

Madhumeha (Diabetes Mellitus - Type II): A Review from Ayurveda Perspective**Dr. Vishvamitra Pandey¹, Dr. Rajesh Kumar Shrivastva²,**

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ABSTRACT

Background: Diabetes is leading cause of death, disability and economic loss throughout the World. Type 2 diabetes makes up about 90% of cases of diabetes. It has been estimated that the number of diabetes sufferers in the world will double from the current value of about 190 million to 325 million during the next 25 years, earning the dubious distinction of being as “Diabetic Capital of World”. WHO projects that diabetes will be the seventh leading cause of death in 2030. In *Ayurveda*, disease diabetes mellitus correlated with *Prameha /Madhumeha*. So, *Kapha Pradhana Tridosha* alleviating local as well as systemic treatment should be done. **Material and Methods:** Ayurvedic literature, modern texts as well as the data web-based search engines, journal, were used to search for relevant literature and information. **Result:** The main causes of type 2 diabetes are sedentary lifestyle, unhealthy eating practices, stress, substance use, alcohol and cigarette smoking, anxieties and genetics. Sedentary lifestyle featuring long working hours and lack of physical exercise also takes its toll on the young today. They take years to develop however, once they become active enough to cause problems; they become extremely difficult to cure. **Conclusion:** In *Ayurveda*, the fundamental principles should applied for achieving regain of the normalcy of *Prameha /Madhumeha* and restoring the normal function by its preventive and curative approach.

Keywords: Diabetes mellitus, *Madhumeha*, *Prameha*, sedentary lifestyle

1. INTRODUCTION

Diabetes is on the rise. No longer a disease of predominantly rich nations, the prevalence of diabetes is steadily increasing everywhere, most markedly in the world's middle-income countries. Unfortunately, in many settings the lack of effective policies to create supportive environments for healthy lifestyles and the lack of access to quality health care means that the prevention and treatment of diabetes. Globally, an estimated 537 million adults (20-79 years) were living with diabetes in 2021. This number is predicted to rise to 643 million by 2030 and 783 million by 2045. 541 million adults have Impaired Glucose Tolerance (IGT), which places them at high risk of type 2 diabetes. The majority of people with diabetes affected by type 2 diabetes used to occur nearly entirely among adults, but now occurs in children too¹.

Diabetes and its complications a major threat to future public health resources throughout the world. According to diabetes Atlas published by the (IDF), India is one of the 6 countries of the IDF SEA (south east asia) region. 1 in 11 adults (90 million) are living with diabetes. The number of adults with diabetes expected to reach 113 million by 2030 & 151 million by 2045.

In *Ayurveda* disease diabetes mellitus can be correlated with *Prameha /Madhumeha*. It is *Tridoshaja* in origin with predominance of *Kapha*. *Charak* has mentioned that luxurious life

style, overuse of milk and milk products and sugar products, lack of physical work and *Kapha Dosha* enhancing factors etc are the major causative factors (*Nidana*) for *Prameha*.

2. AIMS AND OBJECTIVES

To review Diabetes Mellitus (*Madhumeha*) from Ayurvedic point of view.

3. MATERIALS AND METHODS

To fulfil the aims and objectives relevant Ayurvedic literature, modern texts as well as the data bases Google scholar, PubMed, AYUSH Research Portal, DHARA, studies available on Research Gate web-based search engines, journal, were used to searched topics on Diabetes Mellitus /*Madhumeha* and presented in an organized manner.

4. RESULT

Ayurvedic Review

In *Ayurvedic* texts, the given characteristic features of *Prameha* shows marked similarity with the syndrome of diabetes mellitus. Etiological factors of *Prameha* are *Madhura*, *Amla*, *Lavana Rasa* dominant diet mentioned as “*Gramya Udaka Aanupa Rasa*, *Payansi*, *Dadhini* etc” and life style such as “*Aasya Sukham Swapna Sukham*¹” are similar to the causes quoted as over eating, eating of large amount of carbohydrates mainly sugar rich substances, dairy products, practicing sedentary life style, overweight in modern medical literature. The description of “*Apathyanimittaja Prameha*²” which generally seen in obese individuals have a clear cut resemblance with type 2 diabetes (non-insulin dependent diabetes mellitus).

4.1. Nirukti

- The state in which quantity as well as frequency of micturition has increased is known as *Prameha*^{3,4,5}.

