

## A PILOT STUDY ON MANAGEMENT OF MADHUMEGAM (DIABETES MELLITUS TYPE-II) AT NATIONAL INSTITUTE OF SIDDHA, CHENNAI-47

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### ABSTRACT

**Objective:** This study was to evaluate the combination of siddha drug with allopathy medicine or only siddha drug, which is most beneficial for the patient to manage Madhumegam (diabetes Type-II). Comparison of two groups of diabetic patients taking siddha medicine alone and combined with allopathy medicine.

**Methods:** A pilot study was done on the management of Madhumegam patients in National Institute of Siddha (NIS) as a retrospective study. Data collection for assessment had been done by retrieving from the individuals' outpatients department (OPD) records and using questionnaire method, at the time of OPD treatment at NIS. Data for 105 Madhumegam patients were collected and taken up for the study.

**Results:** The mean±standard deviation (SD) of blood sugar at fasting before and after treatment was 150±50 and 122±35, respectively, for siddha alone group, whereas for siddha and allopathy group, these were 146±47 and 144±47, respectively. The statistical analysis reveals that the reduction of blood sugar for (siddha only) Group I at fasting was statistically significant ( $p < 0.0001$ ) and Group II (siddha and allopathy) it was not statistically significant ( $p = 0.73$ ). The mean±SD of blood sugar at postprandial before and after treatment was 247±77 and 178±64, respectively, for siddha alone group, whereas for siddha and allopathy group, these were 237±85 and 229±80, respectively. The statistical analysis reveals that the reduction of blood sugar for (siddha only) Group I at postprandial was statistically significant ( $p < 0.0001$ ) and Group II (siddha and allopathy) it was not statistically significant ( $p = 0.55$ ).

**Conclusion:** The siddha medicine alone treated group (Group I) shows significant reduction of blood sugar both at fasting and postprandial. The siddha and allopathy treated group (Group II) has not shown a significant reduction.

**Keywords:** Madhumegam, Siddha, Diabetes, Allopathy, Retrospective, Blood sugar.

### INTRODUCTION

Madhumegam [1] (Diabetes mellitus [DM] Type-II) is a metabolic disease characterized by polyuria, polyphagia, and polydipsia. It is a syndrome of disordered carbohydrate, protein, and lipid metabolism caused by insufficient insulin with the dysfunction of insulin target cells [2]. Over 45 million people in India have diabetes. Study finds over 42 lakhs in Tamil Nadu having diabetes, and another 30 lakhs are showing sure signs of contracting it. One in 10 people in Tamil Nadu is diabetic. Among developing countries, India will become the capital of diabetes. Out of 360 million of diabetic patients in the world, it has been predicted that about 79.4 million people in India will suffer from diabetes in 2030 [3-7].

In the survey of diabetes in Chennai, with the age of 30 and above, 50,000 out of 3 lakh people are affected by diabetes, 60,000 affected by hypertension, and 40,000 are affected by DM with hypertension [8,9].

In 1980, the WHO urged the researchers to examine whether traditional medicines produced any beneficial clinical result. In the last 10-20 years, scientific investigations, in fact, confirmed the efficacy and safety of many of the traditional medicine preparations [10].

This is an innovative and scientific research study to make the people realize and understand that taking of siddha medicines for diabetic treatment along with allopathic medicines is not advisable because the siddha medicines will not work very effectively as they do when taken separately.

### BACKGROUND OF THE STUDY

The National Institute of Siddha (NIS) is an autonomous research institute in siddha system under the Department of AYUSH, Government

of India. NIS is having the facility for the Outpatients under outpatient department [OPD] and under inpatient department accordingly.

Every day, thousands of patients are getting benefited for their illness. Among them, the patients suffering with Madhumegam (diabetes) are more common. Many of them are taking medicines for a long period. Some of them are taking only siddha medicines and some of them are taking siddha medicines combined with allopathic medicines. They take siddha medicine before or after food as per the prescription of the physicians. They take Nilavembu Kudineer along with the Madhumeega capsules, Keelanelli tablet, and Tripala tablet [11,12]. It is a need to rule out which of the above criteria is the most beneficial one for the patient to manage Madhumegam (diabetes). Hence, we have planned to do a pilot study on the management of Madhumegam patients in NIS as a retrospective study.

### METHOD OF PILOT STUDY

The study has been conducted by retrospective analysis method.

Data collection for the assessment has been done by retrieving from the individuals' OPD records and using questionnaire method, at the time of OPD treatment at the NIS. Assessment form has been prepared with the guidance of the Head of the Department, Gunapadam Department, NIS.

