

Efficacy of *Guduchi Swarasa* (Bhavaprakasa) in the Management of *Madhumeh*

Research Article

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Abstract

Nowadays due to change in lifestyle, a human beings is attracting many diseases because of poor quality of food, eating more than necessary, sleeping during day time, eating fast food and improved stress in society. Madhumeha can be linked with Diabetes mellitus in modern medicine, which is attracting the whole world as a non-infectious epidemic. A total of 25-patients with classical symptoms of Madhumeh, irrespective of sex, occupation, etc was chosen for the clinical trial. The assessment was done on the basis of evolution in Rogabala, Dehabala, Chetasabala, and Agnibala by specific scoring patterns. The results were analyzed statistically by Paired t-test. In symptom-wise statistical analysis, it is seen that *Guduchi Swarasa* is significantly effective in the symptoms of Madhumeha. *Guduchi Swarasa* has major hypoglycemic action and it is more on post-meal blood sugar level.

Key Words: *Guduchi Swarasa*, *Madhumeha*.

Introduction

Madhumeha is the incurable and advanced stage of prameha, characterized by the excretion of urine which resembles the honey's taste and characteristics. Also, it is accompanied by the sweetness of the whole body of the patient. Because of difficulty in treatment, gravity, and complications, prameha has been measured as one of the eight 'maharogas'. Prameha is one of the chronic diseases illustrated in Ayurvedic texts. Prameha has been stated as 'Anushangiroga' by Charakacharya and santarpanothya Vyadhi by Ashtanga Hridaya. Chakrapanidatta, the Tikakar of Charaka Samhita further detailed the term Anushangi which indicates the recurrent tendency of disorder. That is why madhumeha is looked upon as a yasya disease i.e. needs treatment regularly throughout life. Twenty types of prameha are enumerated in classical texts out of which Madhumeha is a subtype of vataj category. Sushruta told Madhumeha as Medo-dushtijanya vikara. In modern medicine, Diabetes mellitus is a similar disease to Madhumeha. Diabetes is widely regarded as a syndrome rather than a single disease. It comprises of a group of common metabolic disorder that shares the phenotype of hyperglycemia. DM is a heterogeneous

chronic metabolic disorder distinguished by hyperglycemia from defect in insulin action or insufficiency of insulin secretion. Insulin is the only anabolic hormone caused by the metabolism of carbohydrates, fat, and protein. Insulin is secreted from pancreatic beta cells into the portal circulation, with a risk increase in blood glucose after meals.

In this present study, *Guduchi Swarasa*₁ is used for the treatment of Madhumeha, to know the usefulness of this drug in the prevention of diabetes and its complications.

Aims and Objectives

- To study whether *Guduchi Swarasa* is useful in reducing signs and symptoms in patients with *Madhumeha*.
- To observe the effect of *Guduchi Swarasa* on laboratory parameters of DM i.e. blood glucose level, urine sugar etc.

Materials and Methods

Total 25-patients with classical symptoms of Madhumeh, irrespective of sex, occupation, etc, in the O.P.D. of Dept. of Rognidan, Dr. D.Y. Patil Ayurved College & Hosp. Pune (MS), were chosen for the clinical trial.

Study Design: Single arm open-labeled study.

Method of preparation of drug:

- **Drug Ingredients:** *Guduchi* (*Tinospora cordifolia* (Willd.) Hook. f. and Thoms.) **Swaras**
- **Route of administration:** Oral
- **Dose:** 15-30ml BD before a meal
- **Kala:** before a meal

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- **Duration:** 8 weeks
- **Follow up:** Every 2 weeks

Inclusive Criteria

- Patients willing to participate in the trial.
- Age 30-70 years.
- Presence of sugar in the urine.
- Patients having the classical symptoms of madhumeha as explained in Ayurvedic texts and modern medicine .

Exclusive criteria

- Patients with Juvenile diabetes
- Patients allied with diseases like cancer, T.B.
- Patients presenting with complications like renal impairment, diabetic retinopathy, IHD,
- Severe Hypertension, diabetic keto-acidosis , Liver dysfunction.

Criteria of assessment

The patients were inspected weekly and their conditions were noted. Measurement/ assessment were done on the basis of progress in Rogabala, Dehabala, Chetasabala and Agnibala by specific scoring pattern. The outcomes were analyzed statistically by Paired t-test.

