



RESEARCH ARTICLE

**A CLINICAL STUDY FOR THE EFFECT OF MADHUMUKTI (HYPOTHETICAL HERBAL COMPOUND)
IN THE MANAGEMENT OF MADHUMEHA (DIABETES MELLITUS)**

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ABSTRACT

Madhumeha (Diabetes Mellitus) is the subtype of Vatik Prameha due to involvement of vital elements causes alarming health instability with higher prevalence in present time. Diabetes is fast gaining the status of a potential epidemic in India with more than 62 million diabetic individuals currently diagnosed with the disease. In 2000, India (31.7 million) topped the world with the highest number of people with diabetes mellitus. Today's modernization and urbanization has led to changing life style, lack of exercise, fast food, improper unbalanced diet & sedentary life which leads to vitiation of doshas in our body and later it appear as in the form of Madhumeha. In present study a drug combination was selected from the drugs indicated in Ayurvedic text and hypothetical drug yoga (Madhumukti) was prepared. This Madhumukti was prescribed to 20 patients of Madhumeha. Encouraging results was obtained on the symptoms of Madhumeha and significant improvement in blood sugar level of these patients.

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INTRODUCTION

Madhumeha is a disease known since ancient times to the mankind; its upsurge is quiet alarming. In Ayurveda Madhumeha has been classified under the Vatik type of Prameha. On the basis of its symptomatology, Madhumeha can be correlated to the features of Diabetes mellitus. (Charaka Samhita *et al.*, 2007) Diabetes is fast gaining the status of a potential epidemic in India with more than 62 million diabetic individuals currently diagnosed with the disease. (Joshi and Parikh, 2007; Kumar *et al.*, 2013) According to Wild *et al.* (2004) the prevalence of diabetes is predicted to double globally from 171 million in 2000 to 366 million in 2030 with a maximum increase in India. It is predicted that by 2030 diabetes mellitus may afflict up to 79.4 million individuals in India. (Wild *et al.*, 2004; Whiting *et al.*, 2011) India currently faces an uncertain future in relation to the potential burden that diabetes may impose upon the country. (Park's Textbook of Preventive & Social Medicine- 21st Edition) Diabetes mellitus (DM), commonly referred to as diabetes, is a group of

metabolic diseases in which there are high blood sugar levels over a prolonged period. ("About diabetes". World Health Organization, 2014; Davidson's Principles & Practice of Medicine- 18th Edition) Symptoms of this disease are high blood sugar, frequent urination, increased thirst, and increased hunger. (Guyton & Hall- Textbook of Medical Physiology- 9th Edition; Tortora Gerard J., Grabowski, 7th Edition) If left untreated, diabetes can cause many complications. (WHO 2013) like diabetic ketoacidosis (Mehta's, 15th Edition; Park's Textbook of Preventive & Social Medicine- 21st Edition), nonketotic hyperosmolar coma, (Guyton and Hall, 9th Edition; Kitabchi *et al.*, 2009; Park's Textbook of Preventive & Social Medicine, 21st Edition) cardiovascular disease, (Park's Textbook of Preventive & Social Medicine, 21st Edition) stroke, chronic kidney failure, foot ulcers, and diabetic retinopathy. (Charaka Samhita *et al.*, 2007; Davidson's Principles & Practice of Medicine, 18th Edition; WHO, 2013; Robbins Basic Pathology- 7th Edition) Today's modernization and urbanization has led to changing life style, (Robbins Basic Pathology- 7th Edition) lack of exercise, fast food, improper unbalanced diet & sedentary life (Charaka Samhita *et al.*, 2007; Davidson's Principles & Practice of Medicine- 18th Edition; Sushruta Samhita *et al.*, 2003) which leads to vitiation of doshas in our body and later it appear as in the form of madhumeha. (Sushruta Samhita *et al.*, 2003) In modern system

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of medicine oral hypoglycaemic agents and insulin are used for treatment (Devidson's Principles & Practice of Medicine- 18th Edition) though this treatment is effective but many side effects occur. (Mehta's 15th edition) Holistic approach of Ayurveda in regard to preventive, promotive and purificative measures with appropriate diet management provide better health to diabetics. In present study Madhumukti (hypothetical herbal compound) with appropriate dietary regimen is one of the ayurvedic measure having no any side effect, used for management of Madhumeha.

Aim and Objective

The aim of study to evaluate the efficacy of Madhumukti in the management of diabetes.

MATERIALS AND METHODS

20 patients suffering from vatic Madhumeha i.e. type 2 D.M. were randomly selected irrespective to sex, caste, religion, socio economical and educational status from O.P.D. of Rishikul Government Ayurvedic College & Hospital Haridwar. All the patients were examined and necessary investigations were performed to rule out any other pathology. The Patients were advised to take herbal medicine Madhumukti 2 tabs 500mg. T.D.S. and follow dietary regime regularly. The treatment was given for one month.

