

## **ROLE OF EXERCISE (VYAYAM), LIFESTYLE INTERVENTION AND YOGA IN THE MANAGEMENT AND PREVENTION OF MADHUMEHA (DIABETES MELLITUS)**

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### **ABSTRACT**

Diabetes mellitus is one among refractory disease condition recognized by medical scholar of ancient India. Ayurveda laid the concept of Dincharya (Daily regimen), Ritucharya (Seasonal regimen), Sadavritta (Social conduct) for healthy lifestyle but in current era hardly any one follow as a result there is rise in metabolic disorder. Diabetes Mellitus being the most threatening among them and it cant be treated by medicine alone and without proper control and prevention its prevalence will increase upto 438 millions in 2030. Present paper highlight a role of exercise and regular practice of yoga and exercise. Yoga play a significant role in management of weight, sugar level controlling and its complication. Yoga include asana, meditation

pranayama, breathing, exercise, and most important of all, attaining eternal peace, and provide an ideal care for prevention and its management of Diabetes mellitus.

**KEYWORD:** Diabetes Mellitus, Exercise, Yoga, Madhumeha, Asana.

### **INTRODUCTION**

The Incidence of Diabetes Mellitus is rising globally, it is estimated that 366 million people had Diabetes in 2011 (approx. 8.35%) of world population. The figure is expected to reach 552 million by 2030. Similarly in Ayurveda a condition in which a person passes honey like (sweet) urine is called Madhumeha. Asya sukha<sup>[1]</sup> (sedentary lifestyle), Atinidra (excessive sleep), Avyayam<sup>[2]</sup> (lack of exercise), Achinta (lack of mental exercise) are the

causes of Madhumeha. Acharya Sushruta explained that its treatment or prevention is not employed to all varieties of prameha at the appropriate time converted to madhumeha.<sup>[3]</sup>

Diabetes is characterized by high Blood Sugar, Insulin resistance, lack of Insulin with symptoms like increase thirst, appetite, frequent urination and fatigue. Diabetes is not associated just with the mentioned symptoms but with risk of microvascular disease but is connected with an increase risk for large vessel disease i.e atheroma leading to Myocardial infarction.<sup>[4]</sup> Due to lack of physical activity /improper eating habits / stress factors related to occupational / emotional lead to metabolic disorder so its importance to stress on lifestyle medication and about 30% of type 2 diabetes is preventable by changing diet, increasing physical activities. Yoga has been considered as one of the corner stone in the management.

### **AIM AND OBJECTIVES**

- To Review the Effect of Yoga, Lifestyle Intervention, Exercise in the prevention of Madhumeha.

### **MATERIAL AND METHOD**

life style intervention and yoga was prepared on the ayurvedic principle Following material is collected and reviewed from

- Charak Samhita, Uttarkhand, Chikitsa Sthanam, Chapter-6/4, Pg.227.
- Sushrut Samhita, Vol-3, Nidansthanam, Chapter-6/3, Pg.45.
- International Journal of Yoga and Allied Science.
- Diabetes mellitus (madhumeha).

### **Some lifestyle modification**

- Getting early in morning (Brahma muhurat jarana).
- Brisk walking (Charakmana).
- Light massage (abhyanga).
- 15 min walk after lunch.
- Sleep for 6 hours -7hours only during night.
- Avoid sleeping during day time (divaswap).
- Avoid excessive intake of sweet/ meat/ milkproduct.
- Avoid fast food /fried /junk/ fermentated food.
- Stress-occupational/personal / any other.

**Exercise and madhumeha**

Exercise causes profound changes in glucose homeostasis and regular physical activity enhances insulin sensitivity/glycemic control, muscle glucose uptake increase during exercise.

The main cause of Madhumeha is lack of exercise. According to Acharya Charak has mentioned that madhumeha gets immediately cured by different types of strenuous exercise which help in putting down aggravated klesh, medha (adipose tissue) and kapha which is the main etiological factor for the disease.

**Yoga and Madhumeha**

Yoga stimulates the organs which in turn improve metabolic activity. Stretching various glands results in increasing efficacy of the endocrine system. However, the underlying premise of mind-body exercise modalities like yoga is that the physiological state of the body can affect emotion, thoughts and attitudes, which in turn have a reciprocal effect on the body.<sup>[5]</sup> Yoga is a preventive measure for madhumeha. Following are the yoga to be done.

**Madhumeha and Yoga****Sr. no. Yoga Benefit**

1. Suryanamaskar (yoga)<sup>[6]</sup> Increase the blood supply to various parts of the body which help to burn out the excessive fat and fat.
2. Kapalbhati (Pranayama)<sup>[7]</sup> Is the best option for diabetes as it stimulates the vagus nerve by contraction of abdominal muscle and has the best effect in reducing depression and increases insulin secretion from the pancreas.
3. Anulom Vilom Is the best option for diabetes as it stimulates the vagus nerve by contraction of abdominal muscle and has the best effect in reducing depression and increases insulin secretion from the pancreas.
4. Asanas<sup>[8]</sup> Asana is stability and comfort experienced in position due to various twisting, stretching and strain in the body. Internal organs are stretched and subjected to strain, which increases the efficacy and function of the organ which also increases the function of the endocrine system.
5. Mandukasana<sup>[9]</sup> Stimulates the pancreas to stimulate more insulin, improve insulin secretion.<sup>[10]</sup>
6. Ardha Matsyendrasana This stimulates kidneys, pancreas, small intestine, gall bladder and liver which help for digestion and to remove toxins from the body.<sup>[11]</sup>

7. Sarvangasana improve function of pancreas and intestine which help in controlling sugar.
8. Dhanurasana<sup>[12]</sup> increase blood circulation, better circulation improves amount of insulin to act upon the blood glucose level at the skeletal muscle site to utilize the blood glucose.

### **Halasana<sup>[13]</sup>**

It stimulates pancreases, spleen and activates immune system.

Asanas have positive effect on pancreases and also insulin function to get best result asanas has to be done for longer duration.

### **Meditation<sup>[14]</sup>**

It is an important stage of yoga. It helps in stretching and rejuvenates in madhumeha exercise and yoga therapy are complementary to each other; they reduce the sugar level in the body resulting in lesser need of insulin. Meditation also helps to reduce stress, relax and refresh too.

## **CONCLUSION**

Diabetes mellitus is a metabolic disorder that cannot be treated by medicine alone. According to Ayurveda it is called Yappa disease (not totally curable/difficult to cure) that cannot be merely treated by medication and dietary regimen alone so use of exercise, asanas and yoga which not only help to reduce symptoms but also ensure a good glycemic control and increase the quality of life right to a happier and healthier life. So need to emphasize for more clinical research to find the exact remedy.

## **DISCUSSION**

It is a low cost strategy to maintain the blood sugar level in an individual and implementation of these asanas, yoga and exercise in regular to daily activity. It is an inexpensive lifestyle intervention. Now a days most of the individuals have adopted sedentary lifestyle and there is lack of physical activities and effectiveness of the management becomes less, in this condition the role of yoga and exercise seems to be very beneficial and indirectly help in prevention of madhumeha (Diabetes Mellitus). Yogic exercise is type of muscular exercise recent studies shown that yoga may reduce stress, improve metabolism, regulate autonomic nervous system, alter hypothalamopituitary adrenal system which act as neural mediators of hyperglycemia. Exercise is specific type of physical activity, which reduces the consequences of diabetes like morbidity, pathogenesis and mortality. study reveals, moderate

exercise also reduce the risk of diabetes considerably.

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