

Therapeutic Potential Of Yoga Practices In Management Of Diabetes

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Abstract

In India 72 million people are suffering from DIABETES as per the record of 2017 which is expected to double by 2025. The prevalence of diabetes in adults aged 20 years or older in India increased from 5.5% (4.9-6.1) in 1990 to 7.7% (6.9-8.4) in 2016. The prevalence in 2016 was highest in Tamil Nadu. Diabetes is more in urban locales than rural parts. The reasons of diabetes happening in many is varied but the major reason is genetic. Due to this many people are becoming mentally depressed & they feel that at the age of 50 yrs, they are going to have DIABETES just like their parents. This results into stress diabetes which has become common amongst all the Indians. Medicines are commonest curative remedy in India but I am proposing through this article some remedies through YOGA. This article doesn't guarantee 100% result but it is preventive remedy for DIABETES.

Key words – Diabetes, Yoga, Preventive Remedy.

INTRODUCTION

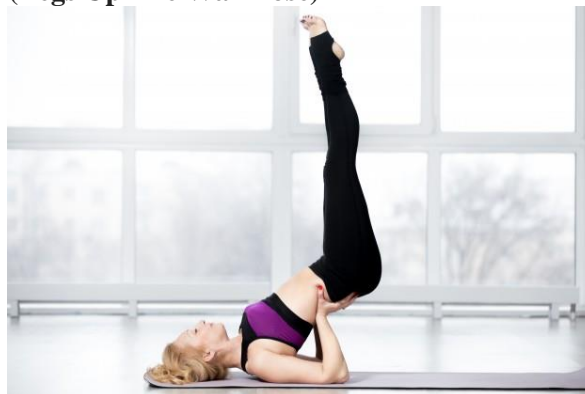
The fastest rising long-term illness affecting millions of people worldwide is diabetes. According to the International Diabetes Federation (IDF), 463 million people in the world and 88 million in the Southeast Asian region have diabetes in 2020. 77 million of the 88 million population belong to India. According to the IDF, the prevalence of diabetes in the population is 8.9 percent. Type 1 and type 2 are two forms of diabetes. Insulin-dependent diabetes mellitus is called type 1 diabetes and develops at a younger age or in childhood^{1,2,3}. There is a complete absence of the hormone insulin in these patients, which needs external hormone administration frequently as a treatment. Around 75% of people with diabetes have diabetes mellitus type 2. This was historically referred to as diabetes mellitus non-insulin - dependent (NIDDM) or maturity-onset diabetes mellitus. The number of individuals with Type 2 diabetes is growing rapidly^{4,5}. Not enough insulin is developed for type 2 diabetes or the insulin produced by the body is inadequate to satisfy the body's needs. Type 2 diabetes is predisposed to obesity or being overweight. In pregnant women who never had diabetes before, but who have high blood sugar levels during pregnancy, gestational diabetes exists. Some 4 percent of all pregnant women are affected by gestational diabetes. The mother may continue to develop type 2 diabetes after delivery. The

hormone insulin, released by the beta cells of the pancreas, determines how much glucose is in the blood in normal people^{6,7}. Insulin allows cells to consume enough glucose from the blood for the energy they require when there is excess glucose in the blood. The liver is also activated by insulin to consume and store any surplus blood glucose. Insulin release is caused when there is an increase in blood glucose after a meal. As blood glucose levels fall, insulin levels also fall during exercise. A second pancreas-secreted hormone is called glucagon. It has the opposite function of stimulating (when necessary) the liver to release glucose. The predominant three signs of diabetes-polydipsia, polyphagia and polyuria. These suggest increased appetite, increased hunger and increased urination frequency^{8,9}. Furthermore, patients complain of feeling very exhausted and losing weight and losing muscle bulk. Type 1 diabetes can grow rapidly, over weeks or even days, while type 2 diabetes can gradually develop. High blood glucose is seen in diabetes due to lack or insufficiency of insulin. Blood vessels may be impaired by excess glucose in the blood. This results in many complications, such as heart failure, damage to the kidney, damage to the nerves, damage to the eyes and blindness, impotence and stroke. Diabetes can increase the propensity for infections when not managed^{10,11}. Uncontrolled diabetes is common with infections and gangrene of the lower limbs. If severe, this can necessitate an amputation. People with diabetes are also 15 per cent more likely than people without the disease to have an amputation. By adhering to medical advice and holding diabetes under control, the risk of complications with diabetes can be reduced. It is best to control blood sugar periodically so that any complications can be identified and handled early. Treatment requires a balanced diet and exercise, as well as oral blood sugar management medications. One or more injections of insulin a day may be needed in both type 1 and extreme uncontrolled type 2 diabetics^{12,13,14}.