### Inclusive criteria

- Patients taking regular treatment at OP Gunapadam Department
- Patients having treatment for not less than 3 months
- Patients having their lab investigations at least twice in their treatment period
- Patients willing to take part in the assessment program.

**OBJECTIVE OF THE PILOT STUDY**

- Comparison of two groups of diabetic (Madhumegam) patients-taking siddha medicine only and the patients taking siddha medicines along with the allopathy medicines
- Comparison of diabetic (Madhumegam) patients having food habits of vegetarian and non-vegetarian diets
- Comparison of medicines taken before the food and after the food.
- Efficacy of Madhumege capsule alone and along with Nilavembu Kudineer
- Comparison of blood sugar level, hemoglobin (Hb), body weight, hemoglobin A1c (HbA1c), and cholesterol before taking the treatment as per the latest report of assessment.

**RESEARCH DESIGN AND DATA COLLECTION**

Retrospective analysis using questionnaire method; a total of 105 Madumegam outpatients in Gunapadam Department, NIS, were assessed by the investigator.

Following information's are collected from the questionnaires.

Food habits, occupation, walking exercise, yoga practice, food regulations, allopathic medicine, diabetic complications, and hereditary implications.

The following information's are collected from the patients' individuals' records.

Blood sugar level (fasting and postprandial), Hb, lipid profile, HbA1c, urine sugar (fasting, postprandial, and albumin), body weight, details of medicine, periodic lab investigations, and treatment period.

**Study period**

29<sup>th</sup> July, 2011, to 28<sup>th</sup> August, 2011 (1 month).

**Data analysis**

Data for 105 diabetic (Madhumegam) patients were collected and taken up for the study.

All collected data were computerized and analyzed using descriptive analyzing method and statistical significance of t-test and paired t-test.

Patients have been divided into two groups (Group I and Group II) for the study purpose.

Group I refers to the patients who take siddha medicines only.

Group II refers to the patients who take siddha medicines along with allopathy medicines.

Group I consists of 42 out of 105 patients and Group II consists of 63 out of 105 patients.

**RESULTS AND DISCUSSIONS**

Following are the important observations from the pilot study of the management of diabetes (Madhumegam).

In NIS, 40% of diabetic (Madhumegam) patients belong to Group I (i.e., taking siddha medicine only) and 60% belong to Group II (i.e., taking both siddha and allopathy medicines). This indicates that the users of both siddha and allopathy medicines are higher than the users of siddha medicines alone (Fig. 1).

The Madhumegam patients utilizing siddha medicines, belonging to the age group of 50 and above (71%) are higher than the age group of below 50 (29%) (Fig. 2).

54% of Madumegam patients are due to heredity (Fig. 3).

73% of people taking non-vegetarian food are affected with MM, and it is higher than the people taking vegetarian food (27%) (Fig. 4).

89% of MM patients are undergoing periodic lab investigations once in 3 months.

52% of Madumegam patients are taking siddha medicine before food and, 48% are taking after food (Fig. 5).

