

DIABETES AND YOGIC PRACTICES: A REVIEW

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ABSTRACT

In fast paced life, stressful life conditions and due to unhealthy routines is the cause of various life style and metabolic disorders. Diabetes mellitus or Type 2 diabetes is a chronic metabolic and life style disorder and this condition characterized by high blood sugar level resulting from impaired insulin secretion. The increasing global prevalence of diabetes has become a major public health concern and due to its associated complications and economic burden. Alongside conventional medical treatment, complementary approaches such as yoga have gained attention for its probable role in diabetes management. This review paper examines the impact of yogic practices on diabetes prevention, control, and overall well-being. Yogic interventions, including asanas (postures), pranayama (breathing techniques), meditation, and relaxation practices and other mindfulness training have been reported to improve glycemic control, insulin sensitivity, cardiovascular health, improve quality of life and psychological well-being. Regular yoga practice may help reduce stress, obesity, hypertension, and other risk factors associated with diabetes. Furthermore, yoga promotes a holistic lifestyle by integrating physical activity, mental relaxation, and healthy behavioral changes. The review highlights evidence from clinical and experimental studies demonstrating the beneficial effects of yoga as an adjunct therapy for diabetes management. However, variations in study design and intervention protocols indicate the need for further large-scale, standardized research. Overall, yogic practices represent a cost-effective, accessible, and non-pharmacological strategy that can complement conventional treatment and contribute to improved “quality of life” of individuals with diabetes.

Keywords: Diabetes Mellitus, Yoga, Yogic Practices, Glycemic Control, Pranayama, Meditation, Insulin Sensitivity, Complementary Therapy.

In present scenario epidemic of lifestyle disorders are increases worldwide like obesity, hypertension and diabetes etc. Diabetes is a kind of chronic illness and occurs due to a disorder of metabolism. The body does not secrete sufficient amount of insulin or utilize it properly, so it leads to high glucose in the blood. Number of complications and complexities are associated with the diabetes. In diabetic conditions various co-morbid medical and psychological problems and symptoms arises. Person suffering from diabetes has negative attitude toward their life. Various associated physiological symptoms of diabetes are excessive urination, weight loss, skin problems, problems in joint mobility, infection, chronic fatigue, renal dysfunction, cardiac problems etc. In various Indian and western studies shows beneficial effects of yogic practices. Several researches have stated the advantageous effects of yogic practice on diabetes. (Desai, 1985; Divakar and Bhat, 1981). The present research paper is aimed at to review the previous studies which yogic practices are beneficial for management/control of diabetes symptoms and co-morbid negative conditions.

Yoga means is joining together of mind and body. Yoga is ancient practice. In Yogic practices various asana (postures), breathing exercises, meditations, relaxation and toning exercises are included. Yoga is an Indian conventional exercise and course of therapy. Yoga

practices have been studied vigorously for its function in the management of a number of non communicable (chronic) diseases including asthma, hypertension, obesity and diabetes.

In India the prevalence of diabetes is rising rapidly particularly in the urban population, because of increasing faulty lifestyle and reduced physical activity in daily routine. In diabetes glucose level in the blood increases with its normal values due to the insufficient secretion of insulin secreted by beta cells of pancreas. Malfunctioning of pancreas, glucose not breaks down for absorption of glucose by body cells thus body not gain energy properly for normal functioning.

Number of studies reported the beneficial effects of yogic asanas, pranayam, and other practices on symptoms and complications of diabetes. These studies reported that the yogic practices can improve body metabolism, regulate pancreas and glucose level in the blood. Studies on yoga and diabetic condition found that yoga help in managing both the symptoms and the complications associated with type II diabetes (Malhotra et al, 2005; Manyam et.al,2002).Variety of yogic asanas and breathing exercises are useful for controlling complexities of diabetes. Mandukasana, Yog-mudra, Paschimottanasana, Shalabhasana, Ardhamatsyendrasana, Vakrasana, Pranayam (various kinds of breathing exercises) are helpful for regulation of functioning of pancreas and combat the problem of diabetes. Various studies show that a yogic practices reduces stress hormone i.e. adrenalin, noradrenalin and cortisol in the blood. Improvement shows in insulin action and muscular relaxation. Several yogic exercises do create pressure on the pancreas, which is helpful for improved pancreatic function. Research showed that the amarantha kokkuasana (sitting crane), and nidra kokkuasana found useful in stimulation of pancreas by postures and revived its capacity for insulin production. (Ramaiah's, .A.A, 1986).

YOGIC PRACTICE AND BLOOD SUGAR

Number of researches found significant positive relationship between the control of blood sugar and yogic exercises. One of the studies shown decisive effect's of Yoga-Nidra on blood sugar level in diabetic patients. Results suggested that subjects on yogic practice like Yoga-Nidra with medication had better control in their fluctuating blood sugar and symptoms associated with diabetes, as compared to those were only on oral hypoglycaemic medication. (Amita et al, 2009).

Another study found that Surya Namaskar, Tikonasana, Tadasana, Sukhasana, Padmasana, Bhastika Pranayam, Paschimouttanasana, Ardhamatsyanasana, Pawanmuktasana, Vajrasana, Bhujangasana, Shavasana and Dhanurasana, Halasana, Naukaasana and Setubandasana are beneficial for decrease fasting glucose level and changes in insulin level.(Malhotra, et al. 2005) and these studies reported the value of HbA1c. The mean differences indicated that the intervention helped in lowering the level of the HbA1c. though, the results were statistically significant in the one study only. (Monro et al,1992; Agarwal et al, 2003; Elder et al.2006).

