

Selected Yoga Poses for Diabetes Patients A –Systematic Review

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Abstract

The science of yoga is an ancient one. It is a rich heritage of our culture. Several older books make a mention of the usefulness of yoga in the treatment of certain diseases and preservation of health in normal individuals. The effect of yogic practices on the management of diabetes has not been investigated well. We carried out well designed studies in normal individuals and those with diabetes to assess the role of yogic practices on glycaemic control, insulin kinetics, body composition exercise tolerance and various co morbidities like hypertension and dyslipidemia. These studies were both short term and long term. Yoga therapists prescribe specific regimens of postures, breathing, exercise and relaxation techniques to suit individual needs. Medical research shows that yoga therapy is among effective complementary therapies for several common ailments. Hence it has been concluded that Yoga cannot “cure” diabetes, but there are several ways yoga can be beneficial in controlling diabetes. There was a decrease in free fatty acids. There was an increase in lean body mass and decrease in body fat percentage. The number of insulin receptors was also increased. There was an improvement in insulin sensitivity and decline in insulin resistance. All these suggest that yogic practices have a role even in the prevention of diabetes.

Keyword: Yoga, Diabetes.

INTRODUCTION

There are different approaches to yoga including spiritual, therapeutic, and developmental. However, the underlying premise of mind–body exercise modalities like yoga is that the physiological state of the body can affect emotions, thoughts, and attitudes, which in turn have a reciprocal effect on the body. Diabetes mellitus has reached epidemic proportions worldwide as we enter the new millennium. The World Health Organization (WHO) has commented there is ‘an apparent epidemic of diabetes, which is strongly related to lifestyle and economic change’. Over the next decade the projected number will exceed 200 million. Most will have type-2 diabetes, and all are at risk for the development of complications. The science of yoga is an ancient one. It is a rich heritage of our culture. Several older books make a mention of the usefulness of yoga in the treatment of certain diseases and preservation of health in normal individuals. It has now become the subject of modern scientific evaluation. Apart from its spiritual philosophy, yoga has been utilized as a therapeutic tool to achieve positive health and cure disease. This concept is promoted in Hatha yoga and Ghatashta yoga by the yoga preceptors. Interest has been evinced in this direction by many workers and studies on the effect of yoga on hypertension, diabetes, asthma, obesity and other common ailments have been carried out. Diabetes by the following mechanisms: exercise effect, changes in biochemical and hormonal profile, elimination of stress and instilling a sense of discipline. To assess these postulations normal individuals and diabetics were investigated with a carefully chalked out protocol for the effect of yogic practices on exercise tolerance, obesity, hypertension, and insulin kinetics and lipid metabolism. Diabetes represents a spectrum of metabolic disorders, which has become a major health challenge worldwide. The unprecedented economic development and rapid

urbanization in Asian countries, particularly in India has led to a shift in health problems from communicable to non-communicable diseases. Of all the non-communicable diseases, diabetes and cardiovascular diseases lead the list.

Medical research shows that yoga therapy is among effective complementary therapies for several common ailments. Hence it has been concluded that Yoga cannot “cure” diabetes, but there are several ways yoga can be beneficial in controlling diabetes. If medically prescribed regimens are followed by diabetic patient, they can safely add yoga to their treatment. Due to the potential impact on their glucose levels, and overall body function, great strides can be made through regular committed yoga practice. Therefore, regular practice of yoga may prevent and control the status of diabetes mellitus and produce optimum healthy population.

Diabetes Mellitus (DM)

Commonly referred to as diabetes, is a group of metabolic disorders in which there are high blood sugar levels over a prolonged period. Symptoms of high blood sugar include frequent urination, increased thirst, and increased hunger if left untreated, diabetes can cause many complications. Acute complications can include diabetic and ketoacidosis, hyperosmolar hyperglycemic state, or death. Serious long-term complications include cardiovascular disease, stroke, chronic kidney disease, foot ulcers, and damage to the eyes. Diabetes is due to either the pancreas not producing enough insulin or the cells of the body not responding properly to the insulin produced.

