



International Journal of
Ayurveda and Pharmaceutical
Chemistry
www.ijapc.com

IJAPC

VOLUME 11 ISSUE 1 2019

E ISSN 2350-0204

**GREENTREE GROUP
PUBLISHERS**



A Clinical Study on the Role of *Virechana Karma* and *Nishakatakadi Yoga* in the Management of *Madhumeha*

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ABSTRACT

Diabetes mellitus is emerging as one of the most important of all the diseases due to its multisystem involvement, complex metabolic abnormalities & varied clinical presentations. Oral hypoglycemic agents and insulin used for the treatment of diabetes mellitus by the allopathic system of medicine have limited role & moreover they have numerous side effects. In Ayurveda Diabetes mellitus can be correlated with *Madhumeha*. The aim of this study was to assess the role of *Virechana karma* and *Nishakatakadi Yoga* in the management of *Madhumeha* w.s.r. to Diabetes mellitus. A total of 42 patients having classical signs and symptoms of *Madhumeha* were selected randomly from O.P.D. or admitted in I.P.D. of I.P.G.T. & R.A., Jamnagar. These patients were randomly divided into two groups viz. Group A / *Nishakatakadi yoga* (*Shamana* Therapy) Group and Group B/ *Virechana* and *Nishakatakadi yoga* (Combined Therapy) Group. In group A 4.76% patients were found to be Under Control, 0% showed Marked Improvement, 38.09% patients showed Moderate Improvement, 38.09% showed Mild Improvement while 19.04% patients showed No Improvement after the treatment. In group B 12.50% patients were found to be Under Control, 18.75% showed Marked Improvement, 37.50% patients showed Moderate Improvement, 18.75% showed Mild Improvement while 12.50% patients showed No Improvement after the treatment. *Virechana* and *Nishakatakadi Yoga* (Combined therapy) Group was more effective and provided better relief in the patients of *Madhumeha* in comparison to *Nishakatakadi Yoga* (*Shamana* Therapy) Group.

KEYWORDS *Prameha, Virechana, Nishakatakadi yoga, Diabetes mellitus*



Greentree Group Publishers

[Received 10/05/19](#) [Accepted 22/06/19](#) [Published 10/07/19](#)



INTRODUCTION

India leads the world with maximum number of diabetic patients being termed as the "diabetes capital of the world." According to the Diabetes Atlas 2006 published by the International Diabetes Federation, the number of people with diabetes in India currently around 40.9 million is expected to rise to 69.9 million by 2025 unless urgent preventive steps are taken¹. In the present era, changing life styles i.e. lack of exercise, sedentary life, unbalanced food and stress has led to the increased incidence of various diseases and one of them is Diabetes mellitus.

The symptoms of *Madhumeha* can be correlated to the features of diabetes mellitus in the modern medical science. *Madhumeha* is a clinical situation where the patient passes large quantity of *Kashaya*, *Madhura* and *Ruksha* urine similar to the characteristics of honey². *Madhumeha* is one among the 20 types of *Prameha* and is a sub type of *Vatika Prameha*³. *Vagbhata* has classified *Madhumeha* into 2 types viz. *Avaranajanya* and *Dhatukshayajanya*⁴. *Charaka* too has classified *Madhumeha* into 2 types viz. *Santarpanajanya* and *Apatarpanajanya*. *Santarpanajanya Madhumeha* can be correlated with *Avaranajanya Madhumeha* and *Apatarpanajanya* can be correlated with

Dhatukshayajanya Madhumeha. Here the main vitiated *Dushya* are *Meda*, *Kleda* and mainly *Medhovahasrotodusti* takes place.

