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COMPARATIVE STUDY OF ASANADIYOGA VATI AND SHILAJITWADI VATI IN THE MANAGEMENT OF MADHUMEHA W. S. R. TO DIABETES MELLITUS

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ABSTRACT

Incidence of diabetes is increasing day by day, due to population growth, Change in lifestyle, food habits, urbanization and increasing prevalence of obesity and physical inactivity. It is considered as a silent-killer, because many patients diagnosed after developing the Complication. The disease has shown great resemblance with *Madhumeha*described in *Ayurveda* as subtype of *Vataja Prameha*. The main factors involved in the pathogenesis are *Vata, Pitta, Kapha, Meda, Mamsa, Sharira-Kleda*and *Oja*. Therefore the treatment of this disease should be *Tridoshashamaka, Balya* and *Rasayana*. The drugs *Asanadiyoga Vati*and *Shilajitwadi Vati* were selected for management of *Madhumeha*. *Asanadiyoga Vati* showed significantly greater relief in the signs and symptoms and biochemical parameters than *Shilajitwadi Vati*. However, reduction in the increased blood sugar level was found better in the Shilajitwadi *Vati*.

KEYWORDS: *Asanadiyoga Vati*, Diabetes Mellitus, *Madhumeha, Prameha, Shilajitwadi Vati.*

INTRODUCTION

The term Diabetes mellitus is a group of heterogenous metabolic disorder characterized by chronic hyperglycemia with disturbance of carbohydrates, fat and protein metabolism due to absolute or relative deficiency in insulin secretion and / or action.[1] Globally, as of 2010, an estimated 285 million people had diabetes, with type- 2 making up about 90% of the cases. Its incidence is increasing rapidly and by 2030, this number is estimated to almost double. India has more diabetics than any other country in the world, according to the International Diabetes Foundation, although more recent data suggest that China has even more.The disease affects more than 50 million Indians - 7.1% of the nation's adults - and kills about 1 million Indians in a year.[2] Type I DM shows resemblance with *Dhatukshayaanjanya Madhumeha* and Type II DM is similar to *Aavaranjanya Madhumeha*. *Acharya Charaka* has stated that Ojakshaya is seen in Madhumeha,[3] so line of treatment must be *Tridoshashamaka, Pramehaghna* and *Rasayana*. Therefore Asanadiyoga Vati[4] and *Shilajitwadi Vati[5]* were selected for present study.

AIMS AND OBJECTIVES

1. To study the etiopathogenesis and symptoms of *Madhumeha* (D.M.) as per *Ayurveda* and modern medical science respectively.
2. To evaluate the clinical efficacy of the oral medication i. e. Asanadiyoga *Vati*.
3. To study the comparative effect of Asanadiyogavati and *Shilajitwadi Vati*in the treatment of the disease.

MATERIALS AND METHODS

The present study included patients, various investigations, selected drug and diet.

Criteria for Selection: For the present study, Patients having symptoms of *Madhumeha*were selected randomly from the OPD of kayachikitsa and shalya Dept.

The known cases of DM patients were also selected for the study after confirming by various investigations.

Inclusive Criteria
Patients between age group of 35-60 years.
1) Patients having classical signs and symptoms of *Madhumeha* and Type – 2 Diabetes Mellitus.

2) Patients having Fasting Blood Sugar Level >126 mg/dl and Postprandial Blood Sugar Level up to >200 mg/dl will be taken for study.

Exclusive criteria
- IDDM, Juvenile DM, Gestational DM
- Patients with severe complications like CVD, Nephropathy, Neuropathy. Retinopathy, Diabetic foot etc.

Investigations
- Fasting blood sugar (F.B.S) and Postprandial blood sugar (P.P.B.S)
- Complete blood count i.e. H b%, T.L.C, D. L. C. and E. S. R, S. Creatinine, Bl. Urea, S. Cholesterol.