4.2. Definition

- It states that, frequent and copious micturition with turbidity is known as *Prameha*.
- It is a clinical condition in which patient voids the urine which have similarity with *Madhu* i.e. *Kashaya* and *Madhura* taste, *Rukshatwa* and honey like colour and body acquires sweetness is called *Madhumeha*^{6,7}.

4.3. Classification of *Prameha*:

Acharya Charaka and *Acharya Sushruta* have described that all types of *Prameha* are *Tridoshaja* in origin but still it can be classified as below:

- Etiological Classification
- Clinico-pathological Classification
- According to Body Constitution
- On the basis of prognosis

4.3.1. Etiological Classification: *Acharya Sushruta* has described two types of *Prameha*.

1. *Sahaja Prameha*

2. *Apathyanimitaja Prameha*.

i) **Sahaja (Hereditary) Prameha:** While classifying *Prameha*, *Acharya Charaka* also narrated *Jataprimeha* which is a *Kulaja Vikara* due to *Bijadosha*⁸. It may be inherited from both the parents maternal or paternal, either due to defect in *Beeja* i.e. in sperm/ovum or defect in *Bijavayava* i.e. in chromosome.

ii) **Apathyanimitaja (Acquired) Prameha:** *Acharya Charaka* narrated *Asyasukham*, *Swapansukham* etc common etiological factors in *Chikitsasthana*⁹. Whereas the nature of *Apathya* describe by *Sushruta* is the indulgence in over eating and lack of exercise.

4.3.2. Clinicopathological Classification of Prameha: *Ayurvedic* ancient treatises have elaborately classified the disease *Prameha* on the basis of *Dosha* dominance and then sub classified in 20 types.

Type	Charaka	Sushruta	Vridhavagbhata	Vagbhata	Madhavnida
Kaphajameha					
<i>Udakameha</i>	+	+	+	+	+
<i>Ikshuvalikameha</i>	+	+	<i>Ikshumeha</i>	<i>Ikshumeha</i>	<i>Ikshumeha</i>
<i>Sandrameha</i>	+	+	+	+	+
<i>Sandraprasadmeha</i>	+	<i>Pishtameha</i>	+	+	<i>Pishtameha</i>
<i>Shuklameha</i>	+	<i>Surameha</i>	+	+	<i>Surameha</i>
<i>Shitameha</i>	+	<i>Lavanmeha</i>	<i>Shitameha</i>	<i>Shitameha</i>	+
<i>Siktameha</i>	+	+	+	+	+
<i>Shanaimeha</i>	+	+	+	+	+
<i>Alahmeha</i>	+	<i>Phenameha</i>	<i>Lalameha</i>	<i>Lalameha</i>	<i>Lalameha</i>
<i>Shukrameha</i>	+	+	+	+	+
Pittajameha					
<i>Ksharameha</i>	+	+	+	+	+
<i>Kalameha</i>	+	<i>Amlameha</i>	<i>Kalameha</i>	<i>Kalameha</i>	+
<i>Nilameha</i>	+	+	+	+	+
<i>Lohitameha</i>	+	<i>Shonitameha</i>	<i>Shonitameha</i>	<i>Raktameha</i>	<i>Raktameha</i>
<i>Manjishthameha</i>	+	+	+	+	+
<i>Haridrameha</i>	+	+	+	+	+
Vatajameha					
<i>Vasameha</i>	+	+	+	+	+

Hastimeh	+	+	+	+	+
Madhumeha	+	Kshaudrameha	Madhumeha	Madhume ha	Kshaudrame ha
Majjameha	+	Sarpimeha	Majjameha	Majjameh a	+

4.3.3. According to Body Constitution: Acharya Charaka has classified the patients of *Prameha* on the basis of their body constitution for treatment purpose into two main categories i.e. *Sthula Pramehi* and *Krishna Pramehi*¹⁰. Acharya Sushruta while narrating etiology describes that the body constitution of *Sahaja Pramehi* is generally *Krishna* (thin) and that of *Apathyanimitaja Pramehi* is *Sthula* (obese).

