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# **Research Article**

# TO EVALUATE THE CLINICAL EFFICACY OF *DARVYADI CHURNA* IN THE MANAGEMENT OF *MADHUMEHA* (DENOVO DIABETES MELLITUS)

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*Madhumeha,* Diabetes Mellitus, HbA1C, FBS, PLBS.

# ABSTRACT

*Madhumeha*, one among the *Vataja Pramehas* need utmost consideration in the current scenario in view of the rising incidence. *Madhumeha* is similar to diabetes mellitus. Diabetes Mellitus is a chronic metabolic disease characterized by elevated levels of blood glucose which leads over time to serious damage to the heart, blood vessels, eyes, kidneys and nerves. The most common is Type 2 Diabetes, usually in adults, which occurs when the body becomes resistant to Insulin or doesn't make enough Insulin. In the past 3 decades the prevalence of Type 2 Diabetes has raised dramatically in countries of all income levels. According to Ayurveda, *Madhumeha* is manageable with the prescribed *Chikitsa* in the *Samhitas*. It is judiciously managed with the help of *Yuktikruta Ahara, Vihara* and *Aushadha* (*Darvyadi churna*). In this case *Nidana parivarjana* has been followed and this case is being considered as *Sthoola Pramehi*.

#### **INTRODUCTION**

Prameha, which has been explained as Anushangi<sup>[1]</sup> and Santarpanajanya vvadhi<sup>[2]</sup>, is characterized by *Prabhuta Mutrata* (increased quantity and frequency of urine) and Avila Mutrata (turbidity of urine)<sup>[3]</sup>. *Madhumeha* is an important lifestyle disorder described under Prameha. According to Susruta, based on the aetiology Prameha is of two types - Sahaja Prameha, which is due to Bija Dosha of parents (hereditary) and Apathva Nimittaia Prameha (acquired), which is due to Ahita ahara and Vihara sevana<sup>[4]</sup>.

Though *Prameha* is *Tridoshaja Vyadhi*, based on the prevalence of *Dosha*, Acharya Charaka has described 20 types of *Pramehas*, *Kaphaja Prameha*which are of 10 types, *Pittaja Prameha*- 6 types and *Vataja Prameha*- 4 types<sup>[5]</sup>. *Madhumeha* is one among the *Vataja Pramehas* characterized by excessive quantity of urine similar to honey in taste and colour along with sweetness of whole body. Also, Acharya Susruta opines that all the varieties of *Prameha* when left untreated, progress as *Madhumeha*<sup>[6]</sup>.



Because of the complexity in the management of *Madhumeha* it has been considered as one of the *Ashta Mahagadas*<sup>[7]</sup>.

Diabetes, also known as *Madhumeha* in Ayurveda, is a chronic metabolic disorder that affects millions of people worldwide. It is characterized by hyperglycemia, polydipsia, polyphagia due to the body's inability to produce or effectively utilization of insulin.

#### Demography

About 422 million people worldwide have diabetes, the majority is living in low- and middle-income countries, and 1.5 million deaths are directly attributed to diabetes in each year. Both the number of cases and the prevalence of diabetes have been steadily increasing over the past few decades<sup>[8]</sup>.

Excessive consumption of heavy, unctuous, sour foods, newly harvested cereals and wines/drinks, excessive sleep, sedentary lifestyles, avoidance of exercise or thinking/worry, and lack of *Shodhana* (purification) can result in an increase in *Kapha, Pitta, Medo*, and *Mamsa dhatu*. These impede *Vata* pathways, causing *Avruta Vata* conditions. Thus, provoked *Vata* takes out *Ojas* from its sites and brings it to *Basti* causing *Madhumeha. 'Madhumeha'* is a disease in which the excretion of urine possesses the quality similar to that of *Madhu* (honey) in its colour, taste, smell and consistency<sup>[9]</sup>.

#### MATERIALS AND METHODS Case Report

A female patient aged 55 years approached Government Ayurvedic Hospital with chief complaints of *Alasya, Dourbalya* (general malaise) associated with *Prabhuta Mutrata* (increased frequency and quantity of micturition) and *Kara Pada daha* (burning sensation **General Examination**  of palms and soles) occasionally. Routine general examination and systemic examination was conducted. During evaluation the patient was diagnosed Denovo Type 2 Diabetes mellitus. The FBS was 120mg/dl, PLBS was 200mg/dl and HbA1C was 6.6%.

Past History: No major illness was noticed.

