



**A CRITICAL REVIEW OF MADHUMEHA NIDANA W.S.R ETIOLOGY OF TYPE 2
DIABETES MELLITUS**

Shreyas D. M.^{1*} and Kiran M. Goud²

¹PhD Scholar, ²Professor

Department of PG and PhD studies in Panchakarma SKAMCH&RC, Vijayanagar, Bangalore, Karnataka, India.



*Corresponding Author: Shreyas D. M.

PhD Scholar, Department of PG and PhD studies in Panchakarma SKAMCH&RC, Vijayanagar, Bangalore, Karnataka, India.

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INTRODUCTION

Madhumeha is a type of *Avarana janya vyadhi* which is used generally to denote the whole gamete of *Prameha*. Acharya Charaka mentions it as a disease caused due to indulging in *Santarpana Nidanas* where *atipravartana* of *Shleshma, Pitta, Meda, Mamsa* takes place causing *avarana* to the *Gati of Vata* thereby taking the *Ojus* to the *Basti*, resulting in *Madhumeha*. According to the *Samprapti* mentioned in *Susrutha Samhitha - Aparipakva (Ama) Vata, Pitta, Shleshma* along with the *Medas, Vasa* etc., spreads in *Mutravahini Srotas*, reaches down to the *Basti* and gets excreted through the *Mutra* leading to *Prameha* presenting with the *samanya lakshanas - Prabhutha Avila Moothratha*. The disease involves *Bhuri Shleshma* caused due to indulging in *Santarpanajanya, Apathyanimitta ahara* or *vihara*. Also, as the disease is *Tridhoshaarabdha, Mahavyadhi, Kalantarena Asadhyatwath*, it demands meticulous application of *Chikitsa* principle by giving due importance to *Nidanas*. As *nidanaparivarjana* is the first part of *chikitsa*, it is very important to understand the *Nidanas*. Hence, this article is an attempt made to understand the *Nidanas* mentioned for *Prameha* and *Madhumeha*, along with effect of indulgence in these *Nidanas* on vitiation of *Doshas* and in turn vitiation of *Dhatus* and ultimately leading to the disease.

MATERIALS AND METHODS

Literary source

All the *samhithas* like – Charaka samhitha, Susrutha samhitha, Ashtanga hridaya, Ashtanga Sangraha, Madhava nidana, Bhavaprakasha, Yoga ratnakara,

Vangasena Samhitha, Chakradatta, Kashyapa Samhitha, Bhela samhitha, Harita samhitha, Nighantus were thoroughly searched and the appropriate material was collected systematically.

Nidana

Table 01: Showing the reference of nidana in charaka samhitha.

Sl.No	Reference	Nidana
1	Ch. Su. 17/78	<i>Guru, Snigdha, Amla, Lavana Atimatra sevana, Nava anna-pana, Nidra sukha, Asya sukha, Thyakta vyayama-Chinta</i> , Not undergoing <i>Samshodhana</i> .
2	Ch. Su. 23/3-5	<i>Santarpana Nidana</i> like – <i>Snigdha, Madhura, Guru, Picchila, Nava anna, Nava madya, Anupa-Varija Mamsa, Gorasa, Goudika, Atimatra Pishta Sevana, Cheshta dwesha, Divaswapna, Shayya Sukha, Asana Sukha</i> .
3	Ch. Ni. 4/5	Repeated and excess administration of – <i>Nava – Hayanaka, Yavaka, Chinaka, Uddalaka, Naishadha, Itkata, Mukundaka, Mahavrihi, Pramodaka, Sugandhaka. Sarpi, Nava harenu, Mashasupa, Gramya-Anupa-Aoudaka Mamsa, Shaka, Tila, Palala, Ikshu vikara, Pishtanna, Payasa, Krushara, Vilepi, Ksheera, Nava madya, Mandaka dadhi drava, Madhura, Mruja varjana, Vyayama varjana, Swapna prasanga, Shayana prasanga, Asana prasanga. (Kaphaja Prameha)</i>
4	Ch.Ni.4/6	<i>Ushna – Amla- Lavana – Kshara – Katu sevana, Ajeerna Bhojana, Atiteekshna - Atapa – Agnisantapa – Shrama, krodha, Vishama Ahara sevana. (Pittaja Prameha)</i>
5	Ch.Ni.4/7	<i>Kashaya – Katu – Tikta – ruksha – Laghu – Sheetha Sevana, Vyavaya – Vyayama – Vamana – Virechana – Asthapana Atiyoga, Sandharana, Anashana, Abhighata, Udwega, Shoka, Shonitaatishaka, Jagarana, Vishama shareeranyasa. (Vataja</i>

