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Role of *Madhumeha Nashini Gutika* and *Darvyadi Kwath* in the Management of *Madhumeha* w.s.r. to Type-2 Diabetes mellitus

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ABSTRACT

Ayurveda is a unique part of Indian philosophy is really one of the great wonders of ancient Indian science. *Ayurveda* is not merely a health science, but it also reflects the genuine style of life. स्वस्थस्यस्वास्थ्यरक्षणमातुरास्यविकारप्रशमनंच) I च. सू. ३०/२६(is the first and foremost principle of *Ayurveda*.

Diabetes mellitus is undoubtedly one of the most challenging health problems of the 21st century. In *Ayurveda*, a condition in which a person passes honey like urine is called *Madhumeha*. In modern medical science, symptomatology of *Madhumeha* is equivalent to the feature of diabetes mellitus. Among several health problems diabetes mellitus is a giant disease as one of the arch enemy of the mankind. The *Ayurvedic* management of diabetes aims not only to achieve a strict glycemic control but also to treat the root cause of the disease.

The use of metals and minerals in therapeutics in the form of *Rasyoga* has been started from the period of classical text in *Ayurveda* and recommended because of their supremacy in providing quick relief and even treating the incurable disease. So the study was conducted with the objective of clinical evaluation of the herbal drugs in the management of *Madhumeha*.

In this study total 20 no. of patients were taken between the age group of 20-60 years having classical symptoms of *Madhumeha* and treated with *Madhumeha Nashini Gutika* described in *Rasamrita* and *Darvyadi Kwath* described in *Charaka Prameha Chikitsa*. At the end of 90 days of treatment by both drugs patient got significant improvement in both subjective and objective criteria. The study confirms that *Madhumeha Nashini Gutika and Darvyadi Kwath* is effective in the management of *Madhumeha* and reduces the symptoms of illness.

KEYWORDS *Madhumeha*, Diabetes Mellitus, *Madhumeha Nashini Gutika*, *Darvyadi Kwath*



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INTRODUCTION

The term Diabetes mellitus describes a metabolic disorder of multiple etiologies characterized by chronic hyperglycemia with disturbances of carbohydrate, fat and protein metabolism resulting from defects in Insulin secretion, insulin action, or both¹.

Diabetes mellitus has become a major public health problem across the world and is associated with enormous personal, social and economic burden. The prevalence of diabetes is rapidly rising all over the globe at an alarming rate. It has been projected that worldwide approximately 300 million people would be afflicted with it by 2025. India leads the world with largest number of diabetic subjects about 50.9 million people suffer from diabetes and this figure is likely to go up to 80 million by 2025, earning the dubious distinction of being as —DIABETIC CAPITAL OF WORLD. Diabetes is leading cause of death, disability and economic loss throughout the World².

In *Ayurveda* *Madhumeha* is one of the *Asthamahagadha*³. The word *Madhumeha* can be sub divided into *Madhu* and *Meha*. *Madhu* means sweet or sweetness and *Meha* means excessive urination. In *Ayurved* texts *Samprapti* of *Prameha*

involves *Tridoshas* and *Dooshyas* involved are *Rasa, Rakta, Mamsa, Meda, Majja, Vasa, Shukra, Oja, Lasika* and *Kleda*. Though *Prameha* is *Tridoshaja Vyadhi*, Acharyas have mainly emphasized on vitiation of *Kapha Dosha* and also emphasized on *Medovridhhi* and *Medodhatwagnimandhya*⁴.

So for disintegrating the *Samprapti* we should have a formulation working at the level of *Dhatwagni* and counteracting *Kapha Dosha* and *Medodhatu* for the management.

Number of *Ayurvedic* herbs and herbal compounds has shown encouraging results in the management of *Madhumeha*. But their critical study on the basis of *Ayurvedic* principles and modern views is always necessary. Here is humble effort to put a step ahead to provide the complete management and healthy life to the patient of *Madhumeha*.