4.3.4. On the basis of Prognosis: On the basis of prognosis patients of *Prameha* have been classified into three groups:

- Curable (*Sadhya*)
- Palliative (*Yapya*)
- Incurable (*Asadhya*)

Particulars	<i>Sadhya</i>	<i>Yapya & Asadhya</i>
<i>Dosha</i>	<i>Kaphaja</i> ,	<i>Pittaja</i> (<i>Yapya</i>), <i>Vataja</i>
Body constitution	<i>Sthula Pramehi</i>	<i>Krishna Pramehi</i> (<i>Yapya</i>)
Etiological	<i>Apathyanimitaja Prameha</i>	<i>Sahaj Prameha</i>
<i>Upadrava</i>	<i>Upadravarahita</i>	<i>Upadravayukta</i>
Chronicity	<i>Navina Prameha</i> (Till 1 year)	<i>Jirna Prameha</i> (After 1 year)

4.4. NIDANA (ETIOLOGY):

Acharya Charaka mentioned specific *Nidanas* that are responsible for aggravation of specific *Dosha* and thereby specific *Doshaja* type of *Prameha*. Both Acharya Charaka and Acharya Sushruta have described *Sahaja* and *Kulaja* origin of disease¹¹. *Ashtanga Hridaya*, *Ashtanga Samgraha* and *Madhavakara* have similar description regarding the etiology of the disease *Prameha*.

According to *Charaka*, among all three types of *Prameha*, *Kaphaja* type is more common and easily producible as compared to *Pittaja* and *Vataja* types. As regards *Doshas*, their predominance is also decided accordingly. As regards *Dushays*, *Meda*, *Mamsa*, *Kleda*, *Shukra*, *Shonita* (Blood), *Vasa* (fat), *Majja* (marrow), *Lasika* (tissue fluid), *Rasa* (plasma) and *ojas* (essence of all tissues)¹². Among these the body fat and fluids are supposed to be of greater importance in its pathogenesis.

4.4.1. General Etiology:

1. *Sahaja* (Hereditary) *Prameha*:

Acharya Charaka while describing the prognosis of the disease *Madhumeha*, has stated that this is *Kulaja Vikara* resulting due to defect in the *Beeja* so it is incurable, it can also occur due to defect in *Beejabhaga* or *Beejabhagavayava*¹³. Acharya Sushruta indicates its hereditary nature by using term *Sahaja* while describing the pathophysiology of the disease¹⁴. Thus, both

the etiological causes of Heredity and Acquired *Prameha* play a combined role in the manifestation of *Sahaja Prameha*.

2. Apathynimittaja (Acquired) Prameha: The nature of *Apathya* described in *Ayurvedic* classics are given below.

<i>Nidana</i>	<i>Charaka</i>	<i>Sushruta</i>	<i>Vriddha Vagbhata</i>	<i>Vagbhata</i>
Ahara				
<i>Dadhi</i>	+	-	-	+
<i>Gramya /Anupa/Audaka</i>	+	-	-	+
<i>Mamsa</i>	+	-	-	+
<i>Payaha</i>	+	-	-	+
<i>Navapana</i>	+	-	-	+
<i>Navanna</i>	+	-	-	+
<i>Shleshmajanaka Ahara</i>	+	-	+	+
Rasa				
<i>Madhura Dravya</i>	-	+	-	+
<i>Amla-Lavana Rasa</i>	+	-	-	+
Guna				
<i>Snigdha Dravya</i>	-	+	-	+
<i>Drava Annapana</i>	-	+	-	+
<i>Guru Dravya</i>	-	-	-	+
<i>Picchila Dravya</i>	-	-	-	+
<i>Sheeta Dravya</i>	-	+	-	+
Vihara				
<i>Asya Sukham</i>	+	-	-	-
<i>Swapna Sukham</i>	+	+	-	-
<i>Diwaswapna</i>	-	+	-	-
<i>Avyayayama</i>	-	+	-	-
<i>Alasya</i>	-	+	-	-
<i>Tyakta Chinta</i>	+	-	+	+

