

**COMPARATIVE STUDY OF TRIPHALA BHAVIT YAVA SAKTU AND YAVA MANTHA AS PATHYA IN THE MANAGEMENT OF MADHUMEHA W.S.R TO DIABETES MELLITUS TYPE 2****Dr. Dinesh Ishwar\***

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Article Received on 06/06/2018

Article Revised on 27/06/2018

Article Accepted on 17/07/2018

**ABSTRACT**

Diabetes Mellitus (DM) is a metabolic disorder characterized by polyuria, polydipsia, hyperglycemia, glycosuria and generalized weakness may be associated weight loss. In Ayurveda, Diabetes is known as “rich man disease” which can be understood by etiological factors of Madhumeha and it is also known as life style disorder in which main causative factor is said to be sedentary life style and dietary fault. Ayurveda includes three basic management of all diseases i.e Ahar (diet), Exercise and aushadha (drug) in which Ahar (pathya) plays an important role in the management of DM. In India 2000s, the prevalence has risen to 12% to 19% in urban areas and to 4% to 9% in rural area. Diabetes is predicted to double globally from 171 million in 2000 to 366 million 2030 with a maximum increase in India. It is predicted that by 2030 diabetes mellitus may afflict upto 79.4 millions individuals in India. Acharya Charaka yava is specially advised in prameha chikitsa due to its ruksha santarpana. Yava (Barley) is one of the most ancient cereal and best pathya in madhumeha as per Ayurveda. Triphala is also best for diabetes along with yava which is beneficial to reduce etiopathology of DM. Yava particularly high in  $\beta$ -glucan, a 50% reduction in glycemic peak can be achieved with a concentration of 10%  $\beta$ -glucan in diet where as Triphala contained Menthol and Sorbital is believed to have hypoglycemic effect and which is beneficial for DM.

**KEYWORDS:** Diabetes Mellitus (DM), Sedentary life style, Ahar (Pathya), Yava (Barley),  $\beta$ -glucan, Menthol, Sorbital.**INTRODUCTION**

Diabetes is known as “rich man disease” which can be understood by etiological factors of Prameha,<sup>[1]</sup> particularly because a person who is able to enjoy the pleasure of life usually without any exercise and sedentary life style along with junk food habitat leads to diabetes.

If Diabetes mellitus can't be treated properly patient may land into diabetic complication. Diabetes mellitus is a metabolic disorder characterized by polyuria, polydipsia, hyperglycemia, glycosuria and generalized weakness may be associated with weight loss. This is the diseases that effect every tissue and every organ of the body and is responsible for significant morbidity reduced life expectancy, and diminished quality of life. It has been seen that there is no any organ or system spared from the diabetic complication such as Nephropathy, Neuropathy, Retinopathy and so on, so there is a need for effective drugs for controlling diabetes and preventing undesirable complication.<sup>[2]</sup>

Lifestyle is a key to enjoy good health. In present era non communicable diseases threats us more than the communicable disease like Diabetes mellitus, Cardiovascular diseases most forms of cancers are the product of lifestyle related factors such as unhealthy diet, lack of physical activity, bad habit of tobacco, smoking, consumption of alcohol etc. Simple solution to it is to follow pathya i. e diet along with life style modification which plays a major role in achieving a good glycemic control.

The management of diseases and healthy life in ayurveda is based on three main pillars, Ahar (diet), Nidra and Brahmacharya where Ahara (Diet) plays an important role in the management of Diabetes. pathya is the most important pillar of treatment of diabetes having therapeutic value too. It is a known fact that pathya alone is having the capacity of preventing as well as in treating a diseases.<sup>[3]</sup> Any patient if he follows pathya properly then it as benefits equal to aushadha and if pathya is not followed properly then there is least action of medicine. only pathya can also be given preventive effect on diabetes in early stage of diabetes so pathya itself plays

an important role in diabetes mellitus. Acharya Charaka also explained that pathya is that which is good for srotas and manas. Therefore keeping the above points in view the present clinical study is Triphala bhavit yava saktu as pathya in the management of madhumeha.

### NEED OF STUDY

Diabetes Mellitus (type 2) is most prevalent Non-communicable Disease. The ayurvedic treatment for this disease is based on an entire modification in the lifestyle of the person. Along with medication, diet is also playing a major role in diabetes, the patient is also advised to lead a healthy lifestyle and live an active life along with diet. Dietary and lifestyle changes rejuvenate the body's cells and tissues, allowing them to produce insulin properly that's why pathya also plays a major role in diabetes.

For that purpose various modalities of treatment are developed which depend on the underlying pathology. Many pathya aahar dravya are present in ayurvedic texts. In present work the pathya aahar dravya "triphala bhavit yava saktu" has been used in the management of madhumeha. The selected trial dravya in astanga hrdayam pathya in prameha chikitsa aadhya,<sup>[4]</sup> to improve and maintain the quality of health and life of patient with Madhumeha.

### AIM

Comparative study of Triphala bhavit Yava saktu and Yava mantha as pathya in the management of Madhumeha.