A. Subjective parameters

1. *Prabhutmutrata* (Polyuria)
2. *Avilmutrata* (Urine Turbidity)
3. *Daurbalya* (Weakness)
4. *Panipadayo daha* (Burning Sensation of hand/leg)
5. *Naktmutrata* (Urine in Bed at Night)
6. *Trut/Gal talu shushkta* (Throat Dryness)
7. *Kshudhadhikya* (Water Thirst)
8. *Madhurasyata* (Sweetness in Mouth)

B. Objective parameters and result range

1. BSL Fasting – (0-100 mg/dl)
BSL Post Prandial – (up to 140 mg/dl)
2. Urine Sugar – Negative (Nill)
250 - (+)
500 - (++)
1000 - (+++)
2000 - (++++)

The total effect of therapy and result interpretation according to grades

The achieved results were assessed according to the **grades** given below ,

1. Complete Remission - 100% relief - **G0**
 2. Marked development - 76% to 99% relief - **G1**
 3. Moderate development - 51 % to 75 % relief - **G2**
 4. Mild development - 25 % to 50 % relief - **G3**
- Unchanged = > & 0.05
Insignificant P = No Change relief

Statistical Analysis:

The Paired t-test is applied to the statistical data for calculating the variation in the B.T. and A.T. scores of subjective and objective parameters. The achieved results were interpreted as: P > 0.05 Insignificant P.

Table 1: Assessment criteria for chief complaints with scoring pattern

Grade	Frequency/day
Prabhutmutrata	
0	3-5 times
1	6-8
2	9-11
3	>11
Avilmutrata	
0	Clear urine
1	Slightly cloudy or hazy with small turbidity
2	Turbidity clearly present
3	Highly Turbidity
Daurbalya	
0	Can do usual work/exercise
1	Can do moderate exercise/usual work with caution
2	Can do slight work with difficulty
3	Can't do mild exercise/less work also
Panipadayo daha	
0	No Daha
1	Mild Kara-pada Daha
2	Kara-pada Daha moderate but daily activity is not hindered
3	Kara-pada Daha continuous, severe and unbearable
Naktmutrata Frequency at night	
0	0-1 times
1	1-2 times
2	3-4 times
3	>4 times
Trut Gal talushosha	
0	No Trushna
1	Feeling of thirst on and off which can be controlled by a glass of Water
2	Feeling of thirst severe, can be controlled by drinking adequate amount of water
3	Severe thirst continued even after drinking water
Kshudhadhikya	
0	Quantity of meal Normal
1	Slight raised
2	raised
3	Very much raised
Madhurasyata	
0	No sugariness in mouth
1	Mild sugariness mouth
2	Moderate sugariness in mouth
3	Severe sugariness of mouth

Table 2: Assessment criteria for objective parameter with scoring pattern

Test as objective Parameter	Grade	Test Result
BSL Fasting	0	0-100
	1	101-200
	2	201-300
	3	300-400
BSL Post Prandial	0	Up to 140
	1	141-200
	2	201-300
	3	301-400
Urine Sugar	0	100
	1	250 ++
	2	500 +++
	3	1000 ++++

Table -3 Effect of therapy on signs and symptoms of Madhumeh:

Symptoms	N	Mean Score		D	% Relief	S.D	S.E.	t	P	Significant	
		BT	AT								
Prabhutmrata	24	3.28	0.62	2.67	78.5%	0.94	0.27	10.26	<0.001	Yes	
Avilmutrata	24	3.48	0.86	2.63	75.3%	0.78	0.18	14.45	<0.001	Yes	
Daurbalya	17	2.25	0.73	1.56	68.7%	0.53	0.21	7.76	<0.001	Yes	
Panipadayo daha	24	3.28	0.62	2.69	79.4%	0.96	0.27	10.26	<0.001	Yes	
Naktmrata	24	3.48	0.86	2.63	75.3%	0.78	0.18	14.45	<0.001	Yes	
Trut	17	2.25	0.73	1.56	68.7%	0.53	0.21	7.76	<0.001	Yes	
Kshudhadhikya	24	3.28	0.62	2.67	78.5%	0.94	0.27	10.26	<0.001	Yes	
Madhurasya	24	3.48	0.86	2.63	75.3%	0.78	0.18	14.45	<0.001	Yes	