*Nidana of Kaphaja, Pittaja, Vataja Prameha*¹⁵

<i>Kaphaja</i>	<i>Pittaja</i>	<i>Vataja</i>
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Ahara		
<i>Hayanaka</i>	<i>Yavaka</i>	<i>Kashaya</i>
<i>Hayanaka, Yavaka</i>	<i>Ushna</i>	<i>Katu</i>
<i>Mukundaka, Chinaka</i>	<i>Amla</i>	<i>Tikta</i>
<i>Uddalaka, Naishadha</i>	<i>Lavana</i>	<i>Ruksha</i>
<i>Itkata, Mahavrihi</i>	<i>Kashaya</i>	<i>Laghu</i>
<i>Pramodaka, Navanna</i>	<i>Katu</i>	<i>Sheeta</i>
<i>Sarpishmatam, Navaharenu</i>	<i>Ajirna Bhojana</i>	
<i>Kshira, Pishtanna Ahara</i>	<i>Vishama Ahara</i>	
<i>Gramya, Anupa, Audaka</i> <i>Mamsha Shaka, Navamadya</i>		
Vihara		
<i>Mrijja Varjana</i>	<i>Atapa</i>	<i>Vyavaya</i>
<i>Vyayama Varjana</i>	<i>Agni</i>	<i>Vyayama-Vishama Sharira</i>
<i>Swapna, Shaiya, Asana</i> <i>Prasanga</i>	<i>Shrama</i>	<i>Vega Sandharana,</i> <i>Annashana, Atapa, Shonita</i> <i>Atiseka, Jagarana</i>
<i>Santapa</i>	<i>Vamana, Virechana, Atiyoga</i>	<i>Asthapana, Shirovirechana</i> <i>Atiyoga</i>
Manasika		
<i>Tyakta Chinta</i>	<i>Krodha</i>	<i>Abhighata (psychological</i> <i>trauma), Udvega, Shoka</i>

4.5. POORVARUPA

Acharya Charaka narrates that all the *Purvarupa* of *Prameha* are due to vitiated *Meda*. Commentator *Chakrapani* comments that not all the *Purvarupa* are due to *Meda* only, disgraceful *Purvarupa* like *Kesheshu Jatilabhava* should be considered due to *Meda* and not others like *Aasyamaadhurya* as they are produced due to *Tridosha* and so these *Poorvarupa* are applicable to all the types of *Prameha*¹⁶.

POORVARUPA	Ch.	Su.	A.S.	A.H.	M.N.
<i>Kesheshu Jatilabhava</i>	+	+	+	-	-
<i>Asya Madhurya</i>	+	-	+	+	+
<i>Karapada Daha</i>	+	+	+	+	+
<i>Karapada Suptata</i>	+	-	-	-	-
<i>Mukha-Talu-Kantha Shosha</i>	+	-	+	-	+
<i>Pipasa</i>	+	+	+	-	+
<i>Alasya</i>	+	-	+	-	-
<i>Kaye Malam</i>	+	-	+	-	-
<i>Kaya Chhidreshu Upadeha</i>	+	-	+	-	-
<i>Paridaha Angesu</i>	+	-	-	-	-
<i>Shatpada Pipilakabhi Mutrabhisaranam</i>	+	-	+	-	-

<i>Mutra-Cha Mutra Doshan</i>	+	-	+	+	-
<i>Tandra Sarva Kalam</i>	+	+	+	-	-
<i>Sweda</i>	+	-	+	+	-
<i>Shithilangata</i>	+	-	-	+	-
<i>Shaiyya Asana Swapnesu Sukhe Ratischa</i>	+	-	-	+	-
<i>Kesha Nakha Ativriddhi</i>	+	-	+	+	-
<i>Sheeta Priyata</i>	+	-	+	+	-
<i>Shatpada Pipilika Sharirabhisaranam</i>	+	-	+	+	-
<i>Snigdha Gatrata</i>	-	+	+	-	-
<i>Picchila Gatrata</i>	-	+	-	-	-
<i>Guru Gatrata</i>	-	+	-	-	-
<i>Madhura Mutrata</i>	-	+	-	-	-
<i>Shukla Mutrata</i>	-	+	+	-	-

All the sign & symptoms are due to *Ama* circulation in the body. e.g. excessive *Kleda* formation in body fluids. Burning syndrome of hand and feet is an important feature of peripheral neuritis. This may be also due to deficiency of vitamins. *Meda* get vitiated along with *Pitta*, leads into greasiness in the body & bad odour and same may be due to adiposity. Increased frequency of urine causes increased loss of water from the body which ultimately leads into increased thirst i.e. polydipsia and of course the sweetness in the urine may be directly related with the disturbed glucose metabolism.