On the basis of its symptomatology *Madhumeha* can be correlated with the features of Diabetes mellitus. It has been classified into two types viz. Type I DM & Type II DM. Type I DM usually occurs at young age, while Type II DM usually occurs at a later age. Due to its chronic and stubborn nature *Samshodhana* therapy may remain beneficial for the patient of Diabetes mellitus. *Virechana* has been selected for this purpose which pacifies both *Pitta* and *Kapha* and at the same time removes morbid *Dosha* and waste products from the body. In *Avaranajanya Madhumeha*, the vitiated *Kapha* and *Pitta* obstruct the normal path of *Vata*. *Shodhana* is the preferred choice for the elimination of profuse *Doshas*. So in the management of *Santarpanajanya Madhumeha*, the *Shodhana* therapy must be done followed by *Shamana Chikitsa*⁵.

AIMS & OBJECTIVES

- To study the etiopathogenesis of the disease *Madhumeha*.
- To evaluate the role of *Shamana* drug in the management of *Madhumeha*.
- To assess the efficacy of *Virechana* in the management of *Madhumeha*.



- To compare the effect of *Shodhana* and *Shamana Chikitsa* in the management of *Madhumeha*.

MATERIALS AND METHODS

In the present study 42 patients having classical signs and symptoms of *Madhumeha* (diabetes mellitus) & known cases of Diabetes mellitus were selected randomly from O.P.D. or admitted in I.P.D. of I.P.G.T. & R.A., Jamnagar hospital. A special *proforma* including all the etiological factors of *Prameha* with *Dushti Laskhanas* of *Dosha*, *Dushya*, *Srotas*, etc. was made for assessing all the patients. The patients were thoroughly questioned and examined on the basis of the proforma, and modern investigations like fasting blood sugar (FBS), postprandial blood sugar (PPBS), lipid profile, etc. were carried out to confirm the diagnosis.

Inclusion criteria

- The patients having classical signs and symptoms of *Madhumeha* (Diabetes mellitus) according to Ayurveda as well as modern science criteria
- Patients of non-insulin dependent Diabetes mellitus (NIDDM)
- Patients in the age group of 20–60 years.
- Patients otherwise healthy and fit for *Virechana Karma*

Exclusion criteria:

- Patients of Type I DM /IDDM.
- Patients suffering from any severe systemic disease,
- Patients complicated with any cardiac problem.
- Diabetes due to Endocrinopathies, Drug or chemical induced diabetes
- Certain genetic syndromes sometimes associated with diabetes mellitus

Plan of study

These patients were randomly divided into two groups (table 1) viz. Group A / *Nishakatakadi yoga*⁶ (*Shamana* Therapy) Group and Group B/ *Virechana* and *Nishakatakadi yoga*⁶ (Combined Therapy) Group.

Table 1 Status of 42 patients of *Madhumeha*

	Number of Patients		Total	%
	<i>Shamana</i> Group	Combined Group		
Completed	21	16	37	88.10
LAMA	03	02	05	11.90
Net Total			42	100

Group A

In Group A *Nishakatakadi Churna*⁶ was given in the dose of 3 gms thrice daily before meals with luke warm water for duration of 30 days.

Group B

In Group B *Virechana* was first performed followed by *Nishakatakadi Churna*⁶ which was given with the same schedule as in Group A.



Criteria for Assessment

After the completion of the treatment, the results were assessed by adopting the following criteria:

- Improvement in signs and symptoms of disease on the basis of the symptoms score.
- Improvement in the *Dushti* score of *Dosha*, *Dushya* and *Srotasa*.
- Biochemical investigation

Statistical Analysis:

Table 2 Effect of *Shamana* therapy on Chief complaints

Signs & Symptoms	Mean Score		% Relief	S.D. (±)	S.E. (±)	't'	P
	B.T.	A.T.					
<i>Prabhuta Mutrata</i> (n=16)	2.18	1.00	54.12	1.167	0.29	4.08	<0.001
<i>Avila Mutrata</i> (n=7)	3.00	1.57	47.66	1.397	0.529	2.69	<0.05
<i>Pipasa Adhika</i> (n=13)	2.53	1.30	48.61	0.83	0.23	5.34	<0.001
<i>Kshudha Adhika</i> (n=14)	2.5	1.21	51.60	0.99	0.26	4.92	<0.001
<i>Hasta-Pada-Tala Daha</i> (n=12)	2.41	1.25	48.13	0.83	0.23	5.04	<0.001
<i>Kara-Pada Suptata</i> (n=10)	1.90	1.20	36.84	0.823	0.26	2.69	<0.05

