

# MANAGEMENT OF *MADHUMEHA* (DIABETES MELLITUS) WITH HERBOMINERAL COMPOUND PREPARATIONS

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(Received on 6.11.2003)

*Madhumeha (Diabetes mellitus) is a quite debatable issue in the medical field. Practitioners are in need of multiple drug therapy to combat the sign & symptoms manifested in diabetes mellitus. Herbo mineral hypoglycaemic drug therapy can play the most important role in such cases. An attempt was made to assess a hypoglycaemic effect and clinical efficacy of Arogyavardhini vati combined with a decoction of herbal drugs in diabetics. Sixty diabetics, Arogyavardhini vati, drug decoction, Glibenclamide tablet formed the materials. Clinical features, blood & Urine sugar, S. creatinine & B.urea were recorded before & during the treatment at intervals of 30,60 and 90 days. Of sixty diabetics, 30 were administered Arogyavardhini vati (2 tabs.tid) with drugs*

*decoction (30 ml tid) in group I & 30, Patients with Glibenclamide (5mg tid.) in group II for 90 days. Symptoms like-polyuria, polyphagia, polydypsia, feeling exhaustion were assessed & relieved in 80-100% pts in group I and 60-80% in group II. Mean fasting and Postprandial blood sugar in patient of group I were significantly reduced than group II after 90 days. Arogyavardhini vati with decoction found to be significant in reducing blood sugar & relieving symptoms.*

## Introduction

Studies on the treatment of *Madhumeha* (Diabetes mellitus) have been attempted with different indigenous drugs

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combinations. In chronic disease like diabetes, patient prefers oral treatment for long period of life. It is observed in recent studies that drugs involved in metabolic function of liver & kidney may play important role in the treatment of diabetes. Still the relationship between development of complication and proper control of blood glucose remains the most considerable issue. Hence it is reasonable to maintain proper glycaemic control to avoid complications of diabetes. Therefore to get total coverage for the signs & symptoms manifested in Diabetes mellitus a medicine without side effects even on long period of administration is required to be explored. *Arogyavardhini vati* is known to maintain liver functions alongwith having effect on diabetes mellitus.

### Aim and Object

- \* To assess hypoglycaemic effect of *Arogyavaradhini vati* combined with decoction of herbal Ayurvedic medicine.
- \* To explore an effective and safe herbomineral combination for prolonged use in Diabetes mellitus.
- \* To assess the importance of herbomineral combination.

### Materials and Methods

#### Materials

1. 60 patients of established Diabetes mellitus were drawn from A.V.S's Ayurved mahavidyalaya's Allopathy and Ayurvedic hospital, Bijapur.

2. *Arogyavardhini vati*.

3. *Drugs for decoction*

*Jambu* (Seed) (*Eugenia jambolana*)

*Bilva* (Leaves) (*Aegle marmelos*)

*Saptachakra* (Root) (*Salacia oblonga*)

*Karela* (Fruit) (*Momordica charantia*)

4. Glibenclamide.

### Method

Out of 60 patients 30 were administered *Arogyavardhini vati* (2 tabs/ tid) combined with drugs decoction (30 ml tid) in group I and the remaining 30 patients were administered with Glibenclamide (5 mg B.D.) in group II. Patients in both the groups being put under diet restriction.

Urine and blood investigations for fasting blood sugar (FBS), Fasting urine sugar (FUS), Post prandial blood sugar (PPBS), Post Prandial Urine Sugar (PPUS) blood urea, Serum creatinine were estimated before & during the treatment at intervals of 30, 60 & 90 days of the treatment. Data was analysed using 'Z' test.

Detail enquiry was made about their-nature of occupation(ClassI-least physical

activity, ClassII-moderate physical activity. ClassIII-severe physical activity.) history of present complaint, history of past, drugs used in past, age of onset of D.M., hypertension, habits like alcoholism, smoking, tobacco chewing, dietary habits and family history of hereditary diseases which were major risk factors for diabetes mellitus.

Physical examination of height, weight, age, sex etc. were noted.

### Sample size

30 pts. in group I

30 pts in group II

### Inclusion and Exclusion criteria

#### Inclusion

1. Patients of D.M. - Collected according to clinical features mentioned in Ayurvedic texts & proved with Investigations.
2. Patients - age group 25-60.
3. Patients - both sex.