4.6. RUPA (General features of Prameha):

a) Urine Characteristics

- ✓ **Prabhutamutrata:** This is the main cardinal sign described by all *Acharyas*, in which patient voids urine more in quantity. *Vagbhatacharya* mentioned *Prameha* under *Mutraatipravrtijanya Vikara*.
- ✓ **Avilamutrata:** It means hazy consistency or turbidity of urine. *Vagbhata*, *Gayadasa* and *Dalhana* have opined that, this characteristic feature of urine is because of the nexus between *Mutra*, *Dooshya* and *Dosha*.
- ✓ **Picchila Mutrata:** *Acharya Charaka* has mentioned this character of urine in *Prameha* i.e. *Kaphasambhava*.

b) Associated characteristics: In *Chikitsasthana*, *Acharya Sushruta* has classified two types of *Pramehi* like *Acharya Charaka* along with their features as follows:

Sahaja Pramehi: Krisha (Asthenic)

- *Ruksha* (dry body)
- *Alpashi* (consumes less food)
- *Bhrisha Pipasa* (Excessive thirst)

➤ *Parisaranshila* (restless always want to wonder)

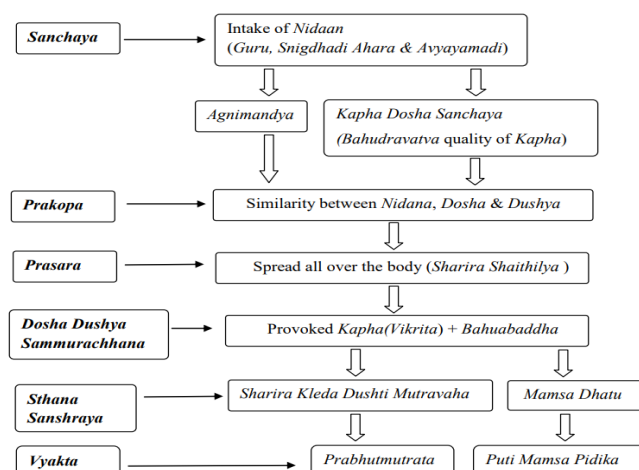
Apathyanimittaja Pramehi: Sthula (Obese)

- *Bahuashi* (consumes excessive food)
- *Snigdha* (unctuous body texture)
- *Shayyasanswapnasheela* (used to have sedentary life style)

Acharya Charaka while explaining differential diagnosis between *Raktapitta* and *Prameha* accepts the presence of *poorvarupa* in the *Rupa* stage similarly, *Acharya Sushruta* narrated that the person should be diagnosed as *Pramehi* when complete or partial premonitory symptoms of *Prameha* accompanied by polyuria get manifested. *Gayadasa* describes specific nature i.e. *Vyadhi Prabhava* of the disease due to which, all the premonitory symptoms get converted into *Rupa*.

4.7. SAMPRAPTI

It includes various stages as disease progresses i.e. from *Nidan Sevan* to *Vyadhiutpatti*. *Samprapti Vighatana* is the treatment of any disease. General (*Samanya*) *Samprapti* of *Prameha* is described by *Acharya Charaka* elaborately in *Nidanasthana*. *Prameha* manifests due to complex interaction of *Nidana*, *Doshas* and *Dushyas*.



4.7.1. Samprapti Ghataka of Prameha¹⁷:

Dosha	<i>Tridosha (Vata Pitta Pradhana) Tridoshakopanimittaja</i>
Dushya	<i>Rasa, Rakta, Mamsa, Meda, Majja, Vasa, Shukra, Oja, Lasika, Kleda and Sweda</i>
Srotasa	<i>Mutravaha, Udakavaha, Medovaha, Rasavaha, Raktavaha, Mamsavaha, Majjavaha, Shukravaha & Swedavaha⁶⁷</i>
Srotodushti	<i>Sanga, Atipravritti</i>
Agni	<i>Vaishamya of all Agnis (or Dhatvagnimandya)</i>
Udbhava Sthana	<i>Amashaya-Pakvashaya</i>
Adhithana	<i>Sharir</i>
Vyaktisthana	<i>Basti</i>
Ama	<i>Medogata (Ama produced due to Jatharagnimandya and Dhatvagnimandya).</i>

Bhedavastha	Occurrence of <i>Upadravas</i> such as <i>Putimamsa</i> and <i>Prameha Pidika</i> etc
Prabhava	<i>Chirakari</i>