Hasta-Pada-Tala Daha (48.13%); followed by associated sign and symptoms like *Ati-Nidra* (53.84%), *Alasya* (61%), *Daurbalya* (54.62%), *Pindikodveshtana* (48.55%); in *Doshadushti* like *Vatadushti* (59.24%), *Kapha Dushti* (64.86%); in *Dushya Dushti Rasadushti* (63.09%),

Statistical analysis was done by using Student 't' test. The minimum level of significance was fixed at $p < 0.05$.

RESULTS AND DISCUSSION

Group A, provided statistically highly significant ($P < 0.001$) relief in chief complaints (Table-2) like *Prabhuta Mutrata* (54.12% %), *Kshudha - Adhika* (51.20%), *Pipasa - Adhika* (48.61%),

Kledadushti (51.68%), *Lasikadushti* (54.93%), in *Srotodushti* like *Mutravaha Srotodushti* (55.88%), *Swedavaha Srotodushti* (53.90%), *Udakavaha Srotodushti* (50.00%), *Annavaha Srotodushti* (61.70%) and in Serum cholesterol (12.28%) (Table-3).

Table 3 Effect of *Shamana* therapy on Biochemical values

Biochemical Values	Mean Score		% Relief	S.D. (±)	S.E. (±)	't'	P
	B.T.	A.T.					
Blood Sugar							
Fasting (n=21)	211.85	169.57	19.95↓	61.69	13.46	3.14	<0.01
Postprandial (n=21)	290.71	221.90	23.66↓	110.55	24.13	3.11	<0.01
S. Cholesterol (n=21)	234.47	205.66	12.28↓	28.44	6.20	4.64	<0.001
S. Triglycerides (n=21)	213.45	176.55	17.28↓	154.39	33.70	1.09	>0.10
S.HDL (n=21)	45.39	41.55	8.46 ↓	25.36	5.53	0.69	>0.10
S.LDL (n=21)	146.74	128.51	12.42↓	40.07	8.74	2.08	<0.10
S.VLDL (n=21)	42.67	35.31	17.24↓	30.87	6.74	1.09	>0.10



Group B, provided statistically highly significant ($P < 0.001$) relief in chief complaints (Table-4) like *Prabhuta Mutrata* (62.20%), *Avila Mutrata* (63.15%) *Kshudhadhikya* (61.97%), *Hasta-Pada - Tala Daha* (60.86%), in associated signs and symptoms like *Ati-Nidra* (71.25%), *Sweda-Atipravriti* (53.54%), *Alasya* (70.89%), *Daurbalya* (62.96%), *Pindikodveshtana* (62.38%); in *Doshadushti* like *Vatadushti* (62.55%), *Kapha Dushti* (69.13%); in *Dushyadushti* like *Rasadushti* (77.77%), *Medodushti* (75.39%), *Kledadushti* (62.40%), *Lasikadushti* (64.93%),); in *Srotodushti* like *Mutravaha Srotodushti* (73.47%),

Swedavaha Srotodushti (75.74%), *Udakavaha Srotodushti* (67.64%), *Annavaha Srotodushti* (74.20%); and decrease in Body weight (1.57%), in FBS (21.64%), S.cholesterol (24.97%) and S. LDL (36.96%) (Table-5). It provided statistically significant relief ($P < 0.05$ to $P < 0.01$) in chief complaints like *Pipasa Adhika* (62.24%), *Kara-Pada Suptata* (44.05%), in associated signs and symptoms like *Shula* (62.50%), *Mutramadhurya/* urine sugar (70.12%), in *Doshadushti* like *Pittadushti* (57.29%); and decrease in BMI (2.50%), PPBS (30.37%) and S. Insulin (8.68%).

