World Journal of Pharmaceutical and Life Sciences
WJPLS
www.wjpls.org
SJIF Impact Factor: 7.409

A COMPREHENSIVE CASE REPORT ON THE MANAGEMENT OF *PRAMEHA* (DIABETES MELLITUS) USING TRADITIONAL *AYURVEDIC* MEDICATIONS

Acharya Manish[1], Dr. Gitika Chaudhary[2]*, Dr. Richa[3], Dr. Gurdas[4], Dr. Tanu Rani[5]

[1]Director, Meditation Guru, Jeena Sikho Lifecare Limited, India.
[2]Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India.
[3]Senior Research officer, BAMS, PGDIP, CICR, CAIM, CMW, Jeena Sikho Lifecare Limited, India.
[4]Consultant, BAMS, Jeena Sikho Lifecare Limited, India.
[5]Research Associate, BAMS, Jeena Sikho Lifecare Limited, India.

***Corresponding Author: Dr. Gitika Chaudhary**
Senior Consultant, General Surgeon, BAMS, PGDIP, PGDGS, MS (Ayurveda), Jeena Sikho Lifecare Limited, India.

Article Received on 13/07/2025 **Article Revised on 03/08/2025** **Article Accepted on 23/08/2025**

ABSTRACT
Type 2 Diabetes Mellitus (T2DM), known as *Madhumeha* in *Ayurveda*, is a growing global health burden characterized by chronic hyperglycemia due to insulin resistance and/or deficiency. While modern medicine offers pharmacological interventions, *Ayurveda* provides a holistic approach rooted in diet, lifestyle, and *Ayurvedic* formulations that may offer long-term benefits and fewer side effects. This case report describes the management of a 47-year-old female patient diagnosed with Type 2 Diabetes Mellitus using an integrated approach that incorporates *Ayurvedic* treatments. Prior to the intervention, the patient struggled with generalized weakness and mild lower limb pain, compounded by ineffective use of conventional medication due to side effects. Over a period of six months, an *Ayurvedic* regimen tailored to the patient's symptomatic profile and medical history was administered, focusing on correcting metabolic imbalances traditionally associated with the aggravation of *Kapha* and *Vata* doshas. Significant improvements were observed, with the patient's HbA1c levels dropping from 9.2% to 5.9%, marking an enhancement in glycaemic control. Additionally, subjective health indices such as energy levels and pain severity saw considerable improvements. The follow-ups conducted at regular intervals ensured the treatments' adaptability and efficacy, highlighting the potential of *Ayurvedic* medicine as a viable complement or alternative to conventional diabetes management strategies. This case supports further exploration into *Ayurvedic* practices and their integration into mainstream healthcare for chronic conditions.

KEYWORDS: Type 2 Diabetes Mellitus, *Ayurvedic* medicine, metabolic management, chronic disease management. *Prameha*.

INTRODUCTION
Prameha, commonly equated with Diabetes Mellitus in modern medicine, is a significant metabolic disorder characterized by chronic hyperglycaemia, resulting from issues in insulin secretion, insulin action, or both. Modern medical textbooks such as Harrison's Principles of Internal Medicine provide extensive details on the pathophysiology, treatment, and epidemiology of Diabetes Mellitus, highlighting its status as a global public health crisis.[1] Derived from two major types - Type 1 and Type 2 - Diabetes impacts millions worldwide, with the International Diabetes Federation reporting over 463 million affected individuals globally in 2019, projected to rise to 700 million by 2045.[2]

In *Ayurveda*, *Prameha* is detailed extensively in classical texts like *Charaka Samhita, Sushruta Samhita, and Ashtanga Hridayam.* These texts classify *Prameha* into 20 subtypes based on the clinical symptoms and the predominance of *Doshas* - *Vata, Pitta, and Kapha*.[3] The most closely related to Diabetes Mellitus are those subtypes dominated by *Kapha*, which correlate to insulin resistance and Type 2 Diabetes due to their manifestation from an excess of *meda* (body fat). Scholarly research on comparison and management of *Prameha* with *Ayurvedic* interventions can be observed in recent works that integrate classical protocols with modern clinical practices.[4]

From a modern pathophysiological perspective, Diabetes Mellitus involves impaired insulin secretion and function, influenced by genetic and environmental factors. Insulin resistance, a prominent feature particularly in Type 2 Diabetes, leads to increased blood glucose levels, which over time damages various organ systems. Epidemiologically, the increase in global

diabetes prevalence is fueled by aging populations, urbanization, sedentary lifestyles, and increasing rates of obesity.[5]

On the other hand, *Ayurveda* describes the *Samprapti* (pathogenesis) of *Prameha* focusing on lifestyle and dietary factors that disrupt the body's *dosha* balance, particularly the *Kapha dosha*. Overconsumption of *guru* (heavy), *snigdha* (unctuous), *madhura* (sweet), and *amla* (sour) foods, along with a sedentary lifestyle, is said to *meda dhatu vrddhi* (increase in body fat) and *kleda* (fluid retention), which in turn aggravates *Kapha dosha*. This leads to *Srotasavarodha* (obstruction of channels), eventually resulting in *Prameha*.[6] The comprehensive management approach in *Ayurveda* involves not only *shaman chikitsa* (pacification therapy) using *ayurvedic* preparations but also *shodhan chikitsa* (purification procedures) along with strict dietary and lifestyle modifications aimed at restoring the *dosha* balance and enhancing *Agni* (digestive fire).