		<i>Prameha)</i>
6	Ch. Chi. 6/4	<i>Asya Sukha, Swapna Sukha, Dadhi, Gramya- Aoudaka-Anupa rasa, Paya, Navanna, Guda vaikrutha,</i>

Table 02: Showing the reference of nidana of madhumeha in sushruta samhitha.

1	Su.Su. 15/32	<i>Shleshmala Ahara sevana, Adhyashana, Avyayama, Divaswapna.</i>
2	Su.Su.24/9	<i>Medodoshaja vikara.</i>
3	Su.Ni.6/3	<i>Divaswapna, Avyayama, Alasyaprasakta, Sheetha – Snigdha – Madhura – Medyadrava anna pana</i>
4	Su.Chi.11/2-3	<i>Sahaja prameha – MatruPitru Bija doshkrutha, Apathyanimitaja – Ahitha Aharajanitha.</i>
5	Su.Ut. 40/30	<i>Sangrahana chikitsa in Amatisara</i>

Table 03: Showing the references of nidana in ashtanga hridaya.

1	A.Hr.Su.10/9	<i>Madhura rasa atisevana</i>
2	A.Hr.Su.14/20	<i>Ati Bruhmana</i>
3	A.Hr.Ni.10/2-3	<i>All the Anna – Pana – Kriya which are Meda-mutra-Kaphakara nidanas. Swadu – Amla – Lavana – Snigdha – Guru – Picchila Sevana. Navadhanya – Nava madya – Anupa mamsa- Ikshu – Guda - Gorasa sevana. Ekasthana Asana rati. Vidhi varjitha Shayana.</i>

Table 04: Showing the references of Nidana in Ashtanga Sangraha

1	A.Sa.Su.5/23	<i>Bheshaja Dweshi gada</i>
2	A.Sa.Su.10/51	<i>Atidrava Aharasevana (Leads to Pinasa, Meha, Kasa. Syanda(Akshiroga))</i>
3	A.Sa.Su.18/5	<i>Atimadhura sevana</i>
4	A.Sa.Su. 36/6	<i>Avidhi Aharadi abhyasa in Sharad rutu</i>
5	A.Sa.Ni.10/3	<i>Any Ahara and vihara which are Shleshma-Meda-Mutra Kara</i>

Acharya Madhavakara, Bhavamishra, Yogaratnakara, Vangasena samhitha opines same as Acharya Charaka.

Table 05: Showing the references of nidana in haritha samhitha.

1	Ha.Sa.Chi.28/1-2	<i>Atisevana of Shrama, Vyavaya, Gharma, Viruddha-Teekshna-Ushna Bhojana, Madya -Ksheera- Katu Sevana.</i>
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Table 06: Showing the references of nidana in bhela samhitha.

1	Bh.Ni.6/4-6	<i>Anupa mamsa, Susnigdha padartha, Varija Padartha, Gavya-Aaja-Aourabhra mamsa, Sadyajata dadhi, Ghrutha-Guda vikruthi, Paya, Palala, Aoudaka Khaga mamsa. Avyayama, Divaswapna, Sukha shayya, Sukha Asana.</i>
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DISCUSSION

In order to understand and analyze the Nidanans easily the above enlisted factors have been summarized as follows.

Followed by the critical analysis of effect of these factors over Dosha, Dhatu and Mala in Madhumeha.

Table 07: Showing the summarization of the above mentioned Nidanans of various references.