Table 4 Effect of Combined Therapy on Chief Complaint

Signs & Symptoms	Mean Score		% Relief	S.D. (±)	S.E. (±)	‘t’	P
	B.T.	A.T.					
<i>Prabhuta Mutrata</i> (n=12)	2.41	0.91	62.20	1.167	0.33	4.54	<0.001
<i>Avila Mutrata</i> (n=08)	2.37	0.87	63.15	0.75	0.26	5.76	<0.001
<i>Pipasa Adhika</i> (n=12)	2.41	0.91	62.24	1.24	0.35	4.28	<0.01
<i>Kshudha Adhika</i> (n=11)	2.63	1.00	61.97	1.02	0.30	5.43	<0.001
<i>Hasta-Pada-Tala Daha</i> (n=10)	2.30	0.90	60.86	0.84	0.26	5.38	<0.001
<i>Kara-Pada Suptata</i> (n=11)	2.27	1.27	44.05	0.77	0.23	4.34	<0.01

Table 5 Effect of Combined Therapy on Biochemical values

Biochemical Values	Mean Score		% Relief	S.D. (±)	S.E. (±)	‘t’	P
	B.T.	A.T.					
Blood Sugar							
Fasting (n=16)	229.31	179.68	21.64↓	41.47	10.36	4.78	<0.001
Postprandial (n=16)	328.50	228.93	30.31↓	100.29	25.07	3.37	<0.01
S. Cholesterol (n=16)	243.81	182.93	24.97↓	27.58	6.89	8.83	<0.001
S. Triglycerides (n=16)	212.08	187.61	11.53↓	133.86	33.46	0.73	>0.10
S. HDL (n=16)	36.40	41.40	-13.73↑	13.00	3.25	1.54	>0.10
S. LDL (n=16)	164.99	104.00	36.96↓	36.84	9.21	6.62	<0.001
S. VLDL (n=16)	42.41	37.52	11.53↓	26.77	6.69	0.73	>0.10

Overall effect of the therapy:

- In *Nishakatakadi yoga* (*Shamana* Therapy) group 4.76% patients were found to be Under Control, 0% showed Marked

Improvement, 38.09% patients showed Moderate Improvement, 38.09% showed Mild Improvement while 19.04% patients



showed No Improvement after the treatment. (Table-6)

- In Combined Therapy group 12.5% patients were found to be Under Control, 18.75% showed Marked Improvement,

37.5% patients showed Moderate Improvement, 18.75% showed Mild Improvement while 12.50% patients showed No Improvement after the treatment. (Table-6)

Table – 6: Overall effect of *Shamana* & Combined Therapy on *Madhumeha*

Results	Shamana Group (n=21)		Combined Group(n=16)	
	No. of patients	Percentage	No. of patients	Percentage
Controlled	01	04.76	02	12.50
Marked Improvement	00	00.00	03	18.75
Moderate Improvement	08	38.09	06	37.50
Mild improvement	08	38.09	03	18.75
No improvement	04	19.04	02	12.50

Madhumeha has turned out to be the biggest “silent killer” in today's world. The data reveals that changing in eating habits, stressful life is frequently common in urban areas and comparative sedentary life style as well as increased stress & strain contributes in establishment of the disease. 40.47% of registered patients belonged to the age group of 41-50 years. This data favor the view of modern science that Type-2 Diabetes is primarily a disease of middle and old age. It occurs most often in middle-aged and older adults, but it can also affect children. Your chance of getting type 2 diabetes is higher if you are overweight, inactive, or have a family history of diabetes⁷. Maximum number of patients i.e. 71.42% confirmed the family history of *Madhumeha*. This data suggests that Type II DM has a strong genetic component. These findings suggest that the *Dushti* of *Meda Dhatu* in *Madhumehi* patients and

obesity is a risk factor associated with Type II DM.

