	Dia-Beta Plus capsules	Maintain blood sugar levels in the body Remove toxins from the body
2.	Karela capsules	Managing Kapha and Pitta dosha Support a healthy Pancreas Controls blood sugar levels
3.	Madhumehantak churna	Support a healthy Pancreas Maintain healthy glucose levels in the body
4.	Fenugreek capsules	Slowing sugar absorption in the Stomach Stimulates insulin
5.	Diaplan Tea	Controls elevated blood glucose levels

The patient was instructed to avoid all dairy products, sweet and spicy food, all kinds of packed and processed foods. He was also instructed to take Bitter gourd juice, Amla juice, Neem juice, Giloy juice and Bottle gourd juice daily.

**The patient's view point:**

When the patient first visited the outpatient department, he was very concerned with his condition of Diabetes and its symptoms. He was frustrated with the increased frequency of urine, especially at night time which affected his sleep. He has to take Metformin regularly, which causes adverse effects. However, when he started following Ayurvedic medicines, his symptoms gradually disappeared.

**Informed permission**

The patient's written informed consent has been obtained in order to publish the results for the benefit of scientific society knowledge.

**Conclusion:**

Ayurvedic treatment improved Blood glucose levels in Type 2 Diabetes (Madhumeha) patients. Frequent urination became normal after taking Ayurvedic medicines. Ayurvedic treatment appears effective in the management of Type 2 Diabetes and increases hope for Diabetes patients. Ayurvedic medicines appear promising as compared to Allopathic medicine i.e. Metformin. It proves effective in the management of complications of Diabetes. In this clinical case study, the patient has shown positive symptomatic improvement during the management of Type 2 diabetes. With the help of Ayurvedic medicines, the patient gets relief from his symptoms. Ayurvedic formulations used in the management of Diabetes contain antidiabetic, antioxidant and anti-inflammatory properties. These properties are very helpful in lowering blood glucose levels and also manage the symptoms of Type 2 Diabetes.