CASE REPORT

Patient History and Information

A 47-year-old Male patient presented with symptoms of generalized weakness, mild pain in the lower limbs, and was recently diagnosed with Type 2 Diabetes Mellitus. The diagnosis followed multiple occasions where the patient complained of increased fatigue and recurrent episodes of mild pain, prompting her to seek medical evaluation.

Diet and Lifestyle History: Upon detailed examination of her diet and lifestyle, the patient reported a predominantly sedentary lifestyle with minimal physical activity due to her sedentary occupation. Her diet mainly consisted of high-carbohydrate meals, frequent intake of sugary snacks, and inadequate fruits and vegetables. She admitted to occasional alcohol consumption and had a smoking history of 5 years, although she had quit smoking 10 years ago.

Medicine History: Upon diagnosis of Type 2 Diabetes, the patient was initially prescribed metformin, which she took irregularly due to gastrointestinal side effects. She had not been on any other long-term medication prior to this. Before resorting to systematic *Ayurvedic* treatment, the patient had also tried various over-the-counter supplements to mitigate her weakness but found these ineffective.

Surgical History: The patient's surgical history was unremarkable with no previous surgeries reported.

Family History: There was no notable family history of diabetes or other chronic metabolic disorders. The patient was the first in her immediate family to be diagnosed with Type 2 Diabetes.

Onset and Disease Progression: The onset of the disease was gradual, marked initially by increased lethargy and the mild, non-specific pain in her lower limbs, which she attributed to aging and her sedentary nature of work. As these symptoms persisted and increased in frequency, coupled with the development of new symptoms such as occasional blurring of vision and frequent thirst, the patient was compelled to seek medical advice. Clinical investigations confirmed the diagnosis of Type 2 Diabetes, characterized by elevated fasting glucose levels, and an HbA_{1c} confirming poor glycemic control over the previous 3 months.

The progression of her symptoms and irregular medication adherence prompted the consideration of an integrated *Ayurvedic* approach, focusing on correcting her diet, enhancing lifestyle practices, and utilizing holistic *Ayurvedic* therapies aimed at restoring her bodily balance and managing her diabetes more naturally.

Samprapti

In *Ayurveda*, the *Samprapti* (pathogenesis) of *Prameha* (Diabetes Mellitus), particularly when concerning the subtype rooted in *Kapha dosha*, involves a dysfunctional metabolic process initiated by poor dietary choices and a sedentary lifestyle, leading to an accumulation and aggravation of *Kapha*. This imbalance primarily affects the *meda dhatu* (fat tissue) and *kleda* (body fluids), augmenting production and blocking the *srotas* (body channels), which in turn impairs the normal function of *Vata*. The aggravated *Vata* further disrupts the *agni* (digestive fire), leading to irregular digestion and an abnormal increase in the levels of sugar in the bloodstream. This pathophysiological narrative closely aligns with the observable symptoms and progression in patients diagnosed with Type 2 Diabetes, seen as a manifestation of chronic metabolic dysfunction influenced strongly by lifestyle factors.

***Nidana* (Causes)**
→ *Aharaja* (excess sweet/oily foods)
+ *Viharaja* (sedentary habits)
↓
Dosha Prakopa
→ *Kapha* → *Pitta* → *Vata* (*tridosha* imbalance)
↓
Dhatu-Srotodushti
→ *Meda dhatu* (fat) + *Mutravaha/Medovaha srotas* (channels) blocked → *Ama* (toxins)
↓
Prameha Utpatti
→ 10 *Kapha*, 6 *Pitta*, 4 *Vata* types → *Mutra samsrava* (excessive urination)
↓
Avrita Vata
→ Chronic → *Madhumeha* (sweet urine) + *dhatu kshaya* (tissue wasting)
1. ↓
Upadrava
→ *Trishna* (thirst), *Daurbalya* (weakness), *Hridroga* (he art issues).