These investigations were carried out in all the patients before treatment and after completion of treatment. Fasting and postprandial blood sugar and urine sugar was done after8[th]weeki.e.at the end treatment.

Plan of Study
Patients randomly selected for the study were divided into two groups, each containing 15 patients. Both the drugs were administrated as 4 gm /day in 2 divided doses (i.e. 4 *vati*b. d and each*vati* is 500mg, with lukewarm water as anupana before lunch and dinner (*Apana Kala*) for 8 weeks. Patients were advised to follow proper diet and exercise during the treatment. Weekly follow-up of patients was done and biochemical investigations were carried out monthly.

Criteria for Assessment
Assessment of the result was done on the basis of following criteria after 8 weeks i.e.
1) Signs and symptoms of the disease (i.e. chief and associated complains)
2) F.B.S. and P.P.B.S. levels

OBSERVATION AND RESULT

Table 1: Effect of Therapies: Chief signs and symptoms.
In group A i.e. *Asanadiyoga Vati*, the chief complains are considered highly significant result was seen in *Prabhuta-Mutrata, Kshudhadhikya, Pipasa, Hasta-padatala-Daha, Mukha-kantha-taluShosha, Naktamutrata, Daurbalya* and *Pindikodweshtana.*

However in Group B i.e. *ShilajitwadiVati*, highly significant results were obtained in *Prabhuta-Mutrata, Kshudhadhikya, Pipasa, Naktamutrata* and *Daurbalya*. Significant improvement was seen *Karapada, Suptata, Pindikodweshtana*was seen in both groups i.e. ESR 27.27 % decreases in Group A and 18.81%decreases in Group B while Bl. Urea 13.41% decreases in Group A while it decreased by 14.28% in Group B.

Table 2: Over All Effect of Therapy on Sign & Symptom.
After observing the percentage of relief in chief and associated complains, 46.6% patients got marked &moderate reliefand 6.66% got no relief in Group A. But the complete control was not seen in any patient. In case of Group B, 73.3 % patients showed moderate relief, 13.3% got marked & same number of patients has mild relief, the complete control was not seen in any patient.

Table 3: Overall Effect of Therapy on Blood Sugar Level.
Table shows that 20% patients got moderate relief in each, 0% got marked reliefin P. P. B. S. & 6.6% in F.B.S. 26.6% patients got mild relief in F.B.S, 33.3% patients shows in P.P.B.S. values. No relief was seen in 20% patients in F.B.S. and 6.6% patientsin P.P.B.S. values, 26.6% patients showed control in F.B.S & 40% control in P.P.B.S. values, in Group A.

While in Group B, shows that 0% patients got marked relief in each, and 26.6% got moderate reliefin F.B.S. & 30% in P.P.B.S. values 46.6% shows mild reliefin F.B.S and 0% patients got no relief in P.P.B.S. 13.3% patients got no relief in P.P.B.S. values and 26.60% in F.B.S. Patients obtained control grade in 66.6% in P.P.B.S. values and 0% in F.B.S.

Table 4: Effect of Therapy on Blood Parameters.
This table shows that there was 4.64 % increase in Hb% in Group A while Group B shows 2.35% increase in the same. In case of total Leucocyte Count, there was decrease of 5.43% in Group A while it decrease by 7.20% in Group B. Decrease in S. Cholestrol20.74 in Group A, while it decreased by 18.85 % in Group B. Incase ofS.creatinine there was decrease of 6.65% in Group A while it decrease by 6.1% in Group B. Erythrocyte Sedimentation Rate was seen in both groups i.e. 27.27 % and 18.81% respectively. Bl. Urea 13.41% decrease in Group A while it decreased by 14.28% in Group B.

Criteria for Assessment of Overall Effect of Therapy Statistical Analysis
The collected data was analyzed statistically in terms of mean score (x), Standard deviation (S.D.) and Standard error (S.E.). Paired't' test was carried out at the level of 0.05, 0.01 and 0.001 of P levels. The result was interpreted as:
➤ P > 0.05 Insignificant improvement
➤ P < 0.05 & P < 0.01 Significant improvement
➤ P< 0.001Highly significant improvement

Table 1: Effect of Therapies.