Research conducted over the past few decades has shown that a lifestyle focused on yoga leads to diabetes control. In lowering blood glucose, HbA1c, triglycerides, total cholesterol and VLDL (very-low-density lipoprotein), a yoga-based lifestyle change programme is rather more effective than exercise-based life style modification. In type 2 diabetics, yoga is better than exercise in minimising the need for oral hypoglycemic medication and LDL (low-density lipoprotein) and increasing HDL (high-density lipoprotein). Studies say that yoga can be integrated into both primary and secondary prevention services for type 2 diabetics in clinical practice, a non-expensive method that has become popular across the globe with strong acceptability and generalizability.

Following are the various yogasanas which are extremely helpful for diabetes control:

1. VIPARITA KARANI (Legs Up The Wall Pose)¹⁵



This restorative inversion allows for relaxation. This helps lower stress levels, which may in turn help lower blood sugar levels. It can also help relieve headaches, boost energy, and increase circulation.

Muscles involved: hamstrings, pelvic muscles, lower back, front torso, back of the neck.

Procedure: Put up a PILLOW to sit on. Sit with your right side against a wall. Swing your legs up along the wall as you move to lay flat on your back. Your body should form a 90-degree angle

against the wall. Keep your sitting bones as close to the wall as possible. Relax your neck, chin and throat. Stretch your arms out to the side with your palms facing up. Remain in this pose for 5 to 15 minutes. Release by slowly sliding your legs down to the side.

2. SUPTA BADDHA KONASANA (Reclining Bound Angle Pose)¹⁶



This is a restorative pose that can help calm your nervous system. This pose can also help reduce your stress levels, which may help lower blood sugar levels. It's also thought to stimulate the abdominal organs, bladder, and kidneys.

Muscles involved: adductors, groin muscles, pelvic muscles, psoas.

Procedure: While seated, bring the soles of your feet together. Your knees should be out to the sides. You may place a bolster underneath your knees for support. Slowly lean back until your back is flat on the floor. Relax the area around your hips. Rest your hands alongside your body with your palms facing up. You can also press down on your thighs to gently deepen the stretch in your legs and hips. Stay in this pose for up to 10 minutes. To release, use your hands to lift and press your knees together. Slowly sit all the way up.

3. PASCHIMOTTANASANA (Seated Forward Bend)¹⁵



This pose is a therapeutic forward bend. In addition to lowering blood sugar level and promoting weight loss, this pose may help relieve anxiety, headache, and fatigue.

Muscles involved: pelvic muscles, erector spinae, gluteus Maximus, and gastrocnemius.

Procedure: Sit on the edge of a yoga mat and extend your legs long. You may place a prop under your knees for support. Imagine that you're pressing the soles of your feet against a wall so that your toes are drawing back toward your shins. Root into your sit bones, lengthen your spine, and open your heart center. Hinge at your hips as you bend forward. Walk your hands down to your feet, stopping when you reach a comfortable position. Your torso should fold into your legs. Tuck your chin into your chest. Remain in the pose for up to 3 minutes.

4. SALAMBA SARVANGASANA (Supported Shoulder stand)¹⁵



This inversion may help improve circulation and stimulate the thyroid gland. It can also help calm the mind and relieve stress.

Muscles involved: rectus abdominis, trapezius, rotator cuff, and quadriceps.

Procedure: Lie down flat on your back with a folded blanket under your shoulders. Align your shoulders with the edge of the blanket. Rest your arms alongside your body with your palms facing down. Lift your legs straight up into the air. Slowly lower your legs back toward your head. Move your hands to your lower back for support. Your fingers should be facing upward. Raise your legs up so that your shoulders, spine, and hips are in one straight line. Remain in the pose for 30 seconds to 3 minutes. Release by rolling your spine back down to the mat and lowering your legs to the floor.

5. HALASANA (Plow Pose)¹⁵



This inversion may help stimulate the thyroid gland, increase circulation, and reduce stress. Its therapeutic effects may also help relieve backache, headache, and insomnia.

Muscles involved: rotator cuff, hamstrings, trapezius, and spinal extensors.

You may find it easier to transition into plow pose from supported shoulder stand.

Procedure: From shoulder stand, bring your feet to the floor above your head. If your feet don't reach the floor, use a pillow or block for support. Keep your hands on your lower back for added support. Remain in the pose for 1 to 5 minutes. To release, roll your spine back down to your mat and raise your legs up to form a 90-degree angle. Lower your legs back down to your mat.

6. URDVHA MUKA SVANASANA (Upward facing Dog)¹⁷



This stimulating backbend requires a lot of muscular strength. The pose may help lower blood pressure, boost circulation, and promote weight loss. It also stimulates the abdominal organs.

Muscles involved: gluteus Maximus, triceps brachii, spinal extensors, quadriceps, and hamstrings.