Component	Details
1. *Nidana*	*Aharaja* (excess *guru*, *snigdha*, *madhura* foods), *Viharaja* (sedentary habits, *divasvapna*).
2. *Dosha*	*Kapha* (primary), followed by *Pitta* and *Vata* → *Tridosha* involvement.
3. *Dushya*	*Meda dhatu* (main), *Mamsa*, *Kleda*, *Shukra*, *Ojas*.
4. *Srotas*	*Mutravaha srotas* (urinary channels) and *Medovaha srotas* (fat metabolism channels).
5. *Agni*	*Mandagni* (weak digestive fire) → leads to *Ama* (toxins).
6. *Ama*	Accumulates due to impaired metabolism, blocks *srotas*.
7. *Udbhava Sthana*	*Amashaya* (stomach and upper GI tract).
8. *Sanchara*	Spreads through *srotas* → vitiates *dhatus* (tissues).
9. *Vyakta Sthana*	*Mutravaha srotas* (urinary system) → symptoms manifest here.
10. *Lakshana*	*Mutra samsrava* (excessive urination), *Avila mutra* (turbid urine), *Madhumeha* (sweet urine).
11. *Upadrava*	*Daurbalya* (weakness), *Trishna* (thirst), *Hridroga* (cardiac issues), *Vidradhi* (abscesses).
12. *Sadhyasadhyata*	*Kapha* types (curable), *Pitta* (manageable), *Vata/Madhumeha* (palliative).

Table 2: Vital Parameters.

Sr. No	Examination	Findings
1.	**Blood Pressure**	140/90 mm of Hg
2.	**Pulse**	92 / min
3.	**Weight**	66.8 kg
4.	**Height**	5 feet 3 inches

***Ayurvedic* Examination**

Table 3: *Ashtavidha Pariksha* (Eight-fold Examination).

Sr. No	Examination	Findings
1.	*Nadi (*Pulse*)*	*Pittaja- Vata*
2.	*Mutra (*Urine*)*	*Avikrita*
3.	*Mala (*Stool*)*	*Baddha* (Incomplete Evacuation)
4.	*Jihva (*Tongue*)*	*Saam*
5.	*Shabda (*Voice*)*	*Avikrita*
6.	*Sparsha (*Touch*)*	*Avikrita*
7.	*Drik (*Eyes*)*	*Shweta*
8.	*Akriti (*Appearance*)*	*Avikrita*

Table 4: *Dashavidha Pariksha* (Ten-fold Examination).

Sr. No	Examination	Findings
1.	***Prakriti* (Constitution):**	*Vata Pitta*
2.	***Vikriti* (Imbalance)**:	*Vata Kapha*
3.	***Sara* (Tissue Excellence)**:	*Meda Saar*
4.	***Samhanana* (Body Build)**:	*Avar*
5.	***Pramana* (Body Proportions)**:	*Madhyama*
6.	***Satmya* (Adaptability)**:	*Avar*
7.	***Satva* (Psychological Strength)**:	*Avar*
8.	***Ahara Shakti* (Digestive Strength)**:	*Avar*
9.	***Vyayama Shakti* (Exercise Capacity)**:	*Avar*
10.	***Vaya* (Age)**:	47 yrs old

Systemic Examination

1. **General Appearance**: Patient appears fatigued.
2. **Cardiovascular System**: Normal heart sounds with no murmurs; regular rhythm and rate.
3. **Respiratory System**: Lungs clear to auscultation bilaterally, no wheezes, rhonchi, or crackles observed.
4. **Gastrointestinal System**: Abdomen is soft, non-distended with normal bowel sounds; no hepatosplenomegaly or masses palpated.
5. **Neurological Examination**: Conscious, oriented, with normal cognitive function and no focal neurological deficits.
6. **Musculoskeletal System**: No joint swelling or deformities; muscle strength preserved but mild lower limb pain noted.
7. **Integumentary System**: Skin is dry with mild itching; no rashes or pigmentation changes.

Diagnostic Assessment

Table 3: Laboratory Results.

Table 5: Tests Done in this Case.

Test	Readings
Glycosylated Haemoglobin (HbA_{1c})	9.6 %

Assessment Parameters

Objective Parameters

Glycosylated Haemoglobin (HbA_{1c})

Subjective Parameters

1. **Generalized Weakness: Fatigue Severity Scale (FSS):** This scale measures the severity of fatigue and its effect on a person's activities and lifestyle in patients with a variety of chronic diseases. It consists of 9 statements that the patient rates on a scale from 1 (strongly disagree) to 7 (strongly agree), with higher scores indicating greater fatigue severity.
2. **Mild Lower Limb Pain: Visual Analogue Scale (VAS) for Pain:** This is a unidimensional measure of pain intensity, which has been widely used in diverse adult populations, including those with rheumatic diseases. This scale involves a line, usually 10 centimeters long, where the endpoints are defined as the extreme limits of the pain experience (no pain to worst pain). The patient marks on the line the point that they feel represents their perception of their current state.