Chief complains	Group	Mean score B.T.	Mean score A.T.	% Relief	S.D. (±)	S.E. (±)	't'	P
Prabhutamutrata	A	2.26	0.46	79.41	0.56	0.14	12.43	<0.001
	B	2.26	0.33	85.29	0.59	0.15	12.61	<0.001
Aavilmutrata	A	1.41	0.25	82.35	.38	0.11	10.38	<0.001
	B	1.4	0.27	81.25	0.75	0.22	5.22	<0.001
Kshudhadhikya	A	2.5	0.66	74.19	0.51	0.14	12.89	<0.001
	B	2.6	0.9	65.38	0.82	0.26	6.5	<0.001
Trushna	A	1.5	0.08	94.44	0.51	0.14	9.5	<0.001
	B	1.13	0.4	64.70	0.59	0.15	4.7	<0.001
Hasta-padataladaha	A	1.75	0.41	76.19	0.77	0.22	5.93	<0.001
	B	1.66	0.66	60	0.73	0.21	4.69	<0.001
Mukha-kantha-talushosha	A	2.00	0.72	63.63	0.64	0.19	6.5	<0.001
	B	1.8	0.61	66.66	0.59	0.16	7.40	<0.001
Kara-padasuptata	A	1.1	0.2	72.72	0.63	0.2	4	<0.01
	B	1.1	0.3	63.63	0.48	0.15	4.5	<0.01
Naktamutrata	A	1.4	0.8	45.45	0.48	0.12	5.2	<0.001
	B	1.61	0.76	52.38	0.37	0.10	8.12	<0.001
Daurbalya	A	1.5	0.27	82.35	0.78	0.23	5.36	<0.001
	B	1.6	0.3	81.25	0.48	0.15	8.51	<0.001
Pindikodweshtana	A	1.4	0.46	68.42	0.57	0.16	6.24	<0.001
	B	1.5	0.81	47.05	0.64	0.19	3.73	<0.01

Table 2: Overall Effect of Therapy on Sign & Symptom.

Result	Group A No. of Patients	Group A % of Patients	Group B No. of Patients	Group B % of Patients
Controlled	0	0%	0	0%
Marked Relief	7	46.6%	2	13.3%
Moderate Relief	7	46.6%	11	73.3%
Mild Relief	0	0%	2	13.3%
No Relief	1	6.66%	0	0%

Table 3: Overall Effect of Therapy on Blood Sugar Level.

Result	Group A F.B.S. No	Group A F.B.S. %	Group A P.P.B.S. No	Group A P.P.B.S. %	Group B F.B.S No	Group B F.B.S %	Group B P.P.B.S. No	Group B P.P.B.S. %
Controlled	4	26.6%	6	40%	0	0%	10	66.6%
Marked Relief	1	6.6%	0	0%	0	0%	0	0%
Moderate Relief	3	20%	3	20%	4	26.6%	3	30%
Mild Relief	4	26.6%	5	33.3%	7	46.6%	0	0%
No Relief	3	20%	1	6.66%	4	26.6.0%	2	13.3%

Table 4: Effect of Therapy on Blood Parameters.

Parameter	Group A B.T.	Group A A.T.	Group A % Change	Group B B.T.	Group B A.T.	Group B % Change
Hb%	10.96	11.49	4.64% ↑	11.09	11.49	2.35% ↑
TLC	7460	7080	5.43% ↓	7486	7040	7.20%↓
S. Cholesterol	196.3	155.6	20.74↓	196.3	159	18.85↓
S. creatinine	.90	.84	6.65↓	.89	.54	6.1↓
ESR	41.8	30.4	27.27% ↓	41.8	33.93	18.81%↓
Bl. Urea	20.86	18.06	13.41↓	21	17.93	14.28↓

Table 5: Overall Effect of Therapy on Sign & Symptom.