General condition	Good
Height	5.2 feet
Weight	78kg
Pulse	76/min
Blood pressure	130/80 mm of Hg
Temperature	98.9 F
Respiratory rate	22 / min
Tongue	Coated
Pallor/Icterus/Cyanosis/Clubbing/Edema/ Lymphadenopathy	Absent

#### Ashtasthana pariksha

Nadi	76/min Vata Kaphaja, regular
Mutra	5-6 times a day and 1-2 times at night
Mala	Once per day
Jihva	<i>Amayukta</i> (coated), dryness
Shabda	Prakrita
Sparsha	Anushna seta
Drik	Prakrita
Akriti	Sthoola

#### Dasha vidha pariksha

Prakriti	Kapha vataja
Vikriti	Predominantly Vata dosha and Medo dhatu
Sara	Mamsa
Samhanana	Avara
Pramana	Madhyama
Satwa	Madhyama
Satmya	Madhyama
Ahara shakti	Madhyama
Vyayama shakti	Avara
Vayah	Madhyama

#### Samprapti ghatakas

Dosha	Kapha pradhana Tridoshas	
Dushya	Rasa, Shonitha, Mamsa, Meda, Majja, Sukra, Kleda, Vasa, Lasika, and Ojas	
Agni	Dhatvagni mandhya	
Srotas	Rasavaha, Raktavaha, Mamsavaha, Medavaha, Majjavaha Sukravaha, Udakavaha, Ojovaha, Mutravaha	

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Sroto dusti	Atipravrtti, Vimargagamana	
Udbhava sthana	Amashaya	
Adhistana	Vasti	
Rogamarga	Madhyama	
Sadhya asadhyata	Asadhya – Yapya	
Vyadhi swabhava	Chirakari	

**Investigations:** FBS-120mg/dl PLBS-200mg/dl HbA<sub>1</sub>C- 6.6% **Diagnosis:** *Vataja prameha (Madhumeha), Navina avastha* (T2 D.M)

# Subjective Criteria

S.No	Symptoms	Grade 0	Grade I	Grade II	Grade III
1.	<i>Prabhuta Mutrata</i> Quantity of urine (in litre) (normal quantity of urine excreted per person per day-1.5L)	1.50 to 2.00	2.00 to 2.50	2.50 to 3.00	3.00 onwards
	Frequency of urine (Polyuria)	3-6 times in day, 1 time at night	7-9 times in day, 2 times at night	10-12 times in day, 3-4 times at night	More than 12 times in day, more than 4 times at night
2.	<i>Pipasa Adhikya</i> (Polydipsia) Feeling of thirst	6-8 times /day	9-11 times / day	12-14 times/day	more than 14 times/day
3.	<i>Kshudha Adhikya</i> (Polyphagia)	Normal/As Usual	Slightly increased (1-2 meals)	Moderately increased (3-4 meals)	Markedly increased (5-6 meals)
4.	<i>Karapada Daha</i> (burning sensation of both palms and feet)	No Daha	Mild <i>Daha</i> but not continuous (below 6 hrs in a day)	Moderate <i>Daha</i> but continuous	Severe continuous Daha
5.	Karapada Suptata	No Suptata	Mild <i>Suptata,</i> not continuous	Moderate continuous <i>Suptata</i>	Severe and continuous Suptata
6.	Dourbalya	Can do routine work	Can do moderate work	Can do mild work only with difficulty	Cannot do mild work
7.	<i>Alasya</i> ( <u>l</u> ethargy)	No Alasya	Feeling of tiredness after doing mild work	Likes to sit instead of doing work	Sleep instead of sitting

## **Objective Criteria**

S. No.	Parameter	Grade-0	Grade-1	Grade-2	Grade-3
1	FBS (mg/dl)	70-110mg/dl	111-150mg/dl	150-200 mg/dl	201-250 mg/dl
2	PLBS (mg/dl)	Upto 140 mg/dl	141-175 mg/dl	176- 250 mg/dl	251-300 mg/dl
3	HbA1C	< 6.0 %	6-6.5%	6.6-7.0%	>7.0 %

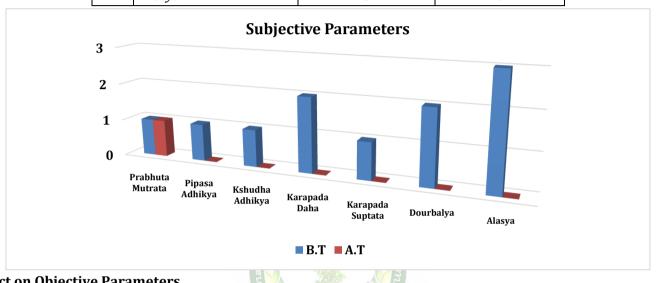
# **Treatment Plan**

*Darvyadi churna* 3grams orally half an hour after food along with half spoon of honey and 1 spoon of *Ghrita* two times a day for 90 days.