TREATMENT INTERVENTION

I. Diet Plan[9]

The dietary guidelines provided by Jeena Sikho Lifecare Limited Hospital include the following key commendations:

a. Foods to be avoided

- Do not consume wheat, refined food, milk and milk products, coffee and tea and packed food.
- Avoid eating after 8 PM.
- During solid meal consume small bites and chew each bite 32 times.

b. Hydration

- During water intake, take sip by sip and drink slowly to ensure the amount of water intake each time.
- Drink about 1 litre of alkaline water 3 to 4 times throughout the day.
- Include herbal tea, living water, and turmeric-infused water part of your daily routine.
- Boil 3-4 litre water & reduce up to 2 litre and consume.

c. Millet Intake

- Incorporate five types of millet into your diet: Foxtail (*Setaria italica*), Barnyard (*Echinochloa esculenta*), Little (*Panicum sumatrense*), Kodo (*Paspalum scrobiculatum*), and Browntop (*Urochloa ramose*).
- Use only steel cookware for preparing the millets
- Cook the millets only using mustard oil.

d. Meal Timing and Structure

1. Early Morning (5:45 AM): Herbal tea, curry leaves (1 leaf-1 min/5 leaves-5 min) along with raw ginger and turmeric.
2. Breakfast (9:00-10:00 AM): The patient will have steamed fruits (Seasonal), steamed sprouts (according to the season) and a fermented millet shake (4-5 types).
3. Morning Snacks (11:00AM): The patient will be given carrot juice (150 ml) and soaked almonds.
4. Lunch (12:30 PM - 2:00 PM): The patient will receive Plate 1 and Plate 2. Plate 1 will include a steamed salad, while Plate 2 with cooked millet-based dish.
5. Evening Snacks (4:00 – 4:20 PM): Green juice (100-150 ml) along with 4-5 almonds.
6. Dinner (6:15-7:30 PM): The patient will be served a steamed salad, chutney, and soup, as Plate 1, along with millet *khichdi* as Plate 2.

e. Fasting

- It is advised to observe one-day fasting.

f. Special Instructions

- Express gratitude to the divine before consuming food or drinks.
- Sit in *Vajrasana* (a yoga posture) after each meal.
- 10 minutes slow walk after every meal.

g. Diet Types

- The diet comprises low salt solid, semi-solid, and smoothie options.
- Suggested foods include herbal tea, red juice, green juice, a variety of steamed fruits, fermented millet shakes, soaked almonds, and steamed salads.

II. Lifestyle Recommendations

(i) Include meditation for relaxation.
(ii) Practice barefoot brisk walk for 30 minutes.
(iii) Ensure 6-8 hours of quality sleep each night.

Adhere to a structured daily routine

Medicines Used in this Case

Table 6: Medicines used in this case study.