#### Exclusion

1. Acute cases.
2. Patients having complications.
3. Patients-below 25 yrs. & above 60 yrs.

### Observation and Results

**Table -1**

**No. of Patients Relieved from Symptoms in Group I and II. (n=30)**

Complaints	Group I ( <i>Arogyavardhini vati</i> ) (with D.D.)			Group II (Glibenclamide)		
	B.T.	A.T.	No Change	B.T.	A.T.	No. Change
Polyuria	30 100%	30 100%	-	30 100%	17 57%	13 43%
Polydypsia	25 83%	24 96%	1 40%	30 100%	17 57%	13 43%

Polyphagia	30 100%	30 100%	-	30 100%	17 57%	13 43%
Tingling & Numbness	26 87%	25 96%	1 4%	30 100%	15 50%	15 50%
Burning Sensation in palm & foot	28 93%	27 96%	1 4%	25 83%	14 47%	16 53%
Decreased libido	11 37%	9 97%	2 18%	25 83%	9 36%	16 64%
Excessive sweat	29 97%	28 97%	1 3%	29 97%	13 43%	16 56%
Giddiness	2 7%	2 100%	-	24 80%	15 63%	9 37%
Constipation	15 50%	15 100%	-	26 87%	14 54%	12 46%
Exhaustion	26 87%	26 100%	-	25 83%	11 37%	14 56%

**Table - 2**  
**Comparison between Group I & Group II on Blood Sugar and**  
**Urine Sugar Levels**

Group	Fasting blood sugar (mg/dl)		Post-prandial blood Sugar (mg/dl)		Urine PPBS (%)		P value
	Initial	Final	Initial	Final	B.T.	A.T.	
Grp I n=30	Mean± S.D. 146.3 ±27.14	Mean± S.D. 76.13 ±9.15	Mean± S.D. 254.9 ±34.1	Mean± S.D. 147.73 ±22.49	1.56	Nil	0.01
Grp II n=30	178.5 ± 35.43	118.13 ± 28.8	291.46 ± 43.36	214.7 ± 38.42	1.85	0.70	0.01

# **The Sequence of Relief of Symptoms Observed**

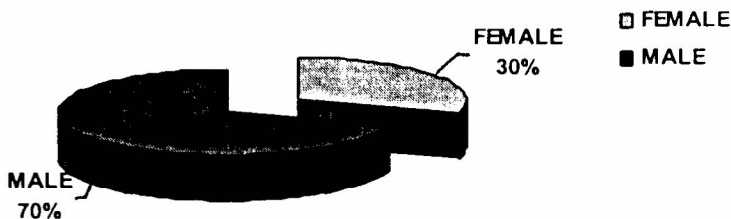
**Group I** - Constipation-Polyuria-Polyphagia-Polydypsia-Giddiness-Exhaustion-Decreased Libido-Tingling & numbness - Burning sensation in palm and foot - excessive sweat.

**Group II** - symptoms were relieved slowly. Where as in group I polyuria, Constipation, feeling of exhaustion were relieved very rapidly. Activeness was seen in Patients of group I. Even the blood sugar was above normal level. i.e. FBS A.T. =76.13 (B.T.=146.3) & PPBS A.T. =147.73 (B.T.=254.9) in Group I.

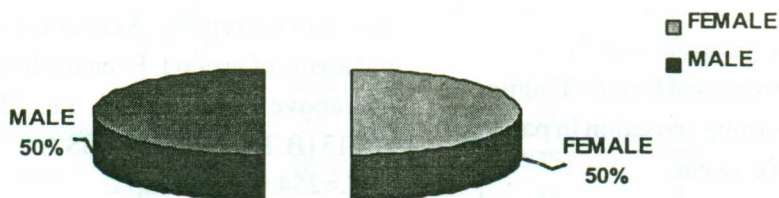
**Table - 3**  
**Comparison between Group I and Group II in Blood Urea and Serum Creatinine in Diabetic Patients. (n=30)**

Parameters	Group I		Group II	
	Initial Mean+S.D.	Final Mean±S.D.	Initial Mean±S.D.	Final Mean±S.D.
Blood urea mg./dl.	24.1±2.6	22.47±2.5	25.16±2.45	23.4±2.31
Serum creatinine mg./dl.	1.02±0.16	0.59±0.14	1.28±0.32	0.75±0.14