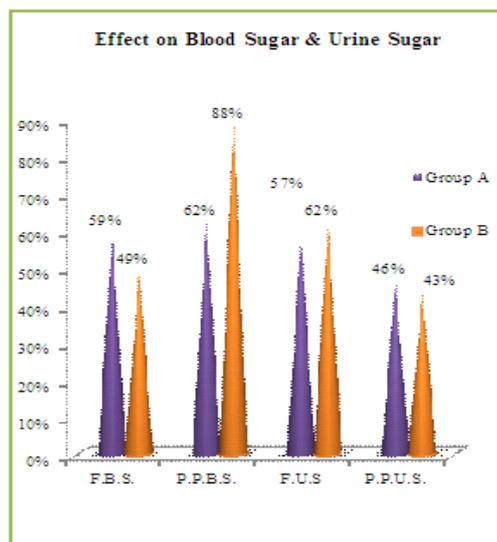| Result	Group A				Group B			
	F.B.S.		P.P.B.S.		F.B.S		P.P.B.S.	
	No	%	No	%	No	%	No	%
Controlled	4	26.6%	6	40%	0	0%	10	66.6%
Marked Relief	1	6.6%	0	0%	0	0%	0	0%
Moderate Relief	3	20%	3	20%	4	26.6%	3	30%
Mild Relief	4	26.6%	5	33.3%	7	46.6%	0	0%
No Relief	3	20%	1	6.66%	4	26.6.0%	2	13.3%
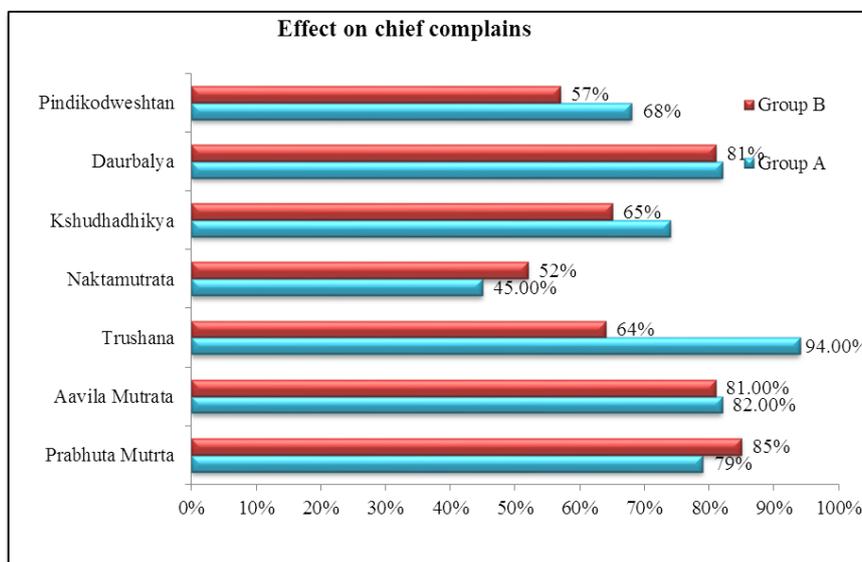
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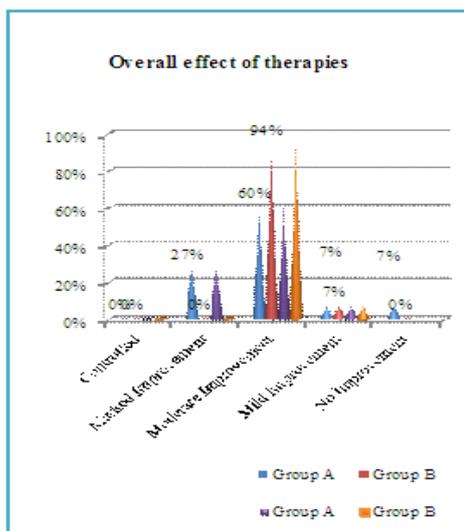
Table -2.