Madhumeha Nashini Gutika which is described in *Rasamrit*⁵ & *Darvyadi Kwath* in *Charaksamhita*⁶ for the management of *Prameha*. Contents of *Madhumeha Nashini Gutika* are *Trivanga Bhasma* (*Nag, Vanga & Yashad bhasma*), *Gudmar leaf, Nimb leaf and Sudh Shilajeet*. *Darvyadi Kwath* contains drug like *Daruharidra, Devdaru, Amlaki, Haritaki, Bibhitak, Mustak*. These all



drugs are having *Pramehaghna* and Anti-diabetic properties.

AIMS AND OBJECTIVES

The aims and objective of the study were

- To study the aetiopathogenesis of *Madhumeha* w.s.r. to Type-2 Diabetes Mellitus
- To understand the role of *Madhumeha Nashini Gutika* and *Darvyadi Kwath* in *Madhumeha*

MATERIALS AND METHODS

The study comprised of 20 patients suffering from *Madhumeha*, the patients were selected from OPD an IPD of P.G. Dept of Kayachikitsa, Rishikul Campus, Haridwar. These patients were randomly selected on the basis of inclusion and exclusion criteria.

Ethical committee approval no. letter is UAU/R/C/IEC/2016-17/2

SELECTION OF DRUG

[1] *Madhumeha Nashini Gutika* (*Rasamrit, Rasyogavigyaniadhyaya*)

[2] *Darvyadi Kwath* (*Charak chi. 6/26*)

DRUG DOSAGES

[1] *Madhumeha Nashini Gutika* (*Rasamrit*)

Every tablet of 'Madhumeha Nashini Gutika' was consist of 500mg wt. Patients were asked to take '*Madhumeha Nashini*

Gutika' 1gm /day in divided dose, i.e. 2 times in a day with luke warm water before meal for 3 months.

[2] *Darvyadi Kwath* (*Charak chi. 6/26*)

Patients were dispensed *Darvyadhi Kwath* in raw form and asked to prepare it by following method:

5gm of raw *Kwath* was taken and boiled with 4 cup of water (about 160 ml). After some time when 1 cup of water (about 40 ml) was left then after filtering, patient was asked to take *Kwath* B.D. before ½ hr of meal.

SELECTION OF SAMPLE-
Randomized Sampling

TYPES OF STUDY- Single Blind

DURATION OF STUDY- 90 days

FOLLOW UP - 1 month

INCLUSION CRITERIA

- Diagnosed patients without any complication were included.
- Age between 20-60 years.
- Fasting blood glucose level >110 mg/dl
- Post Prandial blood sugar level >140 mg/dl
- Patients of either sex were taken.

EXCLUSION CRITERIA

- Patient having DM Type-1
- Patient having complication of diabetes



- Any other serious medical & surgical ill patients were excluded.
- Fasting blood sugar level >250mg/dl
- Post prandial blood sugar level >350mg/dl

INVESTIGATION –

- Hb% , TLC, DLC, ESR
- S. Creatinine
- Blood urea

These investigations were done in all the patients before and after completion of treatment to rule out any other pathological condition.

BS- F & PP was carried out before trial and after each follow up i.e. 30 days.

PARAMETERS OF ASSESSMENT

1. Subjective Assessment
2. Objective Assessment

1. SUBJECTIVE PARAMETER OF ASSESSMENT

The assessment of the drug trial was done the basis of improvement in the symptoms during and after trial. The symptoms were graded as per their severity (0-4).

