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THE COMPARATIVE STUDY OF EFFICACY OF MADHUTAILIK BASTI WITH ORAL DRUG IN MADHUMEHA

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ABSTRACT

Ayurveda is the first medical science that identified, diagnosed and managed Madhumeha while claiming it is incurable. It can give effective solutions to this burning problem due to its special treatment methods which are based on highly effective and safe herbo-mineral preparations. In present study the reassessment of Madhutailik basti and herbo-mineral drug has been done to understand its efficacy in Diabetes. It shows that all the symptoms are reduced during completion of the study.

Key words: Diabetes mellitus, complication, basti, Rasayana.

INTRODUCTION

Diabetes mellitus is the fast emerging disease which is the major killers of present era [(1)]. It affects the urban population as well as the rural population. It is suggested that the increase of DM may be due to the changing life style like food habits and increased stress [(2)]. The use of pesticides may have some contributing factor in this disease. Madhumeha can be correlated with Diabetes Mellitus in modern science. According to the modern science though the exact cause of Diabetes is not known but there are some predisposing factors like age, stress, poor diet, drugs etc. which increase the chances of occurrence of the disease[(3).] Human mind can seldom be satisfied and it is unnecessary taxed when people try to work overtime. Diabetes is chronic degenerative and single most important metabolic disease, which affect every vital organ and system of the body [(4)].

The complications of Diabetes mellitus are more dreaded than the disease itself. The common complications affecting the nerves, the heart, the eyes and the kidneys occur in almost all patients at some stage in their life. They become more inevitable and occur earlier in those having a poor control of their Diabetes. The patient himself has to know of his diabetes to live a complication free and healthy diabetic life [(5).] Every person has glucose in their blood, who or not having Diabetes. When any person eats, the digestive process breaks down into glucose, which is absorbed into the blood in the small intestine. The people who are not Diabetics rely on Insulin to move glucose from the blood into the cells. But people having diabetics either don't produce insulin or can't efficiently use the insulin they produce. They can't move glucose into their cells without insulin. Accumulation of glucose in the blood is

known as hyperglycemia and it can cause very serious health problem after long time [6]. According to recent study, India will be Diabetes Capital of the world in the near future. [7] This disease of sugar is becoming a great national catastrophe with the current incidence rate of 3 % [8].

It is very clear that at the end of 2025 A.D. it may find more than 75% diabetes patients in the developing countries [9]. Among them maximum are in India [10]. In modern medicine oral hypoglycemic agents have been introduced around 1954 and Insulin was synthesized in laboratory in 1966. We have developed newer medicine but failed to check the rate of incidence of DM. There are certain limitation of OHPs in type II DM and problem of Insulin antibodies in type I DM. Therefore there is a need of traditional medicine for the better management of DM.

Ayurveda provide wide references on herbal and herbo-mineral preparations which can be safely used orally for longer period [11].

Aim and Objectives:

1) To study the pathogenesis of Madhumeha and to correlated it with modern science.

2) To evolve standard Ayurvedic therapy for the management of DM.

3) To assess the efficacy of Madhutailika Basti

4) To introduce an easily available, economically cheap and a much effective drug for the patient of DM.

Materials & Methods: For the present study, 45 known patients of Madhumeha were selected. These patients were randomly selected into 3 groups 15 each.

Group I – The patients were given Madhutailik basti [12] for 8 days then OHA.

Group II – The patients were kept on OHA.

Group III – The patients were given one shodhana basti i.e. Madhutailik basti before and after matrabasti followed by OHA.

Selection of patients: The patients were selected from OPD and IPD of Kayachikitsa department, R. T. Ayurved Hospital and Research centre, Akola.