### OBJECTIVES

1. To establish importance of pathya ahara in the management of Madhumeha
2. To make comprehensive compilation according to modern & ayurveda on Madhumeha
3. To study the Nidanpanchak of the disease Madhumeha according to the text of disease Diabetes mellitus.

### MATERIAL AND METHODS

**Study type:-** Randomized open clinical comparative study.

#### Group A

30 patients of this group have been treated with trial drug.

Triphala bhavit Yava Saktu (Patients were asked to take medicine at home daily 10 grams with honey and to maintain uniformity counseling is done prior to treatment) + routine diet according to requirement with the advice of Pathya Apathya along with metformin 500 mg twice.

#### Group B

30 patients of this group have been treated with Yava mantha (Patients were asked to take medicine at home daily 2 pal (80ml) and to maintain uniformity counseling is done prior to treatment) + routine diet according to requirement with the advice of Pathya Apathya along with metformin 500 mg twice.

#### Inclusion Criteria

- A. All the patients Presenting with signs & symptoms of Madhumeha will be taken for clinical trial irrespective of age, sex, Caste, religion, socioeconomic status.
- B. Mild to moderate cases of diabetes mellitus having fasting blood sugar within range of 121 mg/dl to 220 mg/dl and post prandial blood sugar within range of 181 mg /dl to 280 mg/dl were selected.
- C. Age group 16-70yrs.
- D. Patients on the anti-diabetic drugs will be selected.
- E. Patients with type2 diabetes mellitus are included.

**Subjective Criteria:-** Include the patient with symptoms as Prabhut mutrata (polyuria), kshuddha adhikyata (Excessive Hungry), Pippasa adhikyata (Excessive thirst), Daurbalya (weakness), kara pada daha (Burning sensation in palm and soles), Avil mutrata (Turbidity of urine)

**Objective Criteria:-** Include laboratory investigation like CBC, ESR, Blood sugar level (fasting and post prandial Blood sugar level), Fasting urine sample, HbA1c

#### Exclusion Criteria

- A) patient with known type-1 diabetes mellitus
- B) Diabetes patients associated with severe complication such as diabetes Nephropathy, Diabetes Retinopathy, Ischemic heart diseases, Gestational diabetes etc. and other systemic disorder.

#### Dietary Medicine and Duration

**Duration:-** 3 months.

Both the group were provided with a proper anti-diabetic diet chart plan according to classics. Simultaneously they were asked to maintain a routine 30 min brisk walk in morning and evening, follow up taken every 15 days. Evaluation of data through statistical estimation within the group and comparison between the group AT (after treatment) were assessed using paired and unpaired student's t test. The statistical estimations particularly sample mean, SD (standard Deviation), SEM (Standard Error of mean), Calculated t value and P (Probability) values were obtained by applying the standard formulae. For comparison of subjective parameter by Wilcoxon signed rank test was used.  $P < 0.05$  was considered as statistically significant.

**Properties of yava**Properties<sup>[5]</sup>

Rasa	Madhura, Kashaya
Guna	Ruksha, Aguru, Mrudu
Virya	Sheeta
Vipaka	Katu
Karma	Kaphapiitahara, Lekhana, Medohara, balya, agnivardhaka
Roga	Prameha, sthoulya, pleeharoga, pratishyaya

**OBSERVATION AND RESULT**

The total patients, consisting in each Group A and Group B In the clinical study maximum number (65%) of patient belongs to the age group of 53 to 70 years and 51.67% were males. Majority of them belongs to Hindu religion (81.76%), married (98.33%), house wives (33.33%), Primary Education (65%) and were from middle class (66.66%) of the society and present of family history (58.33%) the symptoms which included Prabhuta mutrata (polyuria), Kshuddha adhikyata (Excessive hungry), Pippasa adhikyata (polydipsia), Daurbalya (Weakness), Kar pada daha (Burning sensation in plam and soles), Avil mutrata (Turbidity of urine).

Mean fasting Blood Sugar values in Group A and Group B were (BT= 142.7 mg/dl & AT= 130.7 mg/dl) and (BT= 143.9 mg/dl & AT= 134.2 mg/dl) respectively. Mean Blood Sugar level (Post prandial) value in Group A and Group B were (BT= 210.9 mg/dl & AT=199.2 mg/dl) and (BT= 208.4 & AT= 203.1mg/dl) respectively. Mean fasting urine sugar level value in Group A and Group B were (BT=0.633 & AT= 0.400) respectively. Mean HBA1C value in Group A Group B were (BT= 9.043 & AT= 8.590) and (BT=8.927 & AT= 8.767) respectively by students t Test for paired data.