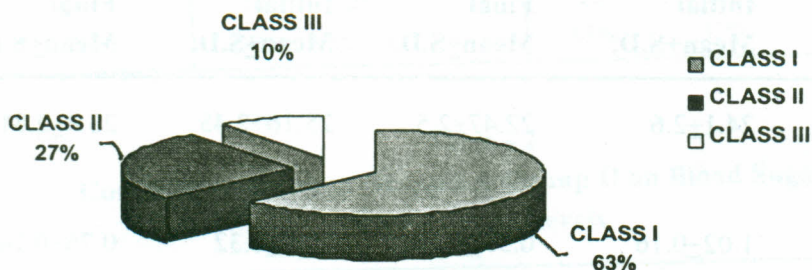
Pie Diagram showing the distribution of patients according to sex : Group - I



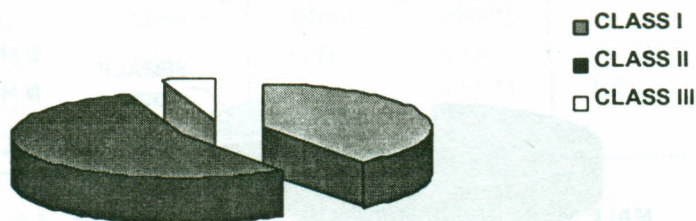
Pie Diagram showing the distribution of patients according to sex : Group - II



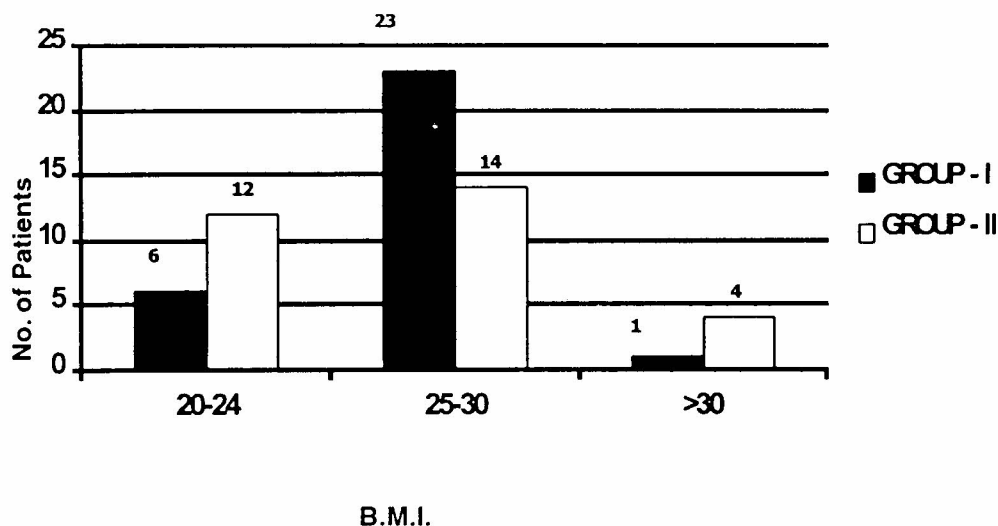
Pie Diagram showing the distribution of patients according to occupation in Group I



Pie Diagram showing the distribution of patients according to sex : Group - II



Bar Diagram showing the distribution of observation according to B.M.I. Calculated in Group I & Group II



## Discussion

After 30 days of treatment-polyuria, polydypsia, exhaustion and polyphagia were relieved 80 to 90% in group I & 6 to 15% in group II. In group I mean FBS 118.4 (B.T.=146.3) & PPBS 211.23 (B.T.=254.9) In group II, mean FBS 160.7 (B.T.=178.5) & PPBS 268.7 (B.T.=291.46). Statistical significance i.e. Zcal = -5.19 of FBS & PPBS Zcal = -5.70; at P=0.01.

After 60 days, feeling of exhaustion was relieved 100% in Group I & 40% in Group II. In Group I mean FBS 95.6 (B.T.=146.3)

& PPBS 182.46 (B.T.=254.9) significantly decreased. In Group II mean FBS 139.6 (B.T.=178.5), & PPBS 245.3 (B.T.=291.46). Statistical significance i.e. Zcal = -5.92 of FBS & PPBS Zcal = -6.85 at P=0.01.

On 90th day, all symptoms were relieved 80 to 100% in group I and 40 to 60% in group II. In group I mean FBS 76.13 (B.T.=146.3) & PPBS 147.73 (B.T.=254.9). In group II mean FBS 118.13 (B.T.=178.5) & PPBS 214.7 (B.T.=291.46) Statistical significance Zcal = -7.6 of FBS & PPBS Zcal = -8.25.

