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Analytical approach of yoga in management of Type II diabetes mellitus

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Abstract

Diabetes mellitus is a metabolic disorder as well as lifestyle disorders which has become the leading cause of death worldwide. It is also associated with many other diseases like kidney failure, heart failure, blindness, atherosclerosis etc. The treatment modalities in Type II DM are only limited to correction of hyperglycemia and dyslipidemia but the pathology of disease still remain untreated leading to different complications. *Yoga* is a traditional and cultural science of India and offers a balanced approach in treating diabetes as it affects both body and mind. The previous researches indicate *Yogic Asanas* to be effective and safe intervention for prevention of Type II Diabetes mellitus. The *Asanas* may improve the risk profiles in adults with DM II and proved to be effective in prevention and management of cardiovascular complications in growing population. This article critically reviews the published literature and to understand the roles of *Yogic Asanas* with Type II DM.

Keywords: diabetes mellitus type ii, yoga, asanas

Introduction

The growing epidemiology of lifestyle diseases such as obesity, hypertension, bronchial asthma, diabetes etc were increasing tremendously. The prevalence of DM in India was around 31.7 million which topped the world with the highest number of people with diabetes mellitus followed by China i.e. 20.8 million and in United States was around 17.7 million which occupy second and third place respectively. In a study conducted by Wild S *et al.* indicate the prevalence of diabetes was predicted to get double globally from 171 million in 2000 to 366 million in 2030 with a maximum increase in India ^[2, 3]. It is predicted that by 2030 diabetes mellitus may afflict up to 79.4 million individuals in India, while China had 42.3 million cases followed with 30.3 cases in United States. India currently faces an uncertain future in relation to the potential burden that diabetes may impose upon the country ^[4].

Diabetes mellitus is a metabolic disorder that results in development of hyperglycemia over a prolonged period of time and it affects one's body's ability to use the energy found in food. The continuous hyperglycemia in blood produces the symptoms like polyuria (frequent urination), polydipsia (increased thirst), and polyphagia (increased hunger), generalized weakness, weight loss, numbness, tingling etc ^[5]. In Diabetes the pancreas were unable to produce sufficient amount of insulin or when the body cannot effectively use the insulin it produces ^[6].

A significant number of anti-diabetic agents were available in order to correct hyperglycemia and dislipidemia generated by diabetes pathology lead to high risk profile due to long term use of these drugs ^[7]. Hence there is need of some better, natural, effective and low cost therapeutic measures to treat diabetes by alternative way. *Yoga* is an extraordinary spiritual science of self development and self realization that shows us how to develop our full potential in our many sided live physical, vital, mental, emotional, psychic and spiritual. *Yoga* as a way of life is more true to its ancient tenets. It constitutes *asanas*, regulated breathing (*pranayama*) and awareness of *yoga sutras* (principles) that govern the mind ^[8]. Regular practice of *yoga* enhances awareness of mind and body, which is needed for self management of diet and exercise plan in diabetes. *Yogic* discipline with its *Asanas*, *pranayama*, and meditation is a way to good health. This ancient therapy helps in treating diseases, which eventually improves personal efficiency and assists in achieving mental peace. When *yoga* becomes a lifestyle, it

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effects a radical transformation in an individual. Any health conscious person would turn to *yoga* and reap the benefits it offers.

Relevance of Yoga as treatment modality in Type II DM

Swami Satyanand Saraswati states that *Yoga* is not an ancient myth buried in oblivion. It is the most valuable inheritance of the present. It is essential need of today and culture of tomorrow. The many methods of *yoga* span of vast range from physical postures to breathing practice, mantra and meditation, all based upon a philosophy of consciousness and natural way of life.

The recommendations for asana practice to change the stress response are different in different traditions. A *Yoga* practice that focuses only on physical remedies is limited, for it deals only with physiology and not psychology. Similarly, a practice that is formed around moral precepts and exhortations to change one's lifestyle has distinct limitations, for behavior modification is not simple.

Yogasana often been thought of as form of exercise are really techniques which play in keeping the physical body in position and in cultivating awareness, relaxation concentration and meditation. *Asana* is complementary to exercise because in this process there is development of good physical health by stretching, massaging to affect body mechanism. *Asanas* are designed to have specific effects on the glands and internal organs, and to alter electrochemical activity in the nervous system. *Yoga* is a no drug therapy also it is free of cost and effective therapeutic measure. The *Yoga* asana are very useful for diabetes mellitus patients as its pathology covers all the system of the body and by practicing these asana can revert the whole disease process.

The previous research reveals the usefulness of *yoga* in diabetes mellitus. The fasting and postprandial blood glucose levels came down significantly when patients were advised to practice certain *yoga* asana. The attained good glycaemic index can be maintained for long periods of time. There was significant reduction in use of drug requirement as well as the incidence of acute complications like infection and ketosis was significantly reduced by practicing *yoga* asana. There were significant changes in the insulin levels, free fatty acids, cholesterol and oxidants levels have been observed in different studies. Apart from these benefits significant decrease in the gross body mass, body mass index and waist hip ratio observed these patients. An improvement in insulin sensitivity and decline in insulin resistance also reported in the diabetic patient practicing *yogasana* daily^[9, 10].

The *asanas* are classified in to three groups- beginners, intermediate, and advanced. It is not necessary to perform all the asana in a particular group. Regular practice of a balanced program, tailored to individual needs is recommended for maximum benefit. The beginners group should be performed by those who have never practiced *yogasanas* before. Only a selection from this group, tailored to individual needs, should be practiced by those who are inform in any way, weak or sick. They will give greater benefits than more difficult practices. These are very useful in improving physical health there are thousands of asana described by ancient scholars for healthy individuals but out of them following asana and *pranayam* are more beneficial for diabetes mellitus patients are *Naukasana* (Boat Pose), *Bhujangasana* (Cobra Pose), *Halasana* (Plough Pose), *Vajrasana* (Thunderbolt Pose) *Yogamudra* (Chic Union Pose), *Shalabasana* (Ocust Pose), *Dhanurasana* (Bow Pose), *Ardha matsyendrasana* (Half Spinal Twist), *Shavasana* (Corpse Pose), *Makarasana*

(Crocodile Pose), *Surya Namaskar* (Sun Salutation), *Kapalbhati*, *Anulom Vilom Pranayam* and *Yoganidra*.

Conclusion

Yoga has now become the part of Indian lifestyle. The real comfort lies in attainment of good health. Disease free condition and contentment at the level of mind are essential components of happiness. *Yoga* serves as integral part for physical and mental health^[11]. The previous studies reveal the role of *yoga* in diabetes patient's *yoga* which significantly decreases the fasting blood sugar and postprandial blood sugar level, glycosylated haemoglobin (HbA1c) as well as correct dyslipidemia, basal metabolic rate and waist hip ratio. Autonomic nervous system generally involved in diabetic patients but by practicing *yoga*, a positive impact also noted on autonomic function of body. So we can say that *Yoga* is a boon for Diabetics if it is done under strict supervision.

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