4.8. UPADRAVA (Complication)¹⁸:

Kaphaja Prameha	Pittaja Prameha	Vataja Prameha
<i>Makshikaupsarpana</i>	<i>Vruhsanayoravadarana, Bastibheda</i>	<i>Hridagraha</i>
<i>Aruchi</i>	<i>Medhratoda</i>	<i>Anidra</i>
<i>Aavipaka</i>	<i>Hradishoola</i>	<i>Stambha</i>
<i>Chhardi</i>	<i>Amlika</i>	<i>Kampa</i>
<i>Anidra</i>	<i>Jwara</i>	<i>Shoola</i>
<i>Pratishyaya</i>	<i>Atisara</i>	<i>Baddhapurishatvama</i>

4.9. DIFFERENTIAL DIAGNOSIS:

- **Differential diagnosis between *Prameha* and *Raktapitta*:** If *Haridra* and *Rudhira Mutra Pravritti* (dark yellow and reddish micturation) is manifested along with *Purvarupas* of *Prameha* (premonitory symptoms), the disease is labelled as *Prameha*. Otherwise it should be diagnosed as *Raktapitta*.
- **Differential diagnosis between *Kaphaja* and *Vataja Prameha*:** Urine having properties *Madhura*, *Pichchhila*, honey like appearance may confuse *Vaidya* while making differentiation between *Kaphaja* and *Vataja Meha*. In such case, by judging etiological factors, diagnosis can be confirmed.

4.10. CHIKITSA:

Maharishi Charaka has given the general treatment for *Prameha* according to dominant *Dosha* involved. First time it is the *Sushruta Samhita* in which specific treatment for a particular *Prameha* has been given. He has even given treatment of *Asadya Prameha* by saying that it is to convert the *Asadya Prameha* to *Yaapya*. In *Sushruta Samhita* there is separate chapter for the treatment of *Madhumeha* and *Prameha pidika*.

Following are the treatment modalities we can apply in the *Madhumeha* to alleviate the disease.

- *Nidanaparivarjana*.
- Treatment according to body constitution.
- Treatment According to *Dosha* dominancy.
- Treatment According to Complications.
- Treatment for disturbed *Manasabhava*

4.10.1. Nidanaparivarjanam:

This is one of the prime treatment principle of *Prameha*. *Vata* enumerated that we should avoid these etiological factors, which are causing the disease *Prameha*.

4.10.2. Treatment According to Body Constitution:

There are two types of *Pramehi* constitutions- *Sthula* and *Krishha*. Line of treatment varies accordingly.

Krishha Pramehi:

Prameha when manifested with *Vata* dominance and severe *Agni Dushti* there is improper nourishment of tissue making person weak stated as *Krishha Pramehi*. Status of *Agni* must be taken into consideration and managed by *Laghu-Santarpanotha Ahara*. Things that will improve patient's condition but which will not contribute to the pathogenesis of disease by their *Brimhana* nature must be managed.

Sthula and Balwana Pramehi:

In those patients who are strong and who are having *Doshas* in excess quantity, *Shodhana Chikitsa* must be carried out.

4.10.3. Treatment According to *Dosha* Predominance:

The disease is *Tridoshaja*, but individual *Doshika* consideration for the treatment is important for good prognosis.

KAPHAJA PRAMEHA:

1). ***Shodhana: Vamana and Virechana:*** These are the ideal *Shodhana* therapies for *Vata* vitiation. *Vagbhata* and *Sushruta* mentioned that after the ingestion of medicated oil or *Ghruta*, *Vaman Karma* should be performed with due consideration of strength of patient¹⁹.

2). ***Basti:*** After the *Vamana* and *Virechana*, *Basti* can be administered specially *Asthapana Basti*.

3). Application of Paraprocedures:

- ***Udavartana*** – Application of *Ruksha* and *Pragadha Udagharsana* all over the body is very helpful procedure to reduce the excess of *Vata* and *Meda*.
- ***Snana and Jalavaseka*** - *Snana* and *Avaseka* with decoctions of various herbs help to eliminate waste products excrete from skin. It also helps to regain strength.
- ***Vilepana:*** Various herbs can be used for the external application all over the body to absorb the waste material from the skin because of excessive sweating.
- ***Vyayama (Exercise):*** It is very necessary in *Madhumeha* to reduce the excessive *Meda* and *Vasa*. Exercise reduces the *Vata*, helps to increase the *Agni* and maintain the compactness in the body tissues.
- ***Lekhana and Apatarpana Chikitsa:*** *Charaka* mentioned that the principle treatment of *Kaphaja Madhumeha* is *Lekhana Karma* for reducing excessive *Meda*, *Vasa*, *Kleda*, etc.
- ***Shamana:*** *Shamana* therapy should be applied after the proper *Shodhana* for that various herbs and decoctions described. *Sushruta* specifically mentioned the decoctions According to the type of *Kaphaja Prameha*.