Criteria for Selection of Patients: The patients having the following signs and symptoms [13] were selected for the clinical study,

1) *Prabhutavil mutrata* (Polyurea)
2) *Kshudhavruddhi (*Polyphasia)
3) *Pippasavruddhi (*Polydipsia)
4) *Dourbaly*a (General Weakness)
5) *Paridaha* (burning sensation)
6) *Kandu* (Itching)
7) *Bhrama* (Vertigo)
8) *Anidra* (Insomnia)
9) *Nakta mutra pravrutti* (urination during night)
10) Hast pada chimchimayan (Tingling)
11) *Suptata* (Numbness)

Grading for the Assessment of severity of Madhumeha

Sr. No.	Symptoms	Normal	Mild	Moderate	Severe
1	Polyurea	Freq 3-4 times	5-8 times	9-12 times	>12 times
2	Polyphagia	Eating 2 times	3-4 times	5-6 times	>7 times

		per day			
3	Polydipsia	Freq 3-4 times	5-8 times	9-12 times	>12 times
4	Weakness	Perform normal activities	Feels weak on long walking	Feels weak on performing general activities	Unable to perform general activities
5	Burning sensation	No Burning sensation	occasional	Regular burning sensation	Persistent Burning sensation
6	Itching	No Itching	Itching with skin rashes over limbs	Itching with skin rashes on body	Persistent itching
7	Vertigo	No	occasional	Unable to work properly	persistent
8	Insomnia	6 hrs.	6-4 hrs.	4-2 hrs.	>2 hrs.
9	Tingling	No	Occasional	At palm and feet	persistent
10	Numbness	No	Occasional	At palm and feet	persistent

Criteria for Exclusion of Patients

The cases with complications having diabetic gangrene, carbuncles, diabetic coma, retinopathy, IDDM were excluded from present clinical trials.

Oral Hypoglycemic Drug: The ingredients of oral drugs (Anubhoot Yog) are Shilajit (*mineral pitch*), Gudmar (*Gymnema sylvestre),* Haridra (*curcuma longa),* Daruharidra (*berberis aristata*), Shatavari *(asparagus racamosa),* Methika *(trigonella foenum graceum)*, Amlaki (*emblica officinalis*), Jambubeej *(syzigium jambolana)* and Karvellaka *(momordica charantia).*

Drug dose: 500 mg. tablet thrice a day.

Duration of **Study** – 3 months

Anupana- Luke warm water.

Madhutailika Basti: The ingredients of Madhutailika basti are

Erandmool (*ricinus communis)* 300ml *Kwath*

Madanphal *(randia spinosa) pippali churna* 12 gms

Shatapushpa *(anethum sowa)* 24 gms

Saindhava *(sodium chloride* 12 gms

Ttil tail *(sesamum indicum)* and Madhu (honey) 150 gms each

Total Quantity of *Madhutailika Basti:* 648 gms was given after *snehan*a and *swedana.*

S.O.P.: Madhu and Saindhava were taken in quantity as mentioned above in the container. The mixture was stirred with the help of stirrer. Til tail was added slowly in this mixture. Shatapushpa choorna and Madanphal pippali choorna were also added to the above mixture. Finally, the Erandmool Kwath was added and mixed properly for uniform solution. This solution was used for Madhutailik Basti in given doses.

Observations-

1. The ANOVA table related Polyurea is as follows:

Sr	Sourse of Variation	Sum of	Degree of	Mean	F critical	P value

No.	Variation	square	freedom	sum of squares	ratio F		
1	Between drug	337.77	2	168.88	4.36	3.21	0.01
2	Within	1626.66	42	38.73	-		
3	Total	1964.44	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing Polyurea.

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	22.66	4	
2	G-III	18.66	2.66	4.45
3	G-II	16		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing Polyurea.

2. The ANOVA table related Polyphagia is as follows:

Sr No.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	840	2	420	7.87	3.21	0.0012
2	Within	2240	42	53.33	-		
3	Total	3080	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing Polyphagia.

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	18.66	8	
2	G-III	10.66	2.66	5.22
3	G-II	8.66		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing Polyphagia.

3. The ANOVA table related Polydipsia is as follows:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	271.11	2	135.55	4.10	3.21	0.023
2	Within	1386.66	42	33.07	-		

3	Total	1657.77	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing Polydipsia.

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	19.33	3.33	
2	G-III	16	2.66	4.11
3	G-II	13.33		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing Polydipsia.