## RESULT

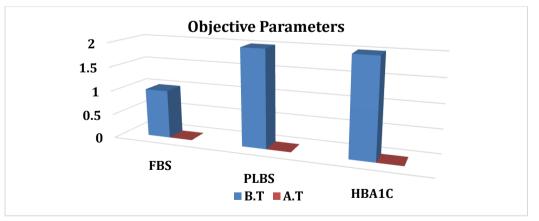
Effect on	Subjective	Parameters
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S.no	Symptom	Before treatment	After treatment
1.	Prabhuta Mutrata	1	1
2.	Pipasa Adhikya	1	0
3.	Kshudha Adhikya	1	0
4.	Karapada Daha	2	0
5.	Karapada Suptata	1	0
6.	Dourbalya	2	0
7.	Alasva	3	0



**Effect on Objective Parameters** 

ve Para	meters	6	
S.no	Symptom	Before treatment	After treatment
1.	FBS	Prul 11APR VPIC	0
2.	PLBS	2	0
3.	HBA1C	2	0



Pathya Ahara Accordi	ng to Varga &	Vihara
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S.No	Varga	Examples	
1.	Shuka Dhanya	hashtika, Kodrava, Yava, Godhuma, Uddalaka, Shyamaka	
2.	Shimbi Dhanya	Chanaka, Adhaki, Kulattha, Mudga	
3.	Shaka Varga	The leafy vegetables with a predominance of <i>Tikta-Kashaya rasa, Patola, Karvellaka, Shigru</i>	

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4.	Phala Varga	Jambu, Dadima, Shringataka, Amalaki, Kapitha, Tinduka, Kharjura, Kalinga					
5.	Mamsa Varga	Vishkira mamsa, Jangala mamsa, Lava mamsa					
6.	Taila Varga	Taila of Danti, Ingudi, Sarshapa, Atasi					
7.	Udaka Varga	<i>Sarodaka</i> (water boiled with the heartwood of <i>Khadira</i> ), <i>Kushodaka</i> (water boiled with <i>Kusha</i> ), <i>Madhudaka</i> (water mixed with honey)					
8.	Kritanna Varga	<i>Apupa</i> (pancakes prepared with grain flours), <i>Saktu</i> (roasted corn flour), <i>Yavodana, Yusha</i>					
9.	Others	Madhu, Hingu, Saindhava, Maricha, Lasuna, Twak					
	Vihara: Chankramana (walking), Nitya vyayama, Snana, Jalaavaseka (pouring water on the body regularly) Kreeda, Rtu charya						

	Apathya										
		Ahar	a		Vihara						
	Ksheera, Dadhi, Takra, Taila Kshara, Amla Rasa, Ikshu, Guda, Pistaanna, Sura, Madya Anupa Mamsa, Sauviraka			Divaswapna, Ati Maithuna, Svedana, Dhumapana Vega Dharana, Rakta mokshana							
	Drug Review of Darvyadi Churna										
S.No	Drug	Botanical & Family Name	Part Used	Rasa Panchaka	Doshagnatha	Karma	Indications				
1.	Vidanga <sup>10</sup>	Embelia ribes Myrsinaceae	Fruit	Rasa: Katu, Kashaya Guna: Laghu, Ruksha, Tiksna Virya: Usna Vipaka: Katu	Kaphavatahara	Viśaghna, Krimighna, Dīpana, Rasayana	Sula, Krimiroga, Udararoga, Adhmana				
2.	Amalaki <sup>11</sup>	<i>Emblica officinalis</i> Euphorbiaceae	Fruit	Rasa: Madhura, Amla, Katu, Tikta, Kashaya Guna: Laghu, Ruksha Virya: Sita Vipaka: Madhura	Tridoshahara	Chaksushya Rasayana, Vrsya	Raktapitta, Amlapitta, Prameha, Daha				
3.	Haritaki <sup>12</sup>	<i>Terminalia chebula</i> Combretaceae	Fruit	Rasa: Madhura, Amla, Katu, Tikta, Kashaya Guna: Laghu, Ruksha Virya: Sita Vipaka: Madhura	Tridoshahara	Rasayana, Chaksusya, Hrdya, Anulomana, Lekhana	Sotha, Arshas, Aruci, Hrdroga, Kasa, Prameha, Udavarta, Vibandha, Visamajvara, Tamaka Svasa, Gulma, Udararoga				
4.	Vibhitaki <sup>13</sup>	<i>Terminalia belerica</i> Combretaceae	Fruit	Rasa: Kashaya Guna: Ruksha, Laghu Virya: Usna Vipaka: Madhura	Kaphapittahara	Chaksushya, Keshya, Bhedana, Krimihara, Kasahara	Chardi, Kasa, Krmiroga, Vibandha, Svarabheda, Netraroga				
5.	Pippali <sup>14</sup>	<i>Piper longum</i> Piperaceae	Fruit	Rasa: Katu Guna: Laghu, Snigda, Tiksna Virya: Anusna, Seeta Vipaka: Madhura	Vatakaphahara	Rasayana, Deepana, Ruchya, Hrdya, Vrshya, Rechana	Svasa, Kasa, Pliha Roga, Gulma, Jvara, Prameha, Arshas, Ksaya, Udara Roga, Hikka, Trsna, Krimi,				