PITTAJA PRAMEHA:

- **Shodhana:** *Vamana* and *Virechana* along with Para-procedures like *Snana*, *Jalavaseka* and *Vilepana* with the help of described herbs can be administered.
- **Shamana:** *Shamana* treatment given with the use of decoctions and *Ghrita* mentioned in the Ayurvedic texts.

VATAJA PRAMEHA:

- **Shodhana:** In purificative measures *Vamana* and *Virechana* can be performed in *Avaranajanya Vatic Prameha* according to strength of patient. In *Madhumeha*, *Vata Dosha* is dominant so *Basti* therapy is ideal treatment for it.
- **Shamana:** Various decoctions and some *Arishta* were described for the treatment can be used. Hence treatment should include the things which will cause *Apatarpana* of elevated *Doshas* and *Dhatus* but will maintain the general condition of patient.
- **Medhya Rasayana:** In ancient literature, *Medhya Rasayana* has been described as molecular nutrient for brain to relieve mental fatigue, anxiety, stress etc.
- **Shirodhara:** *Shirodhara* is one of the allied *Panchakarma* procedures, can be applied to rejuvenate body and mind alleviating *Chintadi Manasikabhava*.

4.11. PATHY-APATHYA:

AHARA: Pathya Ahara Dravyas²⁰:

- **Shooka Dhanya [Grains]:** *Shashtika*, *Shali*, *Yava*, *Godhuma*, *Kodrava*, *Shyamak*, These must not be newly harvested.
- **Shami Dhanya [Pulses]:** *Chanaka*, *Adhaki*, *Kulattha*, *Mudga*.
- **Shaka/Phala [Vegetables/Fruits]:** Fresh herbs described under *Tikta-varga* and *Kashaya-Varga*. *Shobhanjan*, *Kulak*, *Karela*, *Talaphala*, etc can be taken.

Apathya Ahara:

- **Shooka Dhanya [Grains]:** *Hayanaka*, *Chinaka*, *Yavaka*, *Naishadha*, *Itkata*, *Mukunda*.
- **Shami Dhanya [Pulses]:** *Harenu*, *Masha*.
- **Mamsa [Non-veg]:** *Gramya Mamsa*, *Anupa Mamsa*, *Audaka Mamsa*
- **Milk preparations:** *Payasa*, *Ksheera*, *Dadhi*.
- **Alcoholic preparations:** Recently prepared *Madya* and other drinks which are sweet.

VIHARA: Pathya Vihara:

Apatarpana with the help of *Vihara* in the treatment of *Prameha* is stressed by all *Acharyas*. *Acharya Charaka* has mentioned different forms of *Vihara* as a preventive measure for *Prameha*. Different types of stressful exercises-

- *Udvartana*, *Snana*, *Avasechana* by *Jala*, *Vilepana* by *Sevya (Ushir)*, *Twak*, *Ela*, *Agaru*, *Chandana* etc.
- *Hasti Ashwa Bhraman*, *Vyayam*, *Surya Prakash Sevan*

Apathya Vihara:

Pramehi patient must avoid the following things-

- *Asyasukha*, *Swapnasukha*, *Vishama Ahara*, *Ajeerna Ahara*, *Viruddhashana Sevana*
- Excessive *Shodhana* therapy e.g. *Swedana*.

5. DISCUSSION

Diabetes mellitus or type-2 diabetes, is one of the major non-communicable and fastest growing public health problems in the world, is a condition difficult to treat and expensive to manage. Ayurvedic management of *Madhumeha* (Type 2 Diabetes) aims not only to achieve a good glycemic control but also to treat the root cause of disease and its prevention. Ayurvedic classics provide references on herbal and herbo-mineral drugs which can be safely used in controlling the blood sugar in patients of diabetes mellitus.

6. CONCLUSION

Madhumeha can be interpreted as Type 2 diabetes mellitus with dominancy of *Kapha* among the *Doshas*, *Meda* among the *Dooshyas*. Ayurveda does not regard diabetes mellitus as a disease that can be treated by mere medicine or by a dietary regimen.

COMPETING INTEREST

No competing interest exist.

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