Procedure: Lie on your stomach with your legs extended behind you. Place your palms flat on the floor. Your forearms should be perpendicular to the floor. Press into your palms to straighten your arms and lift up your body and legs. Come onto the tops of your feet. Keep a slight bend in your elbows as you engage your thigh, arm, and abdominal muscles. Maintain a firmness in your buttocks and shoulder blades. Keep your gaze straight ahead. Soften your throat and neck. Remain in this pose for up to 30 seconds.

7. DHANURASANA (Bow Pose)¹⁵



This backbend opens up your chest and stimulates your abdominal organs. This may help lower your blood sugar levels, as well as relieve constipation and respiratory ailments.

Muscles involved: gluteus Maximus, hamstrings, quadriceps, pectoralis major.

Procedure: Lie down on your stomach. Allow your arms to rest alongside your body with your palms facing up. Bend your knees and bring your hands to the outside of your ankles. Lift up your head, chest, and knees. Breathe deeply and gaze forward. Remain in the pose for up to 30 seconds. On exhale, release the pose. Place one hand on top of the other to make a pillow for your forehead. Gently shake your hips from side-to-side to relax your lower back. You may repeat this pose one or two times.

8. ARDHA MATSYENDRASANA (Half Lord of the Fishes Pose)¹⁵



This twisting pose stimulates the abdominal organs, which may help lower blood sugar. It's also thought to improve digestion and boost your energy levels.

Muscles involved: rhomboids, serratus anterior, erector spinae, pectoralis major, and psoas.

Procedure: While in a cross-legged position, scoot your right foot to the outside of your left hip. Cross your left leg over your right leg, so that your left foot sits at the outside of your right thigh. Root into your sit bones and lengthen your spine. Twist your body to the left. Bring your left hand to the floor behind you. Bring your right upper arm to the outside of your left thigh. You can rest your hand on your thigh or keep the forearm lifted straight into the air. On each inhale, focus on lengthening and lifting. Twist a bit deeper to the right with each exhale. Bring your gaze to look over either shoulder. Hold this pose for up to 1 minute. Repeat on the other side.

9. SUPTA MATSYENDRASANA (Supine Spinal Twist)¹⁸

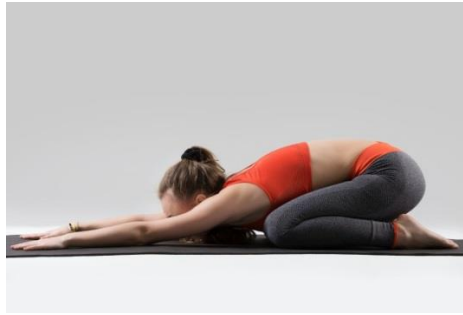


This restorative twisting pose also helps stimulate the abdominal organs, which may help lower blood sugar levels. The pose may also help alleviate pain and stiffness in your spine, back, and hips.

Muscles involved: erector spinae, rectus abdominis, trapezius, pectoralis major.

Procedure: Lay flat on your back and bring your knees into your chest. Extend your arms to your sides with your palms facing down. Bring your knees over to the left side. Try to keep your knees together and at hip level. If you'd like, use your left hand to apply gentle pressure to your knees. Your gaze can be in any direction. Remain in this pose for at least 30 seconds. Repeat on the opposite side.

10. BALASANA (Child's Pose)¹⁵



This resting pose encourages relaxation, which may help promote the production of insulin-producing beta cells. It may also help relieve back and neck pain, stress, and fatigue.

Muscles involved: gluteus Maximus, rotator muscles, hamstrings, spinal extensors

Procedure: While in a kneeling position, make sure your knees are hip-width apart. Sink back to bring your buttocks to your heels. You may place a cushion between your thighs and calves for support. Lean forward to rest your forehead on the floor. Extend your arms in front of you, or allow your arms to rest alongside your body with your palms facing up. Remain in this pose for up to 5 minutes. Release by lifting yourself up into a seated position.

Related studies were reported by Khatib et al ^{19,20}. Need of physical fitness is reflected through a number of studies ²¹⁻²⁴. Related studies on diabetes were reviewed ²⁵⁻³⁰.

11. SAVASANA (Corpse Pose)¹⁵



This restorative pose can help lower blood sugar level, relax the body, and calm the mind. It may also help relieve headache, fatigue, and insomnia. It's traditionally done at the end of your yoga practice.

Procedure: Lay flat on your back, with your feet spread out a little wider than your hips. Rest your arms alongside your torso with your palms facing up. Align your torso so that it's in a straight line. Your body should form a Y shape. Allow your body to press into the floor. You should completely relax your body and release any tension you're holding. Remain in this pose for 10–20 minutes.

CONCLUSION

The research concludes that around 82% people get good results through Savasana, Balasana, SuptaMatsyendrasana, ArdhaMatsyendrasana & Dhanurasana. All the people who are suffering from DIABETES must systematically do these asanas to get a better life.

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