Ingredient of herbal compound

Madhumukti vati is a hypothetical herbal compound made by the selection of drugs used in Madhumeha (Bhaisajya Ratnavali, 1984; Chakradatta, 2011; Sharma *et al.*, 2003) i.e. Nirgundi, Arjun, Giloy, Daalchini, Ashwagandha, Naagbala, Saptaparna, Sahdevi, Khadir Chaal, Bilwa Patra. Bhawana with Amla Swarasa. (Chakradatta, 2011; Sushruta Samhita, 2003)

Probable mode of action of drugs

The drugs taken in Madhumukti vati mainly having Tikta, Kasaya, Katu Rasa, Usna Veerya and Laghu, Ruksha Guna, Katu Vipaka and vatahara properties and each one is indicated in Prameha Cikitsa. Almost all the contents of Madhumukti have the property which helps on the samprapti vighatana of madhumeha, so the combination of these drugs may be helpful to remove sign & symptoms of madhumeha. Usna Veerya and Tikta Kasaya Rasa help to normalise the function of Jathragni and Dhatwagni. That in turn helps to form the Dhatus in proper proportion with Samyak qualities. Thus once these factors get normalized in the body they in turn make clear the Path of Vata which stops the depletion of vital Dhatus and restore normal physiology. Thus disease Madhumeha *get alleviate*. (Bhaisajya Ratnavali, 1984; Sharma, 2003)

Diagnostic Criteria

Increase in Blood Sugar level either fasting or postprandial or both were the essential criteria for the selection. Presenting sign and symptoms of Prameha (Madhumeha) particular with associated conditions.

Exclusion Criteria

Patients of Sahaja Madhumeha (IDDM), Diabetes mellitus due to other hormonal disturbances like Pheochromocytoma,

Acromegaly, Thyrotoxicoses etc. Diabetes due to side effect of drugs: Diuretics (Thiazide groups), Steroids. Patients with diabetic nephropathy were excluded.

Assessment Criteria

For the assessment of the overall effect of the therapy following chief complaints and biochemical parameters were selected:-^{6, 16} Fasting blood sugar, Postprandial blood sugar, Prabhuta Mutrata (Polyuria), Pipasa Adhika (Polydipsia), Kshudha Adhika, Kar-Pada-Tala Daha, Swed-adhikya (Perspiration), Daurbalya (Weakness), Purishabaddhata (Constipation), Shula, Pindikodveshtana (Cramps).

Pathy-Apathya

Diet: All the patients were allowed to take their routine diet but advised not to take extra carbohydrate and fatty diets. (Devidson's Principles & Practice of Medicine, 18th Edition) All the patients are to be advised for exercise the most common is walking and also light yogic exercise. (Chakradatta, 2011; Sushruta Samhita, 2003)

Observations

Table 1. Patient wise relief in symptoms

Sr.No.	Age	B.T.	A.T.	Differences	% of relief
1	42	5	0	5	100
2	45	15	0	15	100
3	51	6	0	6	100
4	36	6	0	6	100
5	46	35	8	27	77.14
6	45	17	0	17	100
7	43	8	0	8	100
8	48	32	9	23	71.87
9	44	13	1	12	92.30
10	55	31	6	25	80.64
11	48	19	2	17	89.47
12	46	11	1	10	90.90
13	38	7	1	6	85.71
14	55	32	8	24	75
15	44	9	0	9	100
16	48	17	2	15	88.23
17	52	33	8	25	75.75
18	38	6	0	6	100
19	48	8	0	8	100
20	53	20	3	17	85

RESULTS

Out of 20 patients included in the study 11 were male where as 9 were female. All the 20 patients who completed the study had shown good compliance to the Madhumukti. The response of Madhumukti vati was very good on Madhumeha. The symptoms were reduced significantly. The relief in symptoms 96.49% Fasting Blood Sugar, 87.5% Blood Sugar P P, 85.71% Prabhut Mutrata (Quantity), 88.00% Prabhut Mutrata (Frequency), 86.36% Pipasa- Adhikya, 84% Kshudha-Adhikya, 76.92% Kara-pada Daha, 73.33% Sweda Pravritti, 77.27% Daurbalya, 80.95% Purisha- Baddhata, 76.19% Shool, 75% Pindikodweshtan. 16 patients had a very good improvement; whereas 4 patients had good improvement at the end of study.