							Kustha, Sula, Amavata, Amadosa
6.	Sunthi <sup>15</sup>	Zingiber officinale Zingiberaceae	Rhizome	Rasa: Katu Guna: Laghu, Snigadha Virya: Usna Vipaka: Madhura	Vatakaphahara	Anulomana, Dipana, Hrdya, Pacana, Amadosahara	Agnimandya, Svasa, Adhmana, Amavata, Pandu, Udararoga
7.	Marica <sup>16</sup>	<i>Piper nigrum</i> Piperaceae	Fruit	Rasa:Katu, Tikta Guna:Laghu,Ruksh a, Tikshna Virya: Usnaa Vipaka : Katu	Kaphavatahara	Dipana. Pachana Medohara Chedana Hrdya	Svasa, Sula, Krimiroga, Tvagroga
8.	Daruharidra <sup>17</sup>	<i>Berberis aristate</i> Berberidaceae	Root bark	Rasa: Tikta Guna: Laghu, Ruksha Virya: Usna Vipaka: Katu	Kaphapittahara	Chedana	Prameha, Kustha, Netraroga, Sweta Pradara, Kamala, Vrana, Visarpa
9.	Loha <sup>18</sup>	Iron (Fe)	Bhasma	Rasa: Tikta, Madhura, Kashaya Guna: Sara, Guru, Ruksha Virya: Usna	Kapha Pittahara	Rasayana, Yogavahi, Lekhana	Pandu, Kusta, Sotha, Arsas, Pleeha, Meha

# DISCUSSION

Madhumeha is a chronic condition including multiple causes as described in the texts i.e., Based on the cause (Sahaja (hereditary) and Apathya Nimittaja (acquired)). Based on the predominant Dosha involved (Vataja, Pittaja and Kapha), based on the individual (Sthoola Pramehi and Krisha Pramehi). The Chikitsa Sutra clearly indicates Brimhana/Langhana (Santarpana/Apatarpana), Sodhana therapies considering all the factors involved in the particular case. Nidana Parivarjana is primarily considered. The present case is *Sthoola Pramehi* and Denovo Diabetes mellitus. Considering Ojas which is one of the Dasha dushva (Rasa, Shonitha, Mamsa, Meda, Majja, Sukra, Kleda, Vasa, Lasika, And Ojas), care has been taken in suggesting the Ahara, Vihara and Aushadha. In the pathogenesis of Prameha, Bahu drava śleshma and Bahu abaddha dushyas (excess Abaddha Meda, Mamsa, Vasa, Majja, Kleda, Shukra, Rakta, Lasika, Rasa and *Ojas*) play an important role. So, in its management such drugs have to be selected which are against Kapha, Meda and Kleda as well as have the Rasavana effect.

Darvyadi churna comprises the drugs like Vidanga, Amalaki, Haritaki, Vibhitaki, Pippali, Sunthi, Maricha, Vidanga, Lohabhsma with dominance of Katu, Tikta, Kashaya rasas, Laghu, Ruksha Tikshna guṇa acts on Bahu drava sleshma and Bahu abaddha dushyas. Kaṭu, Tikta, Kasaya rasas, Laghu, Ruksha, Tikshna Guṇa which produce Rukshaṇa effect as they have opposite qualities to that of *Kapha* and *Medas*, which are the main entities in the pathogenesis of *Madhumeha*.