**Statistical Analysis**

There was statistical significant ( $p < 0.001$ ) in % of relief in Prabhuta mutrata in Group A and Group B was 50% and 37.7% respectively. In Kshuddha adhikyata there was statistically significant ( $p < 0.001$ ) in 5 of relief in Group A and Group B was 38.35% and 32.55% respectively. In Pippasa adhikyata there was statistically highly ( $P < 0.001$ ) in % of relief in Group A and Group B WAS 62.5% and 45.61% respectively. In Daurbalya there was statistically significant ( $P < 0.001$ ) in % of relief in Group A and Group B was 31.25% and 34% respectively. In Kar pada daha there was statistically significant ( $p < 0.001$ ) in % of relief in Group A and Group B was 27.94% and 21.87% respectively. In Avil mutrata there was statistically significant ( $p < 0.001$ ) in % of relief in Group A and Group B was 46.67% and 38.70% respectively.

Both Group for objective paramaters are compared and analyzed statistically by Mann Whitney's U test. There was statistically significant ( $P < 0.001$ ) in USL (Fasting), FBS, PPBS and HBA1C in Group A and B.

**DISCUSSION**

In the case of symptoms Prabhuta mutrata, Pippasadhikyata and Avil mutrata the test has shown highly significant difference between mean differences of Group A and Group B, hence concluded that Triphalabhavita Yava saktu is more effective than Yava mantha as pathya management to reduce Prabhuta mutrata, Pippasadhikyata and Avil mutrata in Madhumeha (Diabetes mellitus type II). In the case of symptoms Atikshudha, Daurbalya and Daha the test has shown highly significant difference between mean differences of Group A and Group B, hence concluded that Triphalabhavita Yava saktu is not effective than Yava mantha as pathya management to reduce Atikshudha, Daurbalya and Daha in Madhumeha.

In the case of parameters USL F, USL PP, BSL F, BSL PP and HbA1C the test has shown highly significant difference between mean differences of Group A and Group B, hence concluded that Triphalabhavita Yava saktu is more effective than Yava mantha as pathya management to reduce USL F, USL PP, BSL F, BSL PP and HbA1C in Madhumeha (Diabetes mellitus type II).

Yava have kashayarasa and rukshaguna due to which reduces the excess amount of kleda from body by its shoshana effect, and it also able to decrease the appetite of patient, so that the food intake of the patient decreases which maintain the good glycemic control. Yava also palyas an important role on obesity which is a key factor to maintain good glycemic control i.e Lekhana guna of yava makes Madhodhatu vilayana which helps in reduce in Medodusti indirectly help in reducing obesity. As yava contain dietary fibers which play an important role in digestion. yava as pureeshavardhaka properties it act as doshanulomana. Recent Research states that Cereals such as barley are particularly high in the soluble fiber  $\beta$ -glucan, a 50% reduction in glycemic peak can be achieved with a concentration of 10%  $\beta$ -glucan in a cereal food. A significant lowering of serum cholesterol concentrations can also be anticipated with the daily consumption of  $\geq 3$  gm of  $\beta$ -glucan.<sup>[6]</sup> As Triphala is using as bhavna to yava saktu which also has good effect on madhumeha. The supplementation of Triphala revealed significant lowering in the blood glucose level at 5gm level Quantity. Triphala contained the active ingredient Menthol and sorbitol which is believed to have hypoglycemic effect. The glucose lowering effect (Fasting and Post prandial) could have due to action of active ingredients.<sup>[7]</sup>

**CONCLUSION**

1. Madhumeha can be correlated with Diabetes Mellitus type 2.
2. Prevalence of Madhumeha is increasing day by day.
3. According to classics madhumeha is due to kapha Medha mutra vardhaka. The observation found in the study are concordant to this description. Tendency towards sedentary life style and faulty Dietary habit

leads to vitiation of kapha and Meda leading to Madhumeha.

4. Nidan like ahara, vihara and manasika plays an important role in Madhumeha. In this study some of diabetic cases reveal faulty dietary, sedentary life and stress factor which are also predisposing factors that commonly observed.
5. Madhumeha mostly prevalent in middle aged people.
6. Housework, Service and Retired are found more prone to Madhumeha.
7. No physical activity (no Exercise), Mishiri habits, irregular bowels and disturbed sleep due to stress factor are the early indicators of Madhumeha.
8. According to study, Exertion also plays an important role in Madhumeha.

#### REFERENCE

1. Raja radha kanta deva, shabda kalpadram, 3rd edition chaukamba sanskrit series office, varanasi, part 2, part 4.
2. BN upadhyay, V gupta -AYU. ayujournal.org, 2011.
3. Pathyapathya nirnaya.
4. Agnivesha, caraka samhita elaborated by caraka & drdhabala with ayurved dipika commentary of cakrapanidatta, edited by vaidhya jadavaji trikamji, published varanasi, 4th edition, indriya sthana, 2008; 9/7-9: 896.
5. Ashtanga hrudayama of sarth vagbhata edited by dr.ganesh.k.garde published by Anmol prakashan 10<sup>th</sup> edition, 2007; 287.
6. Bhavprakash nigantu 2<sup>nd</sup> Edition, 28-30.
7. Ancient Science of Life vol; no XVII jan, feb, mar- Hypoglycemic effect of Triphala on selected NIDDM subjects Sowmya s Rajan and Seema Antony, 2008.