4. The ANOVA table related Weakness is as follows:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	617.77	2	308.88	5.62	3.21	0.0068
2	Within	2306.60	42	54.92	-		
3	Total	2924.44	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing weakness.

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	20	6.67	
2	G-III	13.33	2	5.30
3	G-II	11.33		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing weakness.

5. The ANOVA table related burning sensation is as follows:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	404.44	2	202.22	3.70	3.219	0.030
2	Within	2293.33	42	54.6	-		
3	Total	2697.77	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing burning sensation

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	10	6	
2	G-III	4	0.67	5.28
3	G-II	3.33		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing burning sensation.

6. The ANOVA table related Itching is as follows:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	13.33	2	6.67	0.2019	3.219	0.8179
2	Within	1386.66	42	33.07	-		
3	Total	1400	44	-	-		

As the calculated value of F is less than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were equally effective for reducing itching.

7. The ANOVA table related vertigo is as follows:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	31.11	2	15.55	0.3266	3.2199	0.72314
2	Within	2000	42	47.61	-		
3	Total	2031.11	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing vertigo.

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	8.66	1.33	
2	G-II	7.33	0.67	4.93
3	G-III	6.66		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing vertigo.

8. The ANOVA table related anidra is as follows :

Sr no.	Sourse of variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value

1	Between drug	40	2	20	0.2560	3.219	0.7752
2	Within	3280	42	78.09	-		
3	Total	3320	44	-	-		

As the calculated value of F is less than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were equally effective for reducing anidra.

9. The ANOVA table related Nakta mutra pravrutti:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	84.44	2	42.22	0.5833	3.2199	0.5624
2	Within	3040	42	72.38	-		
3	Total	2124	44	-	-		

As the calculated value of F is less than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were equally effective for reducing naktamutra pravrutti.

10. The ANOVA table related Tingling is as follows:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of squares	Variation ratio F	F critical	P value
1	Between drug	813.333	2	406.66	4.41	3.219	0.07815
2	Within	3866.66	42	92.06	-		
3	Total	4680	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing tinglin

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	18.66	8.66	
2	G-II	10	0.67	6.86
3	G-III	9.33		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing tingling.

11. The ANOVA table related Numbness is as follows:

Sr no.	Sourse of Variation	Sum of square	Degree of freedom	Mean sum of	Variation ratio F	F critical	P value

				squares			
1	Between drug	2013.33	2	1006.66	17.1405	3.219	0.0003
2	Within	2266.66	42	58.7307	-		
3	Total	4480	44	-	-		

As the calculated value of F is greater than tabulated value, we reject the null hypothesis at 5% level. It is observe that 3 treatment groups were not equally effective for reducing numbness.

Sr.No.	Treatment	Mean Reduction	Difference	C.D.
1	G-I	22	12.67	
2	G-II	9.33	2.67	5.48
3	G-III	6.66		

As mean reduction in score related to treatment group I is maximum, it may conclude that treatment group I is most effective in reducing numbness.

DISCUSSION

Madhutailik basti has been administered in Madhmeha patients might have got the results by virtue of its Rasayana properties. The shodhana qualities might have stimulated the ß cells and enhanced the insulin properties. It might have improved the specific immunity in the body and stopped the degeneration of ß cells and given strength to the existing ß cells to enhance the secretion of insulin production because Madhumeha is said to be the results of absence of vikar vighat abhava [(14)] in the body.

Hence, when it improves the immunity in the body it gives the resistance power to the whole body.

CONCLUSION

The effect of Madhutailika basti & herbomineral drug in Madhumeha can be concluded that individually all the three treatment groups have shown encouraging results in reducing almost all the symptoms. The 3 treatment groups are equally effective in reducing itching, anidra and nakta mutra pravrutti

Finally from the present clinical trials, it can be concluded that Madhutailika basti with oral drug (Group-I) has got most significant results than other two groups. This clinical trial have got significant results, the hypoglycemic effect of Madhutailik basti and oral drug, Madhumeha patients need further qualitative trials are required.

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