<i>Rasas</i>	<i>Madhura, Amla, Lavana Atisevana, Kshara, Kshaya, Katu, Tikta</i>
<i>Gunas</i>	<i>Guru, Snigdha, Picchila, Ushna, Atiteekshna, Ruksha, Laghu, Sheetha</i>
<i>Aharaja</i>	<i>Nava anna pana, Ajeerna Bhojana, Vishama Ahara sevana, Anashana, Adhyshana, Viruddha Bhojana, Atimatra Pishta Sevana, Shaka.</i>
<i>Gorasa varga</i>	<i>Sarpi, Mandaka dadhi drava</i>
<i>Ikshu Varga</i>	<i>Guda Vikruthi</i>
<i>Taila Varga</i>	<i>Tila, Palala</i>
<i>Madya Varga</i>	<i>Nava madya</i>
<i>Mamsa Varga</i>	<i>Gramya - Anupa-Varija Mamsa, Gavya-Aaja-Aourabhra mamsa, Aoudaka Khaga mamsa</i>
<i>Dhanya varga</i>	<i>Nava Hayanaka – Yavaka – Chinaka – Uddalaka – NaiShadha - Itkata, Mukundaka, Mahavrihi, Pramodaka, Sugandhaka.</i>
<i>Shami Dhanya Varga</i>	<i>Nava harenu</i>

Krutanna Varga	Mashasupa, Payasa, Krushara, Vilepi
Viharaja	Asya sukha, Nidra sukha, Thyakta vyayama, Cheshta dwesha, Divaswapna, Shayya Sukha, Asana Sukha, Mruja varjana, Atiteekshna - Atapa – Agnisantapa – Shrama sevana, Vyavaya – Vyayama Atiyoga, Jagarana, Vishama shareeranyasa, Alasyaprasakta
Manasika	Tyakta Chinta, Krodha, Udweaga, Shoka
Bheshaja	Not involving in Samshodhana, Bheshaja Dweshi gada, Vamana – Virechana – Asthapana Atiyoga, Shonita atisheka.
Others	Sandharana, Abhighata, Sangrahana chikitsa in Amatisara, Avidhi Aharadi abhyasa in Sharad rutu

Nidana w.r.t Rasas

Ati Matra Sevana of Madhura Rasa pradhana ahara will lead to Sthoulya, Alasya, Atiswapna, Gourava, Anannabhilasha, Agnidourbalya, Asyamadhurya, Abhishyanda and cause many other Kaphaja Vikaras.^[1] which are the prerequisite condition for the Samprapti of Prameha and also there is direct mentioning of excess intake of Madhura ahara leading to occurrence of Meha.^[2] Studies also suggest that there was strong association with incidence of Type 2 DM and regular intake of soft drinks with sugar and artificial sweeteners. Fructose is considered to be potentially increasing the fat deposition in viscera in turn leading to higher risk of metabolic disease like DM.^[3] Ati Matra Sevana of Amla Rasa pradhana ahara will lead to Kapha Vilapayanthi, Pittam abhi Vardayathi, Raktham Dooshayanthi, Mamsa Vidahathi and Kaya Shithilam Karothi.^[4] Panara K et.al in an animal study found that there was about 27.37% increase in the blood glucose levels after administration of continuous *T.indicus* compared to the control group.^[5] Ati Matra Sevana of Lavana Rasa pradhana will lead to Pittam Kopayanthi, Raktham Vardayathi^[6] Shithilatha of Mamsa-shonitha, leads to Glani – Shaithilya – Dourbalya, Upakledakara.^[7] In a human trial, it was found that high sodium intake was associated with increased risk of Insulin resistance, increased urinary cortisol levels, Dyslipidemia, and Lower adiponectin levels.^[8] Kshara atisevana - due to its Ushna and Teekshna guna initially does Kledana followed by Vishoshana and may aggravate Pitta dosha.^[9] Kashaya Rasa atisevana leads to Srotoavarodha, Vishtambha and Obstruction to normal flow of Vata – Mutra – Pureesha – Retas, Glapana.^[10] Tikta rasa atisevana leads to Shosha of Rasa – Rudhira – Mamsa – Meda – Majja – Shukra, Kharatva in the srotas, Glapayati, and causes aggravation of Vata Dosha.^[11] Katu rasa excess sevana leads to Vata – Pitta Prakopaka.^[12]

Nidana w.r.t Gunas

Guru guna has the effect of Bruhmana, Saadakara, Upalepkara, Tarpaka, Pushtikara, Shleshmakara effect over the body and it is Chirapaki.^[13] Snigdha guna can cause Kledana in the body.^[14] Picchila guna causes Lepana effect in the body.^[15] Sheetha guna causes Stambhana.^[16] Ushna guna causes swedana, Pachana.^[17] Teekshna guna causes Shodhana, Lekhana, Dahapakakara.^[18] Laghu guna causes Lekhana, Langhana.^[19] Ruksha guna causes Shoshana, Stambhana.^[20] The actions of the Gunas explained here

are for proper quantity of intake of the substances having that particular Guna, If any dravya with the above mentioned Gunas are consumed excessively then it will lead to dosha Dushana in turn Dhātu vitiation and ultimately the disease.