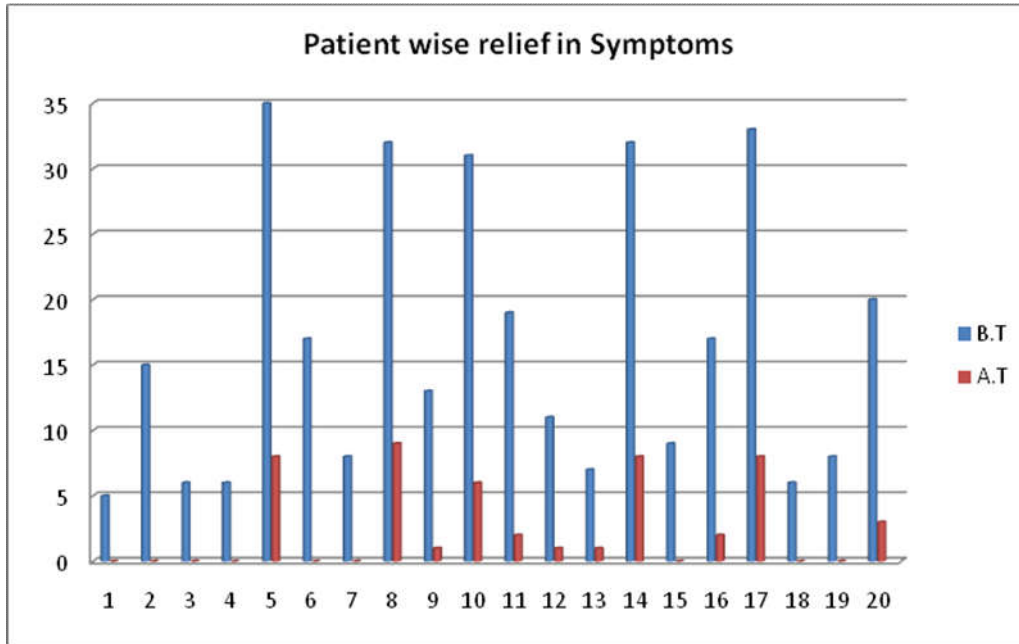
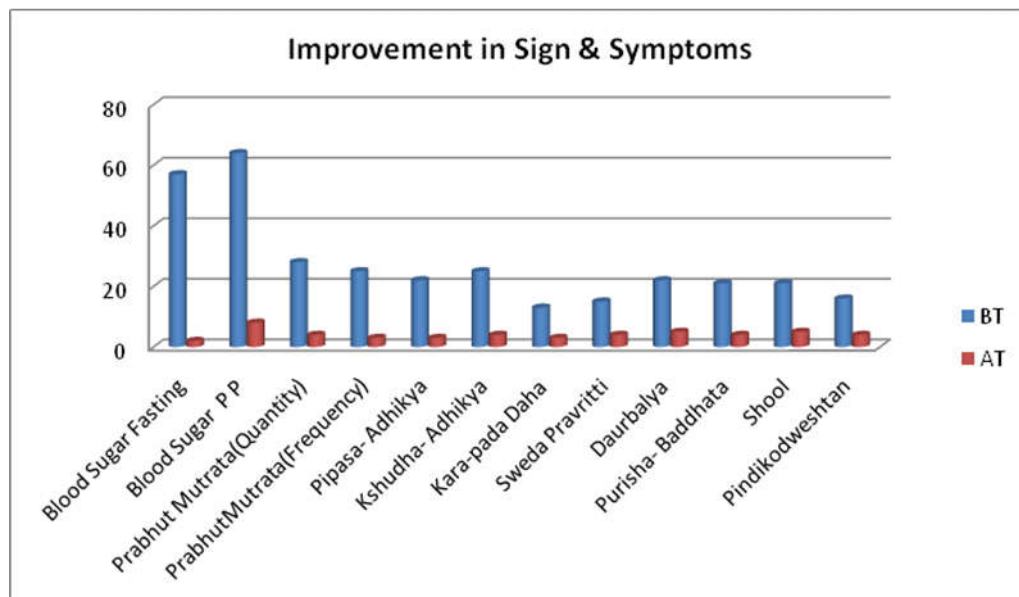


Table 2. Results of treatment % of relief in symptoms

% of relief in symptoms	90-100%	80-90%	70-80%	70- 60%
Number of patients	11	5	4	0

Table 3. Improvement in sign and symptoms of Madhumeha according to grading score ³

S.No.	Symptoms	Score		Diff.	% of Relief	SD+ ₋	SE + ₋	T	P
		BT	AT						
1	Blood Sugar Fasting	57	2	55	96.49	0.71635	0.160181	17.1681	< .001
2	Blood Sugar P P	64	8	56	87.5	0.523148	0.11698	23.93581	< .001
3	Prabhut Mutrata(Quantity)	28	4	24	85.71	1.005249	0.224781	5.338539	< .001
4	PrabhutMutrata (Frequency)	25	3	22	88	0.718185	0.160591	6.849698	< .001
5	Pipasa- Adhikya	22	3	19	86.36	0.887041	0.198348	4.789551	< .001
6	Kshudha- Adhikya	25	4	21	84	0.825578	0.184605	5.687825	< .001
7	Kara-pada Daha	13	3	10	76.92	0.688247	0.153897	3.248931	< .02
8	Sweda Pravritti	15	4	11	73.33	0.686333	0.153469	3.583793	< .01
9	Daurbalya	22	5	17	77.27	0.812728	0.181731	4.677231	< .001
10	Purisha- Baddhata	21	4	17	80.95	0.74516	0.166623	5.101343	< .001
11	Shool	21	5	16	76.19	0.767772	0.171679	4.659859	< .001
12	Pindikodweshtan	16	4	12	75	0.753937	0.168585	3.559026	< .01



Conclusion

The present study shows that selected drugs are documented in the clinical Ayurvedic texts and have also prove that it is very effective measure for the treatment of Madhumeha. Madhumukti has a beneficial role in reducing the severity of all symptoms controlling FBS, PPS etc. No Patient reported any adverse drug reaction.

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