- 1- *Pipasa* (Polydipsia)
- 2- *Prabhutmutrata* (Polyuria)

OBSERVATIONS AND RESULTS ASSESSMENT OF SUBJECTIVE SYMPTOMS

- 3- *Atikshudha* (Polyphagia)
- 4- *Kara-pada Daha* (burning sensation of hand and feet)
- 5- *Anga-gandha* (Bad body odor)
- 6- *Sweda* (excessive sweating)
- 7- *Shita-priyatvam* (feeling of cold)
- 8- *Madhuryamaasye* (sweetness of mouth)
- 9- *Shithilangata* (weakness)

OBJECTIVE PARAMETERS OF ASSESSMENT:

The assessment was done on the basis of change in blood sugar F & PP in each follow-up and at the end of trial

STATISTICAL ANALYSIS⁷

All information on various parameters was gathered and statistical study was carried out in terms of median (X), standard deviation (S.D.), standard error (S.E.). Wilcoxon's signed rank test was applied on subjective parameters; Paired t test was applied on Biochemical parameters. And finally result was incorporated in terms of probability (p) as:

P> 0.05 Insignificant

P< 0.01 & <0.05 Significant

P< 0.001 highly significant

As per table no 1, in subjective assessment symptomatically the result was statically highly significant (p<0.001) in lowering *Karpada Daha*, while significant (p<0.05)



result in *Prabhutmutrata*, *Pipasa*, *Shithilangta*, *Sheetpriyatwam* and *Madhurmaasye*, and shown no significant

result ($p>0.05$) in *Atikshudha*, *Angagandha* and *Atishweda*.

Table 1 Assessment of result in symptoms of *Madhumeha*

Group A	Median		Wilcoxon Signed Rank W	P-Value	% Effect	Result
	BT	AT				
<i>PRABHUT MUTRATA</i>	3	2	-3.035a	<0.05	34.9	Sig
<i>PIPASA</i>	3	1.5	-3.025a	<0.05	38.1	Sig
<i>ATIKSHUDA</i>	0	0	-.957a	>0.05	18.2	NS
<i>SHITHILANGATA</i>	0	0	-1.994a	<0.05	40.0	Sig
<i>ATISHWEDA</i>	0	0	-.687a	>0.05	9.5	NS
<i>KARPADA DAHA</i>	3	2	-3.255a	<0.001	40.0	HS
<i>ANGA-GANDHA</i>	0	0	-.687a	>0.05	21.4	NS
<i>SHEETPRIYATWAM</i>	0	0	-2.588a	<0.05	55.6	Sig
<i>MADHURMAASYE</i>	0	0	-2.428a	<0.05	55.0	Sig

Table 2 Assessment of result in blood sugar fasting and post prandial

Group A		Mean	N	SD	SE	T-Value	P-Value	%Effect	Result
BSF	BT	179.7	20	73.24	16.38	2.903	<0.05	18.7	Significant
	AT	146.1	20	41.33	9.24				
BSPP	BT	272.8	20	88.65	19.82	3.845	<0.05	23.8	Significant
	AT	207.8	20	87.40	19.54				

ASSESSMENT OF OBJECTIVE SYMPTOMS

As per table no. 2, blood sugar fasting results shows statistically significant changes i.e. $p<0.05$ and blood sugar post prandial also shows statistically significant changes i.e. $p<0.05$.

Table 3 Estimation of overall response

Overall Effect	Group A	
	Frequency	Percentage
Excellent	2	10.0
Marked Improvement	7	35.0
Moderate Improvement	7	35.0
Mild Improvement	4	20.0
No Improvement	0	0.0

DISCUSSION

The purpose of the discussion is to interpret and describe the significance of your findings in light of what was already known about the research problems being investigated, and to explain any new understanding or insights about the problem after you have taken the findings into consideration.

The Govt. of India launched the Pilot phase of the National Programme for Prevention and Control of Diabetes, Cardiovascular Diseases and Stroke (NPDCS) on 4th Jan 2008. It is a major step in strengthening the national capacity for coping with the diabetes epidemic.



Ideal therapy is still obscure and there is a need to find a safer drug, which can be used to control blood sugar level for longer periods.