Nidana w.r.t Ahara

Nava Anna sevana leads to Abhishyanda (Srotosravi)^[21] which again is a prerequisite condition for Prameha Samprapti. Ajeerna ashana is intake of food without complete digestion of previously taken meal, it leads to Rakta dushti and Ama formation.^[22,3] There is another understanding for Ajeernashana that is intake of food during the Ajeernavastha and it leads to Raktadi Dushana.^[24] Ajeerna Bhojana leads to MahaTridosha Kopa lakshana.^[25] Adhyashana is intake of food repeatedly without proper digestion of the previous meal or soon after the meal, it leads to Rakta dushti and Formation of Ama Visha,^[26,27] Intake of food when previous day's meal is not yet digested, it leads to Raktadi dosha prakopa.^[28] Ama formation and Tridosha kopa are seen in Prameha.

Vishama Ahara sevana is intake of food without taking Prakruthi – Karanadi into consideration and it leads to Agnivaishamyakara.^[29] Vishama Ashana is early or late intake of food in relation to Bhojana Kala.^[30] Anashana is not taking food and it leads to Ayushohrasa,^[31] Agnimandyakara, Tridoshakara,^[32] Karshya, Vaivarnya, Dourbalya, Angamarda, Aruchi, Bhrama.^[33] The effects like Agnivaishamyakara – mandyakara, Tridoshakarakara are required for Prameha Samprapti. The effects of Anashana are mainly for Vata prakopaka and hence the nidana for vataja Prameha.

It has been frequently implied in the contemporary system for diabetic management that having small, frequent meals can impact glucose levels positively. Smaller meals lead to a slower release of glucose into the bloodstream which further avoids insulin spikes and improves insulin sensitivity and overall glycaemic control.^[34] This whole concept can be denied by ayurvedic scholars as this type of eating habits fall under the category of Adhyashana^[35] as told in ayurvedic treatises where a person consuming food before the complete digestion of previous meal. This further contributes to the formation of ama^[36] in the body eventually might end up leading to avaranajanya

prameha if other *nidana sevana* is done by the same person.

Viruddha Ashana leads to *Ninditha Vyadhikara*,^[37] it resembles that of intake of *Gara visha* which is a *hetu* for *Vyadhi* as well as *Mrutyu*,^[38] intake of *Viruddhashana* leads to occurrence of *Ashtamahagada* which includes *Meha*.^[39] *Mandaka Dadhi* is which has not completely transformed into *Dadhi* and has not attained *Ghanatva*,^[40] leads to *Abhishyandatha* in the body.^[41] *Sarpi* is *Kaphamedo vivardhaka*, having *Madhura rasa* and *vipaka*, *Sheetha veerya*, *Snigdha guna*.^[42] *Guda vikaras* – *Prabhutha krimi*, *Majja*, *Asruk*, *Meda*, *Mamsakara*.^[43] *Tila - snigdha*, *Ushna veerya*, *Madhura* – *Tikta* – *Kashaya* – *Katu rasa*, *Vatanashaka*, *Kapha PittaVardhaka*.^[44] *Palala is tila churna*.^[45] It is *Malakruth*, *Vrishya*, *vataghna*, *Kapha-pitta kara*, *Brumhna*, *Guru*, *Snigdha*.^[46] *Vishtambhi*.^[47] *Nava Madya* is *guru* in nature,^[48] *Abhishyandhi*, *Guru*, *Vatadi kopanam*, *Ahridya*, *Anistha Gandha*, *Virasa Vidahi*.^[49]