Most of the ingredients of *Nishakatakadi Churna* e.g; *Nisha*, *Amalaki*, *Kataka*, *Paranti* (*Ixora Coccinea*), *Bhadrika* (*Aerva lanata*), *Saptarangi* are *Pramehagana* and have been known to be good for controlling diabetes. Curcumin and turmeric extract have been reported as having hypolipidemic and hypocholesterolemic action. *Lodhra* due to its *Kashaya Rasa* helps to alleviate symptoms like *Prabhuta Mutrata*. *Ushira* having the properties like *Dahaprashaman*, *Trishnanigrahan*, *Swedapanyan*, helps to alleviate the symptoms like *Hasta-Pada-Tala Daha*, *Pipasa Adhika* etc. Due to its *Stambhan* action it also relieves symptom like *Prabhuta Mutrata*. *Nishakatakadi Churna* is *Tikta*, *Katu* and *Kashaya Rasa Pradhana Aushadhi* which may have helped in *Samprapati Vighatana* of *Madhumeha*. The



relief in chief complaints, associated signs & symptoms and biochemical parameters may be due to the properties of the ingredients of *Nishakatakadi yoga*. This *Yoga* being *Tikta*, *Kashaya*, *Katu Rasa*, *Laghu*, *Ruksha*, *Tikshna Guna* and *Katu Vipaka* may have acted upon the vitiated *Kapha Dosha* and on the *Dushyas* particularly *Meda Dhatu* which may have helped in the *Samprapti-Vighatana* of *Madhumeha* thereby alleviating the disease. It has *Kapha-Pitta Shamaka* action. The alleviation of *Kapha* and *Pitta* helps to remove the obstruction (*Avarana*) to the path of *Vata*, thus pacifying *Vata* and thereby alleviating its *Dushti*. Once *Vata Dosha* gets pacified depletion of the Vital *Dhatu*s stops and normal Physiology of the body gets restored which may have helped in the alleviation of the disease *Madhumeha*.

Virechana though indicated for *Pitta Dosha* brings normalcy of *Tridosha*. It removes the *avarana* of *Vata* and morbid *Doshas* from the body. It may increase the bioavailability of the drug for better action. *Virechana* act at microcellular level and help to maintain the normal physiology of tissues. *Virechana* act at microcellular level and help to maintain the normal physiology of tissues. The *Virechana* therapy provided statistically significant result ($P < 0.05$) in *Prabhuta Mutrata* (13.69%), *Pipasa*

Adhika (13.69%) and *Kshudha Adhika* (20.53%). It is because *Pipasa Adhika* and *Kshudha Adhika* are *Pitta* predominant features, and *Virechana* is best for that. *Virechana* provided statistically significant reduction ($P < 0.05 - 0.01$) in FBS (10.63%), PPBS (23.64%), S.Triglycerides (25.00 %), S.VLDL (25.00 %) and Fasting Urine sugar (45.77%). This shows that *shodhana* therapy helps in bringing down *prabhuta doshas* rapidly.

CONCLUSION

Changing life styles e.g.; sedentary life, increased stress, strain may contribute in the establishment of the disease. Tendency towards sedentary life style and faulty dietary habits, leads to vitiation of *Kapha* and *Meda* leading to *Madhumeha*. The present study suggests that Type II DM has got a strong genetic component. It reveals the chronic nature of the disease and also suggests that obesity is a risk factor associated with Type II DM. Both the therapies were effective in controlling the disease *Madhumeha*; however *Virechana* and *Nishakatakadi Yoga* (Combined Therapy) Group provided better results than *Nishakatakadi Yoga* (*Shamana* Therapy) Group. Thus it may be concluded that *Virechana* and *Nishakatakadi Yoga* (Combined therapy) Group was more effective and provided better relief in the



patients of *Madhumeha* in comparison to
Nishakatakadi Yoga (Shamana Therapy)
Group.



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