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. The first trial drug '*Madhumeha Nashini Gutika*' is a herbo-mineral formulation, described in *Rasamrita* of *Ayurvedic* text. The constituents are *Shilajeet*, *Trivang Bhasma* (*Naag, Vang and Yasad*), *Nimba* and *Gudmar*. All the ingredients have documented hypoglycemic activity and have been extensively studied in diabetic patients.

PROBABLE MODE OF ACTION OF MADHUMEHA NASHINI GUTIKA & DARVYADI KWATH:-

'*Trivang Bhasma*'⁸, is *Kapha-Medohar*, and contains the *Tikta-Kashaya Rasa* by which it corrects vitiation of *Kapha* & *Pitta*. These three metals of *Trivang Bhasma* also reduce the general weakness of body.

The second constituent is '*Gudmar*'⁹, which is *Kapha-Vatahar* and contains *Tikta-Kashaya Rasa*. Its dried leaf powder increased circulating insulin level and exhibited hypoglycemic activity.

The third constituent is '*Nimba*'¹⁰, which is *Kapha-Pittahar* and contains *Tikta-*

Kashaya Rasa. Its leaves have chemicals like *Azadirachtin*, *Azadirone*, *Nimbolide* etc. Which effectively decrease blood sugar level and prevent hyperglycemia.

The fourth constitute is '*Shilajeet*'¹¹. Most *Shilajeet* compounds contain between 60-80% fulvic acid, and the greater the content of fulvic acid, the more anti-aging properties the compound contains. It reduces *Kapha* due to *Tikta Rasa, Katu Vipaka, Ushna Virya, Shoshaka* and *Chedaka* properties and then it checks *Mandagni* and reduces *Meda*, which is the major factor (i.e. *Medodushti*) in pathogenesis of *Madumeha*.

Due to its *Chedan* property it expels the *Kaphadi Doshas* from the *Srotas* with the force due to *Prabhava* of the drug. *Chedana* drugs are usually belonging to *Amla, Katu Rasa* and *Teekshna Guna*. On the other hand *chedana* serves two fold functions.

The second trial drug is '*Darvyadi Kwath*' consisting *Daruhridra*¹², *Devdaru*¹³, *Triphala* (*Aamalki*¹⁴, *Bibhitak*¹⁵, *Haritaki*¹⁶) and *Musta*¹⁷. These drugs basically are *Kashaya* and *Tikta Rasa Pradhan*, *Ushna Virya* and *Laghu Ruksha Guna*, this formulation helps in eliminating vitiated *Kapha*. It also corrects the vitiated both *Medas* and *Kapha* being the main entity of the *Samprapti*, thus by breaking the *Samprapti* (correcting the



vitiation of *Medas and Kapha*) treats the disease. As the drug is *Ushna* it also increased improving the *Dhatvagni*, (as *Ayurveda* believes that the disease is *Amajanya*).

CONCLUSION

“Conclusions” drawn from present work are as follows:

- ❖ *Madhumeha* is a *Tridosha Vyadi*, dominancy of *Kapha & Vata Dosha*.
- ❖ *Madhumeha* in modern medical science has similarity with Type-2 diabetes mellitus.
- ❖ Due to *Avarana* aggravated *Vata* causes depletion of Vital *Dhatu* like *Oja, Majja and Vasa* and affect the normal physiology.
- ❖ Both drug showed significant result in relieving symptoms of *Madhumeha*.
- ❖ Highly significant result found in *Karpada Daha*, significant result found in *Prabhutmutrata, Pipasa, Shithilangta, Sheetpriyatwam* and *Madhurmaasye*, result were found non significant in *Atikshudha, Angagandha* and *Atishweda*.
- ❖ We found statistically significant result in lowering blood sugar (fasting and post prandial) level.
- ❖ No any side effects were observed during treatment.

- ❖ Treatment modalities based upon the consideration of vitiated *Kapha, Meda* and *Vata* having properties like *Shleshamamedohara, Pramehaghna* and *Kapha-Vatahara*.



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