Table -4 Effect of therapy on Blood and Urine Sugar level of Madhumeh:

Tests	N	Mean Score		D	% Relief	S.D	S.E.	t	P	Significance
		BT	AT							
BSL Fasting	17	2.25	0.73	1.56	68.7%	0.53	0.21	7.76	<0.001	Yes
BSL Post Prandial	24	3.48	0.86	2.63	75.3%	0.78	0.18	14.45	<0.001	Yes
Urine Sugar	24	3.28	0.62	2.69	79.4%	0.96	0.27	10.26	<0.001	Yes

Table -5 Total Assessment of therapy in Madhumeha

Sr.No.	Assessment Type	Category for % of relief	Total result in % of relief	Total (Subjective and objective) parameter Improvement
T	Complete Remission-G0	100% relief	0%	0
2	Marked development-G1	76 % to 99% relief	78.95%	4
3	Moderate development-G2	51 % to 75 % relief	72.47%	7
4	Mild development-G3	26 % to 50 % relief	0%	0

Discussion

According to all the ayurvedic Samhitas, Prameha when left untouched it is converted into Madhumeha. Sushrut explained two types of Prameha as Sahaj & Apathya nimittaj. Acharya Vagbhat also explained the types of the pathogenesis of Madhumeha due to vitiation of vata caused by dhatu kshaya & another one due to vitiated dosha causing vataprakop. Charakacharya has stated specific causes & samprapti of Madhumeha in Sutrasthan. It is clear that most of the Hetus are Santarpanothhajanya & Kapha, Meda, Mamsa Pitta vitiated, which causes Srotorodh of vata. The vitiated vata pulled out the dhatu, oja, from the body into mootravahasrotas. The main aim of the treatment is to break down the samprapti. which reduces kapha, pitta, dhatushaithilya, kleda, It should be rasayana for mutravahastrotasa and have pramehaghna property. In Shusrutha Samhita while explaining the principle of management of Madhumeha it has been stated that the drugs which are Tikta, Katu, and Kashaya in taste, Sara in property with Katu Vipaka and Ushna virya with Shoshaka and Chedana actions should be selected for the treatment of Madhumeha. Guduchi Swaras is likely to act on Medovaha strotas due to saraguna & rasayana property. Guduchi Swaras is said to have kaphpittanashaka property which may be helpful in prameha. Guduchi is katuvipaka and laghu, ruksha gunas removes blockages in the blood vessels hence making the circulation of blood and nutrients easy. The

circulating glucose is broken down by Guduchi and it further facilitates the absorption of free glucose by cells due to its srotoshodhana karma and reduces dushitpitta and kapha facilitatin free movement of vata. Hence serving in recovery of dhatus having kaphapradhanata like mamsa, lasika, ambu, majja, vasa and shukra.

According to Bhavprakash Samhita Guduchi also plays major role in srotoshodhana due to kapha-pittahara dipana, pachana. It helps to expel vitiated kapha, kleda, and accumulated fluid in the body through purisha. The result of a study carried out the classical clarification that sedentary lifestyle is an important etiological factor for Madhumeha. Guduchi Swarasa resolves Dhatavagnimandya and working on peripheral sugar metabolism due to its potent rasayan effect. Guduchi Swarasa has significant hypoglycemic action in addition to post-meal blood sugar levels. It's found that Guduchi Swarasa is significantly efficient in the symptoms of Madhumeha.

Conclusion

In symptom-wise statistical analysis, it is found that Guduchi Swarasa is radically effective in the symptoms of Madhumeha. Guduchi Swarasa has major hypoglycemic action and it is more on post-meal blood sugar level. Significant relief can be achieved in patient with diabetes mellitus by applying principles of diagnosis and treatment of prameha. It's a single arm study and can lay down road direction for further

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researcher. The present study also show that when the modern medicine get stopped suddenly, then the sugar level increased very quickly even with the continuation of Ayurvedic medicines, but when the modern medicine gradually taper off time to time then its give good result to patient's with Ayurvedic medicine not only in all symptoms but also in Fasting blood sugar(FBS) and Post Parandial blood sugar(PPBS). The research study has shown remarkable results, however, it was done in a smaller number of patients and short duration because of the short study period. Therefore, it is suggested to take out the study in a large number of patients and with a longer duration. Both the drugs are free from any harmful side effects, which is an immense advantage of Ayurvedic management.

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