According to *Ayurveda*, *Dadhi* and *Dadhi-Viakaras* are incorporated in the *Nidāna* of this disease. *Abhishyamdi* and *Guru* nature of *Dadhi* may be leading to *Srotorodha* hence causing *Prameha*. Contrary to this theory, curd is advised to the patients of diabetes mellitus in modern science. They advocate that curd injects friendly bacteria in to the digestive system that stimulates the pancreas. It also washes the pancreas of its acids and wastes. These cleaning actions enable the pancreas to perform much better.^[50] Milk and milk products are also described as etiological factor of *Prameha*. Bovine serum albumin (BAS), a major constituent of cow's milk, has been implicated in & triggering Type-1 diabetes, since children who are given cow's milk early in infancy are more likely to develop Type-1 diabetes than those who are breastfed.^[51] A meta-analysis of cohort studies on dairy products consumption and risk of Type- 2 DM reveals an inverse associated of daily intake of dairy products, with Type- 2 DM.^[52] A study found that high sugar diets like packed foods can cause intestinal damage and leaky gut even when blood glucose is within normal ranges. Leaky gut syndrome is a precursor to autoimmune disease and diabetes.^[53] Leaky gut syndrome is comparable to the *abhishyanna srothas* mentioned in *ayurveda*.

Gramya mamsa are the meat of the animal living in *grama* (along with people) for example : *Ashva*, *Go*, *Khara*, *Ushtra*, *Basta*, *urabhra*, *Medapucchaka*,^[54] *Vatahara*, *Bruhmana*, *Kapha-pittakara*, *Madhura rasa* and *Vipaka*, *Deepana*, *Balavardhaka*,^[55] *Gramya Kukkuta* is *Snigdha*, *Vatahara* and *Guru*.^[56] *Anupa mamsa* are the animals living nearer or inside *jala sthala* like *gaja*, *Mahisha*, *Mahashukara*, *Rohitha*, *Varaha*, *Shankha*, *Shishumara*, *Kurma*, *Matsya*,^[57] they are considered to be *Mahaabhishyandakara*.^[58] *Varija Mamsa* are *Kaphotkleshakara*.^[59] *Gomamsa* is considered to be *Ahitatama dravya* among the *mruga mamsa*,^[60] one among *nitya asevaniya dravya*^[61] and

they are considered as *svabhavathah ahitha*.^[62] *Aurabhra mamsa* is *Bruhmana*, *Pittashleshmakara* and *Guru*.^[63] *Audaka Khaga* are the birds living in the water are having *Madhura rasa*, *Guru* – *Ushna* – *Snigdha guna*, *Bala upachaya vardhaka*, *Vrushya*, *Vatanashaka*, *Kaphapittavardhaka*.^[64] Higher consumption of *Grāmya* & *Ānūpa* and *Audak Māmsa* are considered as causative factor of *Prameha*. Excessive intake of red meat and its products, aggravate hyperinsulinemia and insulin resistance.^[65] Various nitroamines found in smoked and cured meats have been proposed as potentially diabetogenic toxins.^[66] Another study concluded that both red meat and fish intake were positively associated with diabetes risk, particularly among urban participants. Findings add new evidence linking red meat and fish intake with cardiometabolic diseases.^[67]