There are three main types of diabetes mellitus:

- Type 1 DM results from the pancreas's failure to produce enough insulin.^[2] This form was previously referred to as "insulin-dependent diabetes mellitus" (IDDM) or "juvenile diabetes" The cause is unknown.
- Type 2 DM begins with insulin resistance, a condition in which cells fail to respond to insulin properly. As the disease progresses a lack of insulin may also develop.^[9] This form was previously referred to as "non insulin-dependent diabetes mellitus" (NIDDM) or "adult-onset diabetes". The most common cause is excessive body weight and insufficient exercise.
- Gestational diabetes is the third main form, and occurs when pregnant women without a previous history of diabetes develop high blood sugar levels.

Prevention and treatment involve maintaining a healthy diet, regular physical exercise, a normal body weight, and avoiding use of tobacco. Control of blood pressure and maintaining proper foot care are important for people with the disease. Type1 DM must be managed with insulin injections. Type 2 DM may be treated with medications with or without insulin. Insulin and some oral medications can cause low blood sugar. Weight loss surgery in those with obesity is sometimes an effective measure in those with type 2 DM. Gestational diabetes usually resolves after the birth of the baby.

Best Yoga Poses for Diabetics

You can perform the following sequence in the given order.

1. Pranayama

Breathing in deeply and breathing out helps oxygenate your blood, and improves circulation. It also calms the mind and gives your rattled nerves some much needed rest.

Procedure: Sit on a yoga mat on the floor. Fold your legs in either padmasana or sit cross legged. Now straighten your back, keep your chin parallel to the floor, place your hands on your knees with your palms facing upwards and close your eyes. Breathe in deep and hold your breath for five counts. Exhale slowly. Repeat this process at least ten times. Once you are done, rub your palms together till they are warm, and place them on your eyes. Now slowly open them and smile

2. *Setubandhasana*

This pose not only helps keep one's blood pressure in control it also helps to relax the mind, improves digestion.

Procedure: Neck and head are flat on the mat and the rest of your body is in the air. You can use your hands to push down for added support. If you are flexible you can even clasp your fingers just below your raised back for that added stretch. The key here is to not overexert or hurt you while doing this pose

Tips: Avoid doing this pose if you have a neck or back injury.

3. *Balasana*

Known quite aptly as the child's pose this is a great stress buster. It gently stretches the hips, thighs and ankles, calms the mind and helps relieve stress and fatigue. It is also a great remedy for that lower back pain you might have from long hours of sitting.

Procedure: Sit on the floor with your weight on your knees. Now flatten your feet onto the floor and sit on your heels. Spread your thighs apart a little. Exhale and bend forward from your waist. Let your stomach rest on your thighs and extend your back. Now stretch out your arms in front of you to elongate the back. You can also rest your forehead on the floor. This may require flexibility, so don't push your body beyond its limit. You will get better with time. This is a resting pose so you should ideally breathe at a normal pace. You can stay in this pose for as long as three minutes or as little as five counts.

Tips: If you are pregnant, have a knee injury or have diarrhea do not do this pose.

4. *Vajrasana*

This is a simple pose that is great to relax the mind, improve digestion and massages the kanda. According to Ayurvedic principles, kanda is a spot about 12 inches above the anus that is the point of convergence for over 72,000 nerves.

Procedure: All you need to do is place a yoga mat on the floor. Kneel on the mat, and let the top surface of your feet touch the mat, such that your heels are pointing upwards. Now gently place your buttocks on your heels. It is important to note that your heels are on either side of your anus. Now place both your palms on your knees, facing downwards. Close your eye and breathe in deeply at a steady rate.

5. *Sarvangasana*

This pose is essentially known for its ability to regulate the working of the thyroid glands. These glands are responsible for the proper functioning of the entire body including the digestive, nervous, reproductive system, regulating metabolism and respiratory system.

Procedure: Lie on a yoga mat with your legs extending outwards. Now slowly raise your legs either by first folding them at the knees or by lifting them straight. Place your palms along your back and hips to support it, and raise your body while pointing

your toes to the ceiling. All your weight should be on your shoulders. Make sure you breathe slowly and lock your chin into your chest. Your elbows should be touching the floor and your back should be supported. Hold this pose for as long as you are comfortable. To return to the lying position, slowly lower your body. Do not fall back to the lying position.

Tips: do not do this pose if you suffer from any neck or spinal injuries. If you do have high blood pressure, perform this exercise only under supervision.

6. *Hal asana*

This pose is great for those who sit for long hours and tend to have bad posture. It stimulates the thyroid glands, parathyroid glands, lungs and abdominal organs, therefore helping the blood rush to your head and face, improves digestion and keeps the hormonal levels in check.