Lekhana drugs like Daru Haridra, Haritaki, Loha are effective in removing Kapha and Medas especially in Sthoola pramehi. As the Samprapti of Madhumeha involves Dhatwagni mandhyata drugs like Sunthi, Maricha, Vidanga, Pippali increases the Agni. There are Vatahara and Kaphahara drugs present in the formulation which alleviate the Doshas of Madhmeha. The drugs like Amalaki, Haritaki, Vidanga, Loha, Pippali are having Rasayana property, because of which it will be helpful in the Madhumeha patients who have the symptoms of Dourbalya, Alasya. The drugs like Vidanga, Amalaki, Pippali, Loha, Daru haridra are proved for their hypoglycemic effect. These drugs also have anti-oxidative properties which help for quality of life.

The efficacy of *Darvyadi churna* along with *Ghrita* and *Madhu* as *Anupana*, administered in disproportion quantity, to draw *Dosha dushya sammurchana* and to cause *Samprapti vighatana*. Due to its *Agni dipana, Kapha vata hara* properties, it has a good glycemic control and adds to quality of life.

Darvyadi churna has Lekhana, Apatarpana, Rasayana, Srotosodhaka properties hence executed a good clinical efficacy along with appropriate Pathya sevana.

#### CONCLUSION

This formulation "Darvyadi Churna" yielded significant results in the management of Madhumeha (Denovo Diabetes mellitus) in the present case study. Further it is concluded that efficacy of Darvyadi churna in this case including Nidana Parivarjana and Pathya sevana absolutely supported the Samprapthi vighatana. Rasayana properties of the herbs supported the Ojas which is one of the Dushyas. It is suggested that a huge sample with a control study will add more value.

#### REFERENCES

- 1. Dr.Ram karan Sharma, Vaidya Bhagwan Dash; Yajjapurishiya adhyaya; Agnivesa's Caraka Samhitha; Chaukhambha Sanskrit Series Office, Varanasi; Edition: Reprint, 2016, sutra sthana, Volume 1, Sloka 25/40, P.427
- Dr.Ram karan Sharma, Vaidya Bhagwan Dash; Santarpaniyam adhyaya; Agnivesa's Caraka Samhitha; Chaukhambha Sanskrit Series Office, Varanasi; Edition: Reprint, 2016, sutra sthana, Volume 1, Sloka 23/5, P.395
- Prof.G.D. Singhal; Prameha nidanam; Susruta Samhita; Chaukhambha Sanskrit Pratishthan, Jwaharnagar; Reprint, 2015, Nidana sthana, Volume 1, Sloka 6/6, P.546
- 4. Prof.G.D. Singhal; Prameha Chikitsitam; Susruta Samhita; Chaukhambha Sanskrit
- 5. Pratishthan, Jwaharnagar; Reprint, 2015, Chikitsa sthana, Volume 2, Sloka 11/3, P.271
- Dr.Ram karan Sharma, Vaidya Bhagwan Dash; Prameha Chikitsitam; Agnivesa's Caraka Samhitha; Chaukhambha Sanskrit Series Office, Varanasi; Edition: Reprint, 2016, sutra sthana, Volume 3, Sloka 6/7, P.299
- Prof.G.D. Singhal; Prameha nidanam; Susruta Samhita; Chaukhambha Sanskrit Pratishthan, Jwaharnagar; Reprint, 2015, Nidana sthana, Volume 1, Sloka 6/27, P.551
- 8. Dr.Ram karan Sharma, Vaidya Bhagwan Dash; Yasyasyavanimmiteeyam indriyam; Agnivesa's Caraka Samhitha; Chaukhambha Sanskrit Series

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Office, Varanasi; Edition: Reprint, 2016, Indriya sthana, Volume 3, Sloka 9/8, P.569

- 9. https://www.who.int/health-topics/diabetes
- 10. Vijayaraksita & Srikanthadatta; Prameha, Prameha -pidaka nidanam; Madhava Nidana; Chaukhambha Surabharati prakashan, Varanasi; Edition: 2014, Sloka 33/26, P.554.
- 11. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 1; pp: 123
- 12. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 1; pp:4
- 13. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 1; pp:47
- 14. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 1; pp:26
- 15. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 2; pp: 133
- 16. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 1; pp: 103
- 17. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 3; pp: 115
- 18. The Ayurvedic Pharmacopoeia of India (API) compiled by Government of India, Ministry of Health & Welfare, Department of AYUSH, New Delhi, First Edition; Part-1; Volume- 2; pp: 33
- 19. Dr.Damodar Joshi, Rasasastra, Chaukambha Orientalia, Varanasi, 2018, 14: 114, p 124.

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