Nava Hayanaka – *Yavaka* – *Chinaka* – *Uddalaka* – *NaiShadha* - *Itkata*, *Mukundaka*, *Mahavrihi*, *Pramodaka*, *Sugandhaka* – Repeated administration is a *nidana* of *Prameha*. *Nava Dhanya* are having the *Abhishyandi guna*.^[68] *Hayanaka*, *Uddalaka* is *Ushna virya*.^[69] *Chinaka* is *Kapha vatakara* – *Vishtambhi*, *Abhishyandi*, *Guru*, *Swadu paka* and *rasa*.^[70] *Yavaka* is always considered to be *Avara* among *Shuka dhanya*.^[71] *Yavaka* – *hayanaka* – *Naishadha* are *Madhura rasa*, *Guru* – *Snigdha guna*, *Amla paka*, *Shleshma Pitta kara*, *Srushta mutra puresha*.^[72] *hayanaka* – *Yavaka* – *naishadha* – *Itkata* are *Kaphaprakopakara dravya*.^[73] *Mukundaka* is *Krushna Shashtika*,^[74] it is *Madhura rasa* – *Madhura vipaka*, *Vatapitta shamaka*, *Bruhmana* and *Kapahashukra karaka*.^[75] *Sugandhaka* is *Deva Shali*.^[76] *Pramodaka* and *Sugandhaka* are *Sheetha virya*, *Madhura rasa vipaka*, *Baddha alpa varchas*, *Alpa vata vardhaka*, *Snigdha*, *Bruhmana*, *Shukra* – *Mutrala*.^[77] *Harenu* is *Vartula Kalaya*, it is *Laghu* – *Sheetha* – *Madhura* – *Kashaya*, *Ruksha karaka*.^[78] *Masha Supa Prabhutha antarmala karaka*.^[79] *Payasa* is *Paramanna*, it causes *Vata -Pitta* – *Asra hara*, *guru*, *Rasayana*, *Vishtambhakara*, *Aruchikara*, *MedaShukra* – *Bala* – *Kapha Janaka*,^[80] *Kaphakaraka*.^[81] *Krushara* is *Tila Tandula Mashakrutha peya*.^[82] *Kaphakaraka*.^[83] *Vilepi* is *Tarpani*, *Grahi*, *Hrudya*, *Laghu*.^[84] *Atisevana* of *Pishta padartha* and *Shaka sevana*.

If all these are consumed excessively and continuously, it might lead to *Santarpanottha vikara* like *Prameha*. To summarize all the above mentioned *ahara dravyas* which are having the *Guru* – *Snigdha* – *Sheetha* – *Picchila* – *Abhishyandi guna* can be compared with the intake of diet which is high calory and high fat. Various animal studies have taken place to evaluate the role of Diet in inducing obesity in turn leading to Insulin resistance and in turn leading to type 2 Diabetes mellitus; High fat fed DIO mouse developed adipocyte hypertrophy and Hyperplasia and deposition of fat in the mesentery; metabolic efficiency was found to be low in high fat fed mice and weight gain, in addition gradually they developed insulin resistance, Glucose intolerance, mild to modest hyperglycemia, dyslipidemia, leptin resistance

when compared with that of control group. High fat/STZ rodent models – in these rodents insulin resistance was generated by feeding diet enriched in either fructose or Fat, and subsequently low doses of STZ is injected to cause hyperglycemia to a level which does not pose the risk of developing T2DM, in response to high energy diet intake insulin concentration initially increase and after STZ injection it decreases to a level still higher, along with this decrease in insulin levels after STZ injection, fat fed animals become significantly hyperglycemic – this model mainly explains the natural disease progression and metabolic characteristics typically of T2DM because of insulin resistance. High fructose fed rodents – fructose is more lipogenic than glucose and starches. Fructose results in hepatic triglyceride production, fructose raises Uric acid which in turn inhibits nitric oxide availability, since Insulin requires nitric oxide to stimulate glucose uptake, it can be derived that fructose induced hyperuricemia has a pathogenic role in promoting insulin resistance. Cafeteria diet is exposing experimental models to palatable commercially available supermarket foods, such diet is high fat and high carbohydrate, the rats become more obese with cafeteria diet than those fed with pure high fats.

So, these animal studies suggest that there is increase in obesity, insulin resistance and reduced glucose uptake in high fat-fructose fed models^[85] which may suggest that the food articles explained as a *nidana* for *prameha* in the classics are having *guru-snigdha-sheetha-abhishyandi guna* resulting in the disease progression.

High calory diet consumption produces oxidative stress, and low-grade inflammation which aid in development of weight gain, obesity and Insulin resistance leading to type 2 DM.^[86] A study was conducted to compare the effect of high fat and high calory diet on South Asian men and Caucasians, where high fat and high calory diet was fed for both the groups for a duration of 5 days in addition to their normal diet and along with restriction of physical activity. It was found that there was sufficient impairment in insulin stimulated glucose disposal in south Asian than Caucasians. Which may indicate that rapid adaptation to western food may partially explain increased incidence T2DM in South Asia in recent years.^[87]