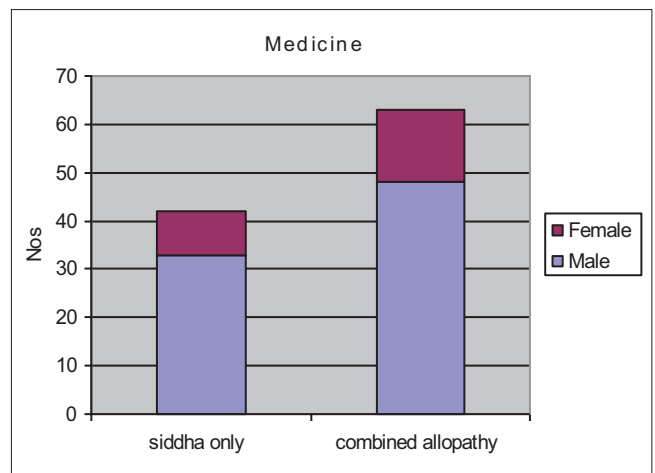


Fig. 1: Siddha and combined group

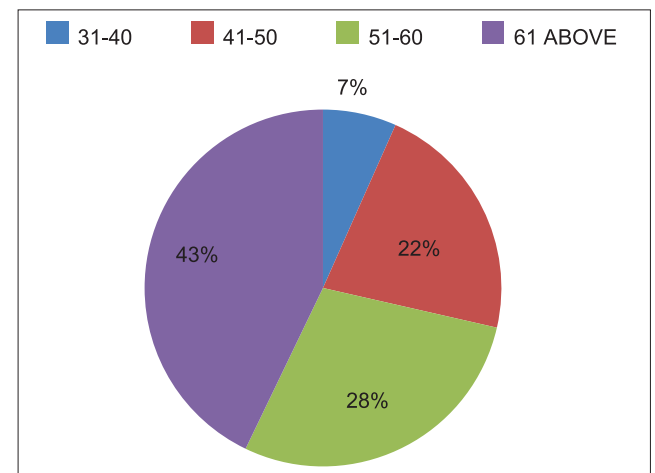


Fig. 2: Age

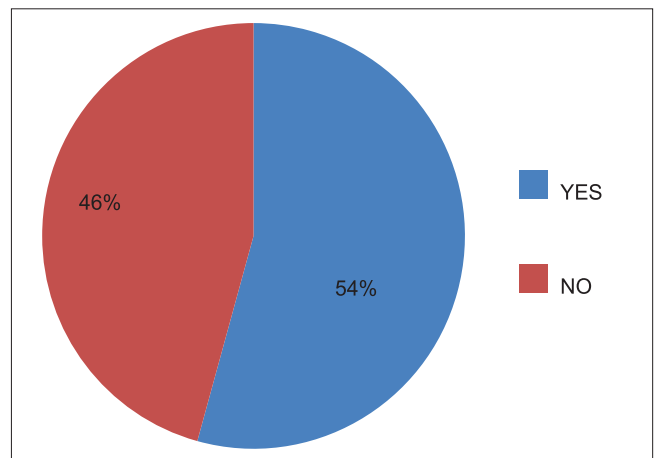


Fig. 3: Heredity

Most of the MM patients (78%) are taking MMC capsule along with Nilavembu Kudineer (Fig. 6).

Very minimum people (11%) are taking MMC capsule only.

Among MM patients, 59% are also affected with hypertension.

22% of the patients taking siddha only have got hypertension and 78% of the patients taking both siddha and allopathy have got hypertension (Fig. 7).

The mean±standard deviation (SD) of blood sugar at fasting before and after treatment was 150±50 and 122±35, respectively, for siddha alone group, whereas for siddha and allopathy group, these were 146±47 and 144±47, respectively. The statistical analysis reveals that the reduction of blood sugar for (siddha only) Group I at fasting was statistically significant (p<0.0001) and Group II (siddha and allopathy) it was not statistically significant (p=0.73) (Table 1).

The mean±SD of blood sugar at postprandial before and after treatment was 247±77 and 178±64, respectively, for siddha alone group, whereas for siddha and allopathy group, these were 237±85 and 229±80, respectively. The statistical analysis reveals that the reduction of blood sugar for (siddha only) Group I at postprandial was statistically significant (p<0.0001) and Group II (siddha and allopathy) it was not statistically significant (p=0.55) (Table 2).

The mean±SD of Hb before and after treatment were 11±1 and 12±1 respectively. The statistical analysis reveals that the increase of Hb was statistically significant (p<0.0068).

The blood sugar level of the Group I with non-vegetarian food habit is better controlled than the patients with vegetarian food habits.

Among MM patients, 78% are practicing walking regularly. Among them, male patients are 92% and it is higher than the female patients (67%) (Fig. 8).

Table 1: Fasting blood sugar comparison of two groups

Blood sugar (mg/dl)	Before treatment Group I patients	After treatment Group I patients	Before treatment Group II patients	After treatment Group II patients
Normal value	6	26	15	21
80-110				
111-150	21	7	27	15
151-200	9	8	12	10
201-300	5	1	8	16
301 and above	1	0	1	1

Table 2: Postprandial blood sugar comparison of two groups

Blood sugar (mg/dl)	Before treatment Group I patients	After treatment Group I patients	Before treatment Group II patients	After treatment Group II patients
Normal value	2	12	7	5
<140				
141-200	12	20	21	20
201-250	11	6	12	11
251-300	9	2	9	10
301-400	6	2	11	17
401<	2	-	3	-