Medications	Dose	Anupana	Duration
Prameharoghar Powder – ***Kutki*** is *Picrorhiza kurroa.* ***Chiraita*** is *Swertia chirata.* The combination of ***Neem*** and ***Karela*** refers to *Azadirachta indica* and *Momordica charantia,* respectively. ***Rasonth*** *(*dried ginger*)* is *Zingiber officinale.* ***Imli Beej*** *(tamarind seeds) Tamarindus indica.* ***Kala Namak, Giloy Sonth*** combines ***Giloy*** *(Tinospora cordifolia)* and ***Sonth*** *(*dry ginger, which is *Zingiber officinale).* ***Babool Chaal*** refers to the bark of *Acacia arabica (Indian gum arabic tree),* and ***Sarpgandha*** is *Rauvolfia serpentina.* ***Trivang Bhasma*** *and* ***Yashad Bhasam****.* ***Revend Chinni****,* known as *Chinese rhubarb,* is *Rheum emodi.* ***Sodhit Guggulu*** involves purified *guggul* from *Commiphora wightii.* ***Methi*** is *Trigonella foenum-graecum (fenugreek),* and ***Jamun*** is the *black plum, Syzygium cumini.* ***Babool Fruit*** *Acacia arabica.* ***Karanj*** is *Pongamia pinnata.* ***Shilajit*** is a mineral resin. ***Haldi*** is turmeric, *Curcuma longa.* ***Harad*** is *Terminalia chebula*, and ***Inderjaun*** is known as *Holarrhena antidysenterica.* ***Banslochan*** is a silica preparation from bamboo, *Bambusa bambos.* ***Bahera*** is *Terminalia bellirica.* ***Amla*** is the Indian gooseberry, *Emblica officinalis.* ***Safed Musli*** is *Chlorophytum borivilianum.* Finally, ***Gudmar*** is *Gymnema sylvestre.*	½ Tsp BD	Lukewarm Water *(Koshna Jala)*	*Adhobhakta* (After Meal)
DM Cap - ***Amba Haldi*** is known as *Curcuma amada,* ***Giloy*** is *Tinospora cordifolia,* and ***Safed Musli*** refers to *Chlorophytum borivilianum.* ***Methi*** is *Trigonella foenum-graecum,* while ***Neem*** is identified as *Azadirachta indica.* ***Karela*** is the common name for *Momordica charantia,* and ***Jamun*** is referred to as *Syzygium cumini.* ***Bilva Patra*** comes from the tree known as *Aegle marmelos.* ***Gudmar*** is *scientifically* named *Gymnema sylvestre,* and ***Shudh Shilajeet*** is not a plant, but a mineral resin purged of impurities, primarily sourced from Himalayan rocks.	1 Tab BD	Lukewarm Water *(Koshna Jala)*	*Adhobhakta* (After Meal)
Tab Chander Vati - contains a blend of numerous *Ayurvedic* ingredients. These include ***Kapoor Kachri*** (*Hedychium spicatum*), ***Vach*** (*Acorus calamus*), ***Motha*** (*Cyperus rotundus*), ***Kalmegh*** (*Andrographis paniculata*), ***Giloy*** (*Tinospora cordifolia*), ***Devdaru*** (*Cedrus deodara*), ***Desi Haldi*** (*Curcuma longa*), ***Atees*** (*Aconitum heterophyllum*), ***Daru Haldi*** (*Berberis aristata*), ***Pipla Mool*** (root of *Piper longum*), ***Chitraka*** (*Plumbago zeylanica*), ***Dhaniya*** (*Coriandrum sativum*), ***Harad*** (*Terminalia chebula*), ***Bahera*** (*Terminalia bellirica*), ***Amla*** (*Emblica officinalis*), ***Chavya*** (*Piper chaba*), ***Vayavidang*** (*Embelia ribes*), ***Pippal*** (*Piper longum*), ***Kalimirch*** (*Piper nigrum*), ***Sonth*** (*Zingiber officinale*), and ***Gaj Pipal*** (*Scindapsus officinalis*). Additional components in the tablet include ***Swarn Makshik Bhasma***, ***Sujji Kshar***, ***Senda Namak***, ***Kala Namak***, ***Choti Elaichi*** (*Elettaria cardamomum*), ***Dalchini*** (*Cinnamomum verum*), ***Tejpatra*** (*Cinnamomum tamala*), ***Dant****i* (*Baliospermum montanum*), ***Nishothra*** (*Operculina turpethum*), ***Banslochan*** (*Bambusa arundinacea*), ***Loh Bhasma***, ***Shilajit***, *and* ***Guggal*** (*Commiphora wightii*). This formulation is a complex mixture aimed at addressing various health issues according to *Ayurvedic* principles.	2 Tablets BD	Lukewarm Water *(Koshna Jala)*	*Adhobhakta* (After Meal)
Yakritshothhar Vati - ***Punarnava*** is known as *Boerhavia diffusa****,*** ***Kalimirch*** as *Piper nigrum****, and Pippali*** as *Piper longum.* ***Vayavidanga*** is identified as *Embelia ribes,* while ***Devdaru*** refers to *Cedrus deodara.* ***Kutha Haldi*** is actually known as *Curcuma zedoaria, and* ***Chitrake*** is *Plumbago zeylanica****.*** ***Herad*** *(*often part of *Triphala, combined* with *Bahera* and *Amla),* ***Bahera*** is *Terminalia bellirica,* and ***Amla*** is *Phyllanthus emblica.* ***Danti*** is *Baliospermum montanum* while ***Chavya*** is *Piper chaba****.*** ***Indra Jon,*** commonly known as *Holarrhena antidysenterica,* **and** ***Pippla Mool*** *(*the root of *Piper longum****).*** ***Motha*** is *Cyperus rotundus and* ***Kalajira*** could refer to *Carum carvi****.*** *Kayphal* is *Myrica esculenta,* ***Kutki*** as *Picrorhiza kurroa****,*** and ***Nisoth*** is *Operculina turpethum****.*** ***Sonth*** is the dried form of *Zingiber officinale,* ***Kakd singhi*** is *Pistacia integerrima,* and ***Ajwaen*** refers to *Trachyspermum ammi.* ***Lastly, Mandur bhasam*** is an iron oxide preparation and not a plant-based material.	1 tab BD	Lukewarm Water *(Koshna Jala)*	*Adhobhakta* (After Meal)
Madhumehanashaka Syrup – ***Karela*** is known as *Momordica charantia*. ***Jamun*** is referred to as *Syzygium cumini*. The Latin name for ***Neem*** is *Azadirachta indica*. ***Chirata*** is identified as *Swertia chirata*. ***Gudmar*** is known scientifically as *Gymnema sylvestre*. Lastly, ***Kutaj*** is called *Holarrhena antidysenterica*.	20 ml BD	Equal amount of Lukewarm Water *(Sama matra Koshna Jala*)	*Adhobhakta* (After meal)

FOLLOW-UP & OUTCOME

Table 8: Objective Parameter.