Nidana w.r.t Vihara

Divaswapna is *Tridoshaprakopaka*,^[88] *Agnishamana*, *Pittaprakopa*,^[89] due to its *Medasa samanaguna* – it acts as *Meda dushaka*,^[90] and leads to *Sarvadosha prakopa* and the diseases like *Kasa – Shwasa – Pratishtyaya – Shiroguarava – Angamarda – Arochaka – Jwara – Agnidourbalya*.^[91] *Alasya* causes *Shleshma kopanam*.^[92,93] *Mruja (Udwartana)*, *vyayama varjanam (Chakra on ch.Ni.4/5)*,^[94] if never followed it may be *Kapha – Medo kara*. *Vyayama* is a type of *niragni sweda* which is indicated in *kapha medavruta vata conditions*^[95] like *premeha*. Regular physical activity benefits

individual components of Metabolic syndrome such as waist circumference, adiposity, hyperglycemia, and hypertension.^[96] *Vyayama* also regulates the elimination of toxicants through sweat.^[97] *Avyayama* leads to accumulation of *mala roopi sweda* in the body which again increases the *shareera kledata* which in turn might put overload on the kidneys to remove this *kleda* as *mootrastu kledavahanam*.^[98] In long term, this again might lead to the dysfunction of kidney creating excess *kleda* in the body which a favorable environment for *Premeha* to manifest, as *prameha* is also a *kleda predhana vyadhi*. This statement can be further supported by *Acharya Susrutha* mentioning *meha* in disease conditions where *jala* should be consumed in *mandha* (lesser) quantity.^[99]

Tyakta Chinta, Krodha, Udweaga, Shoka – Excess indulgence in *Chinta – Krodha – Udweaga – Shoka* leads to *Vatapitta prakopa* and never indulging in these may lead to *Kapha prakopa*. *Vamana – Virechana – Asthapana Atiyoga, Shonita atisheka, Sandharana, Abhigata* - leading to *Vata prakopa*.

All the *viharaja* *Nidana* of *Prameha* indicate the sedentary life style, many studies have taken place to establish the relation between life style and T2DM; A survey study was conducted in Southern India at a Peri-urban area where all the house hold facilities were available, compared to rural areas many were found to be leading sedentary life style; a sedentary life style involving only in household activity was an important determinant in prevalence of T2DM irrespective of age, BMI and family history of diabetes mellitus especially in the population which are basically labor intensive.^[100]

With the present-day modernization, it is almost an impossible task for an individual to indulge in a perfectly healthy diet and lifestyle. Hence, as a part of preventive measure it is necessary to address the *rtu-shodhana* aspect. *Asamshodhitha* - a concept exclusive to *Ayurveda* – reference regarding *Shodhana* not adopted as per the *Rutu* states that “*yathakalam Malanam Shodanam Prathi*” i.e., *Shodhana* should be adopted as per the rules laid down in *Rutu charya* concept (ex: *Vamana-Vasantharitu*) or else the *athi sanchitha doshas* get triggered by unwholesome *Ahara* or *Vihara* may give rise to diseases. *Athi Upekshana* of *Chaya doshas* will give rise to *Bheashja dweshi Vyadhis* such as *Atisthoulya, Agnisadana, Kustha, Meha, hrithaojasa, Srotorodha, Vibhramsha, Shwasa, Shvayathu, Pandu, Ama, Urusthambha, Jatara, Alasaka* etc.^[101] *Rtu shodhana* is associated with removal of lipophilic toxicants as evident from this study – lipophil mediated reduction of toxicants in humans: an evolution of Ayurvedic detoxification procedure.^[102] This points towards the highly scientific reasoning behind the Ayurvedic protocols of *rtu shodhana*.

CONCLUSION

Premeha vyadhi has been mentioned as one among the *Asta-mahagadha* by all our *acharyas*^[103,104,105] India is deemed as the world's capital of diabetes.^[106] The elaborate descriptions of *nidanas* for *prameha* we get from the *Ayurvedic* treatises need to be understood and be duly avoided so as to prevent a debilitating condition like Diabetes. When these descriptions are analysed, *nidanas* for *Prameha* can be categorised *Kapha karaka*, *Pitta karaka* and *Vata karaka*. Many *Nidanas* told are also *santarpanotha*, *Acharya* Vagbhata mentions all the types of *Meha* will eventually manifest as *Madhumeha* in the end, *Kalantara* (due course of time).^[107] Hence indulgence any of the above said *nidana* may lead to *Madhumeha* as a long-term consequence.

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