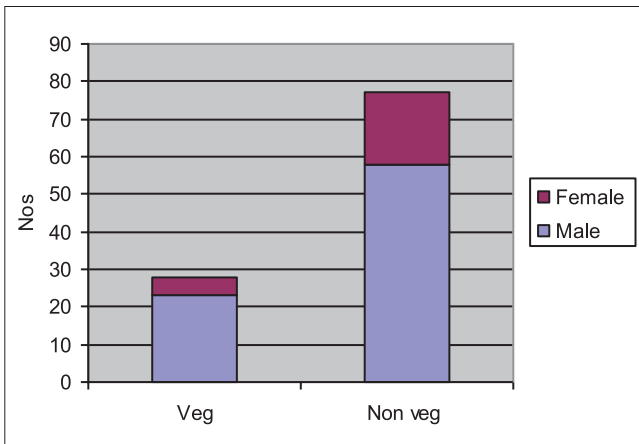


Fig. 4: Food habits

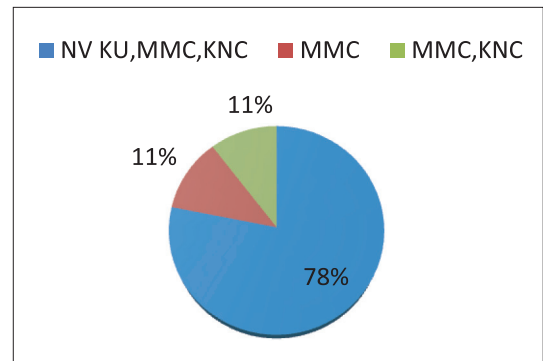


Fig. 6: Name of siddha medicines

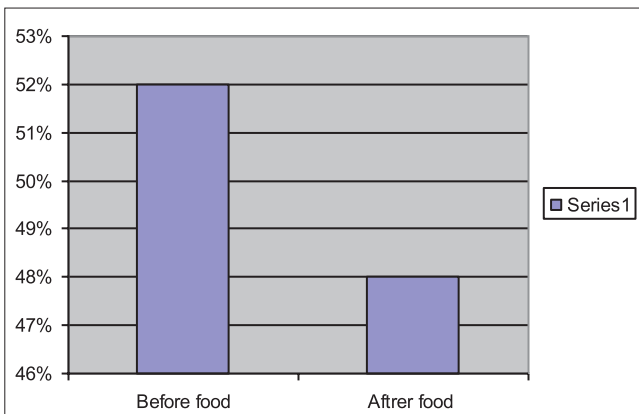


Fig. 5: Siddha medicine intake

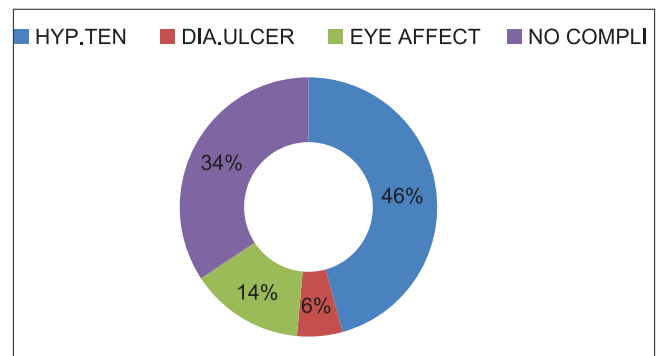
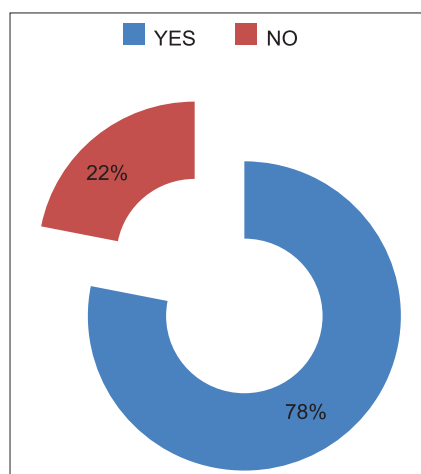


Fig. 7: Complications of diabetes



**Fig. 8: Exercise**

The monitoring of MM patients' body weight, HbA1c, lipid profile is very poor (i.e., 6%) of NIS OPDs.

Only 5% of MM patients are doing Yoga exercise regularly.

Most of the patients taking Nilavembu Kudineer feel better.

The stability of sugar level is seen in siddha group, but a marked deviation is in the combined group.

#### CONCLUSION

The siddha medicine alone treated group (Group I) shows significant reduction of blood sugar both at fasting and postprandial.

The siddha and allopathy treated group (Group II) has not shown a significant reduction. This is perhaps due to Group I patients were

diagnosed as new Madhumegam when they were reported for other illness in NIS. However, the Group II patients were already diagnosed and taking treatment in allopathy for a long period. Thus, taking of siddha treatment (Nilavembu Kudineer, MMC capsule, Keelanelli and Tripala tablet) at the initial stage helps in controlling the Madhumagam.

Moreover, proper and new monitoring strategies to be adopted with some more effective research studies to control the blood sugar level of the MM patients who take both siddha and allopathy medicines. A new therapeutic method with sastric and or newly formulated drugs may be tried at NIS for improvement of MM Group II.

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