Parameter	Date 02/04/2024 Pretreatment	Date 15/03/2025 Post treatment
Glycosylated Haemoglobin (HbA_{1c})	9.2 %	5.9 %
Estimated Average Plasma Glucose	217.34 mg/dl	122.63 mg/dl

Table 9: Subjective Parameter.

Subjective Parameter	Pre-Treatment Scale Score	Post-Treatment Scale Score	Scale Used
Generalized Weakness	6	2	Fatigue Severity Scale
Lower Limb Pain	7	3	Visual Analog Scale (VAS)

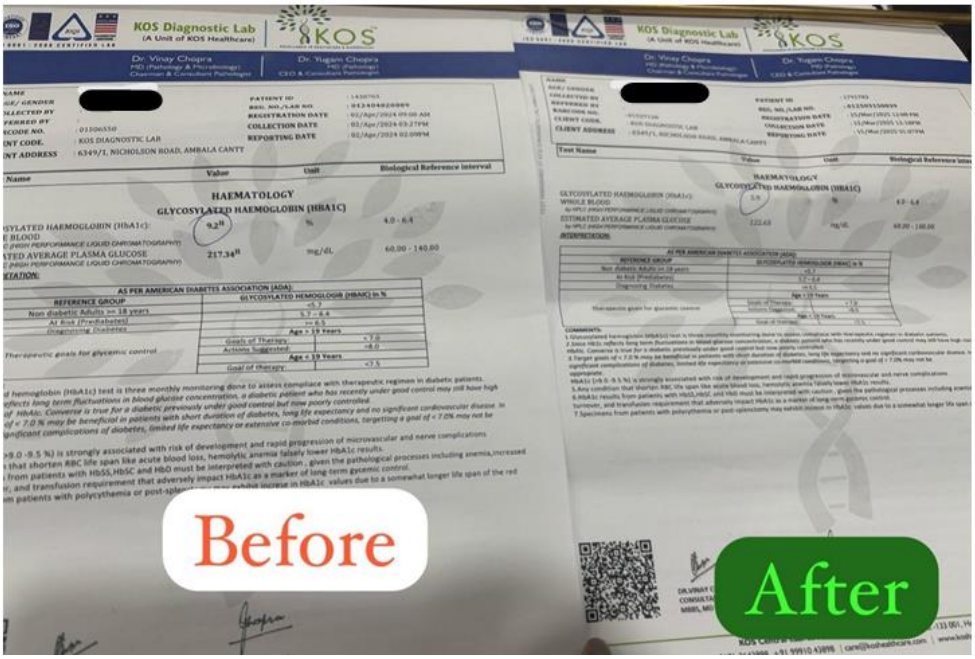

Image 1: Pre Treatment and Post Treatment.

DISCUSSION

In the discussion of the pathology of *Prameha* (Type 2 Diabetes Mellitus), from both a modern and *Ayurvedic* perspective, the disease is essentially characterized by chronic hyperglycemia due to insulin resistance and reduced insulin secretion. Western medicine explains the failure of pancreatic islet cells and the detrimental effect of lifestyle factors on the metabolic syndrome, which includes increased plasma glucose levels, abdominal obesity, dyslipidemia, and hypertension. In contrast, *Ayurveda* views *Prameha* as a disturbance in *Kapha dosha* that impairs the transformation processes related to *meda dhatu* (fat tissue) and subsequently involves *Vata dosha*, particularly affecting *ambu vaha srotas* (water channels) due to the disturbance in *meda* and *mamsa dhatu* (muscle tissue), leading to excessive *mutra* (urine) and *mithya ahara vihar* (improper diet and lifestyle practices).

With regard to *samprapti* breaking, the *Ayurvedic* treatment employed herbs such as *Gudmar* (*Gymnema sylvestre*), *Karela* (*Momordica charantia*), and *Jamun* (*Syzygium cumini*) that primarily act by restoring the balance of *Kapha dosha* and enhancing the function of *agni* (digestive fire). These herbs are known for their properties in reducing blood sugar levels and improving insulin action. The application of these *Ayurvedic* medicines aids in the reversal of the pathology of *Prameha* by detoxifying the *srotas*, diminishing the production of *Ama* (toxins due to improper digestion), and stimulating *meda dhatu agni*, thereby managing both the symptoms and the progression of the disease effectively. This therapeutic approach aligns with *Ayurvedic* principles targeting the root cause of the disease rather than just symptomatic relief.