Procedure: Lie flat on the floor with your feet flat stretched out. Place your arms by your side and bend your knees so that your feet are flat on the floor. Now, slowly raise your legs from the hips. Place your hands on your hips as you raise them and use your hands as support. Now slowly bend your legs at the hips and try to touch the floor behind your head with your toes and straighten your hands so they are flat on the floor. Breathe out while going up. To return to the lying position gently rolls your back onto the floor; breathe in while you come down. Do not drop down suddenly.

Tips: If you suffer from liver or spleen disorders, hypertension, have diarrhea, are menstruating or have suffered a neck injury, avoid doing this pose.

7. *Dhanurasana*

This pose is great to strengthen your back and spine, stimulate the reproductive organs.

Procedure: Lie on your stomach with your feet hip-width apart and your arms by the side of your body. Fold your knees and hold your ankles. Breathing in, lift your chest off the ground and pull your legs up and back. Look straight ahead with a smile on your face. Keep the pose stable while paying attention to your breath. Continue to take long deep breaths as you relax in this pose. But don't get carried away! Do not overdo the stretch. After 15 -20 seconds, as you exhale, gently bring your legs and chest to the ground. Release the ankles and relax.

Tips: Do not practice this pose if you have high or low blood pressure, hernia, and neck injury, pain in the lower back, headache, migraine or a recent abdominal surgery or if you are pregnant

8. *Paschimotasana*

This is a forward bending pose that helps the blood to flow to the face. Apart from that, it helps the stomach function better, strengthens the thigh muscles and relaxes the back and arms.

Procedure: Sit with your legs stretched out on the floor. Next hold the big toe of your feet with your index finger and thumb. Now, exhale and slowly bend forward and try to touch your forehead to your knees. The key is that your elbows should touch the floor. Do not breathe in. Stay in this position for five counts and inhale as you rise back to the sitting position.

Tips: If you have any type of back pain or complaints with your spine, do not do this pose. Moreover, be easy on yourself, you might not be able to touch your knees with

your forehead. Know that if you keep at it you will regain your flexibility and be able to do the pose properly.

9. *Ardha Matsyendrasana*

This asana is specifically designed to increase the capacity of your lungs so it can inhale and hold more oxygen. It also loosens up the spine and relieves backaches and discomfort in the back

Procedure: Sit up with your legs stretched out straight in front of you, keeping your feet together and your spine erect. Bend your left leg and place heel of your left foot beside your right hip (optionally, you can keep your left leg straight). Now, Take the right leg over your left knee and place your left hand on your right knee and your right hand behind you. Twist at the waist, shoulders and neck in this sequence to the right and look over the right shoulder. Hold and continue with gentle long breaths in and out. To come back to the starting position, continue breathing out, release the right hand first (the hand behind you), release the waist, then chest, lastly the neck and sit up relaxed yet straight. Repeat to the other side. Breathing out, come back to the front and relax.

Tips: If you have a back injury does this pose only in the presence of a certified trainer

10. *Shalabhasana*

It strengthens the whole body, particularly the lungs, abdominal organs, sciatic nerves, prostate glands and the kidneys. It also provides relief in cases of diabetes, constipation, dyspepsia, bronchitis, etc.

Procedure: Lie on your stomach with legs stretched, and feet together, chin resting on the ground. Keep both your hands under the thighs. While inhaling, slowly lift both your legs upwards and stretch as far as possible without bending the knees and toes. Retain this position for some time and then, while exhaling, lower your legs slowly and bring back to the original position. Repeat this three to four times.

Tips: Persons suffering from hernia, cardiac complaints and ulcer should avoid this asana.

CONCLUSION

Based on the results of studies we had postulated that yogic practices help in controlling diabetes by the following mechanisms: exercise effect, changes in biochemical and hormonal profile, elimination of stress and instilling a sense of discipline. To assess these postulations normal individuals and diabetics were investigated with a carefully chalked out protocol for the effect of yogic practices on exercise tolerance, obesity, hypertension, and insulin kinetics and lipid metabolism. Along with well balanced diet and nature cure treatment, Yoga should be done for good control of blood sugar level. Asana, specifically useful to improve functions of the liver, digestive system and pancreas are beneficial in treating diabetes.

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