Table -3.

Probable Mode of Action of Asanadiyoga Vati
Asanadiyoga Vati contains 21 Drugs and Asana is its main content, which work on it sampraptivighatana. It also having kasaya, tikta rasa and laghu, rukshaguna, which mainly acts as kaphapittahar, stambhaka, Rakatashodhaka, Madhumehahara, Mutrasangrahaka, lekhana and Rasayana. In madhumeha main dushya are bahuabaddhameda, mamsa and sharirakleda.[9] The rasa and guna of asanadigana alleviate these problems. Asana

is also found to be working as insulin sensitizer by stimulating –d chiro-inositol.[10]

Most of the drugs found in Asanadiyogavati having *Deepana, Pachana, Anuloman properties,so* helps to clear *Dhatvagnimandyajanita-Ama*. These properties also help to repair imperfection in *Dhatu* formation. In *Prameha,* body acquires *'Shaithilyata.*[11] Shilajeet is having property'*Dehadardhyakara'*. Shilajeet mainly

acts on *Mutravaha-Strotas* and also has *Meda-chhadanum* property. Therefore it acts on *Dhatvagnimandya* and has been proved very effective in all signs and symptoms like *Prabhuta* and *Aavila-Mutrata, Naktamutrata, Kshudhadhikya, Pipasa, Sthaulya, Pindikodweshtana*etc.

Probable mode of action of *SHILAJITWADI VATI*
ShilajatwadiVati contains *Yashada*, *Naga, Vanga, Nimb*, *Gudamaar, Shilajeet.* Most of the drugs in this formulation possess *Deepan, Pachana* property which reduces the *Dhatvagnimandyajanita-Ama*. & help to repair imperfection in *Dhatu* formation & *Samprapti-Vighatan.* Majority are having Tikta-Katu Rasa. *Tikta rasa* acts as *Aruchihara, Vishaghna, Krumighna, Kleda-meda-puya-sweda-mutra-purisha-Shoshak. Kasaya rasa* are

Samgrahi, Prinan, Ropana, Stambhan, Sleshama-rakta-pitta Prasaman, sharirakledasyaupayokta. Maximum drugs have *Katuvipaka. KatuVipakaDravya* also works on MutravahaSrotsa and reduces frequency of urine.[12] Maximum drugs are Tridoshahara, *Kapha-pittahara, so works on Tridosha, mainly Bahu-*Drava Shleshma *& Atipravrudha KaphapittaDosha.* Shilajeetis having property as*'Dehadardhyakara.*[13] and Banga is also *Dhatusthaulyakar.*[14] Drugs of *ShilajitwadiVati* are mainly *Rasayana, Vrushya. Balya, Chakshushya*, *Meda–chhadanum*properties *and* Ruksha, LaghuGuna and *UshnaVeerya*so helps to remove *Aavarana* of *Vata*causedby *Kapha*and *Pitta*. Thus it helps to reduce the symptoms like *Prabhuta* and *Aavila Mutrata, Naktamutrata, Kshudhadhikya, Pipasa, Aasyamadhurya*etc.

CONCLUSION

➢ *Madhumeha* (Type II Diabetes mellitus) mostly affects the individuals after the age of forty years.
➢ *Dhatukshaya*is seen due to aging process which ultimately results in *Ojakshaya*.
➢ *Rasayana* therapy along with medication is the proper line of treatment.
➢ *Madhumeha* is *DhatvagimandyajanitaVyadhi*. So treatment of *Dhatvagnimandya*is helpful in reduction of blood sugar level.
➢ After summarizing the whole result it can be said that both drugs in the study i.e. *AsanaadiyogaVati* and *ShilajitawadiVati* have good results in combating signs and symptoms of *Madhumeha* and in reducing fasting and Post-prandial blood sugar level.

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