Prameharogahar Powder is formulated with a broad array of *Ayurvedic* herbs, each contributing uniquely to managing blood sugar levels and improving metabolic functions. Herbs like *Gymnema sylvestre* (*Gudmar*) act as a hypoglycemic agent, reducing sugar absorption in the intestines, while *Momordica charantia* (*Karela*) and *Syzygium cumini* (*Jamun*) serve as potent antioxidants and help in reducing blood glucose levels. *Azadirachta indica* (*Neem*) provides anti-inflammatory benefits and enhances insulin receptor sensitivity. Additional components such as *Tinospora cordifolia* (*Giloy*) and *Curcuma longa* (*Haldi*) boost the immune system and offer anti-inflammatory properties, respectively, making this powder a comprehensive treatment for diabetes management.

DM Cap includes ingredients that synergistically work to control blood sugar levels and improve overall health. *Curcuma amada* (*Amba Haldi*) offers anti-inflammatory effects, *Tinospora cordifolia* (*Giloy*) boosts immunity, and *Chlorophytum borivilianum* (*Safed Musli*) provides strength and stamina. The inclusion of hypoglycemic agents like *Gymnema sylvestre* (*Gudmar*) and *Momordica charantia* (*Karela*) directly reduces sugar absorption during digestion. This capsule is designed to improve pancreatic functions and enhance the body's responsiveness to insulin.

Tab Chander Vati integrates numerous *Ayurvedic* components targeting various ailments including digestive issues, infections, and inflammatory conditions. Ingredients like *Commiphora wightii* (*Guggal*) and *Plumbago zeylanica* (*Chitraka*) provide anti-inflammatory and digestive aid, enhancing metabolism and reducing ama (toxin build-up). *Piper longum* (*Pippali*) and *Zingiber officinale* (*Sonth*) work as bioenhancers, increasing the efficacy of other herbs within the body. Additionally, *Piper nigrum* (*Kalimirch*) increases nutrient absorption and improves digestion, supporting overall gastrointestinal health.

Yakritshothhar Vati focuses on liver health and the detoxification process, crucial for patients with metabolic disorders. *Boerhavia diffusa* (Punarnava) is known for its diuretic and rejuvenative properties, ideal for liver disorders. *Cedrus deodara* (*Devdaru*) and *Embelia ribes* (*Vayavidanga*) provide antimicrobial properties, cleansing the liver and supporting its function. The formulation helps in managing liver ailments, ensuring optimal metabolic function which is vital in the holistic management of diabetes.

Madhumehanashaka Syrup targets hyperglycemia directly through its constituents like *Gymnema sylvestre* (*Gudmar*), which helps in reducing sugar cravings and blood sugar levels. *Momordica charantia* (*Karela*) and *Syzygium cumini* (*Jamun*) are prominent for their role in reducing blood sugar and boosting insulin production. The decoction serves as a therapeutic intervention for diabetes by combining hepatoprotective, immunomodulatory, and metabolic-enhancing properties, providing a holistic treatment approach.

Sharma et al. describe the efficacy of *Gymnema sylvestre* in lowering blood glucose levels and improving insulin sensitivity, highlighting its potential as a stand-alone treatment or in synergy with other conventional treatments (Sharma et al., 2007).[10] Kumar et al. explore the antioxidant properties of *Momordica charantia*, noting its significant blood glucose-lowering effect, which is vital for managing diabetes mellitus effectively (Kumar et al., 2010).[11] Another study by Patel and Goyal highlights the dual role of *Tinospora cordifolia* in boosting the immune system and acting as an adjuvant in diabetes therapy, further emphasizing its usefulness in holistic diabetes management (Patel and Goyal, 2012).[12] Additionally, Jain et al. discuss the role of *Syzygium cumini* in the modulation of blood sugar levels, outlining its benefits in both the preventive and curative aspects of diabetes care (Jain et al., 2014).[13] Singh et al. provide insight into the anti-inflammatory and hepatoprotective activities of *Curcuma longa*, which support its use in treating diabetes-related complications (Singh et al., 2013).[14]

NEED FOR FURTHER RESEARCH

Despite promising outcomes from current studies on the use of *Ayurvedic* herbs in managing diabetes, there is a critical need for further research to substantiate their efficacy and safety through rigorous clinical trials. The integration of modern scientific techniques with traditional knowledge can uncover the mechanistic pathways of these treatments and validate their use in routine clinical practice. Moreover, long-term studies are required to assess the sustainability and potential side effects of these treatments over extended periods. Developing standardized formulations and dosing regimens, alongside genetic and biochemical markers studies, can enhance the personalization and effectiveness of *Ayurvedic* medicine in diabetes care. This approach not only helps in improving treatment outcomes but also contributes significantly to the global acceptance and integration of *Ayurvedic* therapies into mainstream healthcare systems.