Common symptoms in both groups before and after 90 days of the treatment were as follows :

Symptoms	Group I		Group II	
	No. of patients (%)			
	B.T.	A.T.	A.T.	B.T.
1)Bahumootrata	30 (100%)	30 (100%)	30 (100%)	17 (57%)
2)Atimootrata	25 (83%)	24 (96%)	30 (100%)	17 (57%)
3)Atikshudha	30 (100%)	30 (100%)	30 (100%)	17 (57%)
4)Angasuptata	26 (87%)	25 (96%)	30 (100%)	15 (50%)
5)Pani-pada daha	28 (93%)	27 (96%)	30 (100%)	14 (47%)
6)Atisweda	29 (97%)	28 (97%)	29 (97%)	13 (43%)
7)Dourbalya	26 (87%)	26 (100%)	25 (83%)	11 (37%)

In this study after 90 days of treatment, above symptoms were relieved in 80 to 100% in GroupI and 40 to 60% in Group II.

The mean blood sugar fasting and post prandial before and after 90 days of treatment in group I and Group II were :

	Group I		Group II	
	B.T.	A.T.	A.T.	B.T.
Mean FBS mg/dl	146.3	76.13	178.5	118.13
Mean PPBS mg/dl	254.9	147.73	291.4	214.7

76% of diabetics have gastropathic symptoms. Because of this, patients will have poor glycaemic control due to changes in oral anti diabetic drug absorption. This leads to malnutrition, dehydration, weight loss & significant decrease in quality of life. All these problems were overcome by the ingredients of *Arogyavardhini vati*.

### Conclusion

a) *Arogyavardhini vati* with decoction found to be significant at  $P=0.01$  in reducing blood sugar & relieving symptoms in 80 to 100% of patients, without any side effect.

b) Herbomineral combination has demonstrated a significant effect in the Treatment of *Madhumeha* (Diabetes mellitus).



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## हिन्दी सारांश

### आरोग्यवर्धिनी वटी का औषधी काढे के साथ मधुमेह में प्रयोगिक परिणाम

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‘मधुमेह’ यह बीमारी चिकित्साजगत में बड़ी समस्या है। सभी चिकित्सकों को एक ऐसे औषधि योग की आवश्यकता है कि जो मधुमेह के सभी लक्षण और उपद्रवों को दूर करें। औषधि और खनिजद्रव मिलकर बनायी औषधि योग इस बीमारी में अच्छा काम करती है। इसलिए यह संशोधन किया है, जो आरोग्यवर्धिनी बटी के साथ औषधी काढा दिया तो उसके परिणाम का अध्ययन किया जाय। इस प्रयोग परीक्षण के लिए साठ मधुमेही मरीज, आरोग्यवर्धिनी बटी, औषधी काढा और ग्लिबेनक्लैमाईड गोलियाँ ली हैं। चिकित्सा के पहले और चिकित्सा के समय में तीस, साठ और नब्बे दिनों के बाद लक्षण, रक्तशर्करा और पेशाब शर्करा, सीरम क्रियाटिनीन, सीरम यूरिया जाँच किये हैं। साठ मरीजों में से तीस मरीजों को आरोग्यवर्धिनी वटी (2 वटी/3 बार) औषधि काढे के साथ (30 ml/3 बार) नब्बे दिनों तक दी है, पहले ग्रुप में। दूसरे ग्रुप में 30 मरीजों को ग्लिबेनक्लैमाईड (5 mg/दो बार) नब्बे दिनों तक दी है। पहले ग्रुप में नब्बे दिनों के बाद बार-बार पेशाब आना, बहुत खाना, बहुत पानी पीना और थकान ये लक्षण 80-100% कम हो गये तो दूसरे ग्रुप में 60-80% कम हो गये। पहले ग्रुप में नब्बे दिनों के बाद सरासरी फास्टिंग ब्लड शुगर 76.13 (चिकित्सा पूर्व = 146.3) कम हुयी और पोस्ट प्रॅन्डीयल ब्लड शुगर 147.73 (चिकित्सा पूर्व = 254.9) कम हुआ और दूसरे ग्रुप में नब्बे दिनों के बाद सरासरी फास्टिंग ब्लड शुगर 118.13 (चिकित्सापूर्व= 178.5), पोस्ट प्रॅन्डीअल शुगर 214.7 (चिकित्सापूर्व = 291.4) कम हुयी। आरोग्यवर्धिनी बटी और औषधि काढे का परिणाम मधुमेही में लक्षण और रक्त शर्करा कम करने में अच्छा दिखाई दिया।