CONCLUSION

In conclusion, the case report of a 47-year-old female diagnosed with Type 2 Diabetes Mellitus illustrates the effective integration of *Ayurvedic* medicine into the management of chronic metabolic disorders. The treatment strategy, incorporating *Ayurvedic* formulations such as **Prameharogahar Powder, DM Cap, Tab Chander Vati, Yakrit shoth har Vati, and Madhumehanashaka Syrup,** has shown significant improvement in the patient's symptoms of generalized weakness and lower limb pain. These formulations, which include herbs like *Gymnema sylvestre*, *Momordica charantia*, and *Tinospora cordifolia*, have been instrumental in modulating blood sugar levels and enhancing overall metabolic health.

Follow-up assessments **over a 6-month period** demonstrated a notable improvement in the patient's glycemic control, with a reduction in **HbA1c from 9.2% to 5.9%**. The patient reported increased energy levels and a decrease in pain severity, contributing to an improved quality of life. The success of this case underscores the potential of *Ayurvedic* medicines as complementary therapies in managing diabetes. However, continuous monitoring and periodic adjustments of the treatment regimens were necessary to adapt to the patient's evolving health status. This case advocates for the broader application of *Ayurvedic* principles in chronic disease management, highlighting the need for further research to validate these findings in larger, diverse populations.

REFERENCE

1. Kasper DL, Fauci AS, Hauser SL, Longo DL, Jameson JL, Loscalzo J. Harrison's Principles of Internal Medicine, 20th Edition. New York: McGraw Hill, 2018; 3457-3472.
2. International Diabetes Federation. IDF Diabetes Atlas, 9th edn. Brussels, Belgium: International Diabetes Federation, 2019. Available from http://www.diabetesatlas.org.
3. Sharma RK, Bhagwan Dash V. Charaka Samhita. Varanasi: Chaukhamba Sanskrit Series Office, 2012; 501-512.
4. Joharah A. Comparative Clinical evaluation of Ayurvedic formulations in the management of Prameha (Diabetes Mellitus). J Ayurveda Integr Med., 2020; 11(2): 152-158.
5. Cho NH, Shaw JE, Karuranga S, et al. IDF Diabetes Atlas: Global estimates of diabetes prevalence for 2017 and projections for 2045. Diabetes Res Clin Pract., 2018 Apr; 138: 271-281.
6. Lad V. Textbook of Ayurveda, Volume 1: Fundamental Principles of Ayurveda. Albuquerque: Ayurvedic Press, 2002; 245-250.
7. Krupp LB, LaRocca NG, Muir-Nash J, Steinberg AD. The fatigue severity scale. Application to patients with multiple sclerosis and systemic lupus erythematosus. Arch Neurol., 1989 Oct; 46(10): 1121-3.
8. Hawker GA, Mian S, Kendzerska T, French M. Measures of adult pain: Visual Analog Scale for Pain (VAS Pain), Numeric Rating Scale for Pain (NRS Pain), McGill Pain Questionnaire (MPQ), Short-Form McGill Pain Questionnaire (SF-MPQ), Chronic Pain Grade Scale (CPGS), Short Form-36 Bodily Pain Scale (SF-36 BPS), and Measure of Intermittent and Constant Osteoarthritis Pain (ICOAP). Arthritis Care Res (Hoboken). 2011 Nov; 63 Suppl 11.
9. Manish, Chaudhary Gitika, Singh Suyash Pratap, Singh Manjeet, Richa. "Clinical Evaluation of Chronic Kidney Disease Management: Integrating Lifestyle Modification and Ayurveda." International Journal of AYUSH, October 2024; 2013: (10). DOI: 10.22159/prl.ijayush.v2013i10.1152
10. Sharma AK, Sharma MK, Kumar M, et al. Antihyperglycemic and antioxidant effects of Gymnema sylvestre in high-fat diet-fed rats. Journal of Ethnopharmacology, 2007; 109(3): 555-557.
11. Kumar S, Kumar V, Prakash OM. Antidiabetic and hypolipidemic effects of Momordica charantia (bitter melon) in diabetic rats. Ethnopharmacol., 2010; 127(2): 368-372.
12. Patel SS, Goyal RK. Cardioprotective effects of Tinospora cordifolia against stress-induced cardiomyoblast apoptosis. Heart and Vessels., 2012; 27(4): 282-289.
13. Jain S, Sangma T, Shukla SK, Mediratta PK. Antidiabetic effect of an aqueous extract of leaves of Syzygium cumini (linn.) in streptozotocin-induced diabetic rats. Indian Journal of Physiology and Pharmacology, 2014; 58(3): 243-249.
14. Singh S, Das SS, Singh G, et al. Antimicrobial and antioxidant activities of Curcuma longa (turmeric). Complementary Therapies in Medicine, 2013; 21(5): 461-465.