Apart from this other study found that a trend toward improvement in glycemic control in the group practicing the comprehensive yogic breathing program compared with the group following standard treatment alone, although this was not significant.(Jyotsana,et al,2012).

DIABETES-RELATED COMPLICATION

Various associated complication arises with the diabetes and it create problem of diabetes very complex. The effect of yogic practice on complications of diabetes and quality of life of and nerve conduction velocity, but the change was not statistically significant. (Malhotra, et al, 2002).Another studies reported that yoga has lowering of medication and acute complications and ketosis was significantly reduced (Sahay, 2007)

WEIGHT MANAGEMENT

Usually weight related problems are linked with the diabetic condition. Yoga practices have also beneficial effect on weight loss, waist-hip ratio and waist circumference associated problems of diabetes. In a randomized controlled study found that the yoga offers a beneficial routine lifestyle intervention for decreasing weight-related type-2 diabetes risk factors. (McDermott et al 2014). At the same line another study found that noteworthy increase in the lean body weight management and reduction in the body fat (Sahay, 1994).

CO-MORBID CONDITIONS

Various co-morbidities are prominent in diabetic patients these are: hypertension, cardiac problems, dyslipidemia, and renal problems, etc. Pranayam and Shavasana are beneficial for to control and reduction in systolic and diastolic blood pressure (Sahay, 1994; Sahay, 1993).

OTHER PSYCHOLOGICAL PROBLEMS AND QUALITY OF LIFE

Yogic practices also useful in the associated psychological problems of diabetes like negative attitude towards life, poor mental health, and poor compliance towards the treatment and medicine schedule etc. Studies show the yogic practices increases feeling of wellbeing and quality of life. (Kasuri & Sridhar, 2009; Sharma et.al. 2008). Depression and anxiety are the precipitating factors for diabetes. Regular exercise of yoga has been showed benefits in reducing depression and anxiety may affect diabetes in an indirect mode. (Gangadhar, et al., 2013). Another study found the significant improvement in physical, psychological, social domains and total “Quality of Life” post-intervention in the group practicing the comprehensive yogic breathing programme of Sudarshan Kriya as compared with the group on standard treatment alone. (Jyotsana, et al., 2012)

CONCLUSION

Yogic practices are useful for prevention, management and control of diabetes symptoms. It's a low cost therapeutic method. Effects of yogic practices are multifaceted. Yogic practices are helpful in risk reduction as well as prevention of pre-diabetes and increasing psychological well being and quality of life of people with diabetes or non diabetics. In conclusion, diabetes mellitus remains a significant global health challenge that requires effective and sustainable management strategies. The findings reviewed in this paper suggest that yogic practices and relaxation techniques can play an important complementary role in diabetes management. Regular yoga practice improved glycemic control, enhanced insulin sensitivity, reduced stress levels, better cardiovascular health, and an overall improvement in quality of life.

REFERENCES

1. Amita S, Prabhakar S, Manoj I, Harminder S, Pavan T. (2009). “Effect of yoga-nidra on blood glucose level in diabetic patients”. *Indian J. of Physiological Pharmacology*. Jan-Mar; 53(1):97-101.
2. Badr Aljasir, Maggie Bryson, and Bandar Al-shehri. (2008). “Yoga Practice for the Management of Type II Diabetes Mellitus in Adults: A systematic review”. *Evidence Based Complementary and Alternative Medicine*. Dec; 7(4): 399–408. Published online 2008 May.
3. Desai, B.P. (1985). “Influence of yogic treatment on serum lipase activity in diabetics” *Yoga Mimansa* Vol. XIII, No. 3&4, P. 1-8, Jan.

4. Divakar,M.V& Bhat.(1981).“Effect of yoga therapy in diabetes and obesity”. Clinical diabetes update. Diabetic Association India.
5. Dunning T. (2003). “Complementary therapies and diabetes”. Complement Ther Nurs Midwifery. 9:74–80. [[PubMed](#)]
6. Elder C, Aickin M, Bauer V, Cairns J, Vuckovic N. (2006). “Randomized trial of a whole-system ayurvedic protocol for type 2 diabetes”. Altern Ther Health Med. 2006; 12:24–30. [[PubMed](#)]
7. Gangadhar,B.N, Naveen,G.H, Rao M.G,Thirththali J,Varambally S.(2013). "Positive antidepressant effects of generic yoga in depressive out patients: A comparative study". Indian J Psychiatry, 55 Suppl 3:S369-73.
8. Kosuri,MSridhar,G.R, (2009). “Yoga Practice in Diabetes Improves Physical and Psychological Outcomes” Metabolic Syndr.Related Disorders,7:515-7.
9. Malhotra V, Singh S, Tandon OP, Madhu SV, Prasad A, Sharma SB.(2002). “Effect of Yoga asanas on nerve conduction in type 2 diabetes”. Indian J Physiology Pharmacol.46:298–306. [[PubMed](#)]
10. Malhotra V, Singh S, Tandon OP, Sharma SB.(2005). “The beneficial effect of yoga in diabetes”. Nepal Med Coll J. 7:145–7. [[PubMed](#)]
11. McDermott K.A,Rao M.R,Nagaratha R,Murphy E.J,Burke A,Nagendra R.H,et al. (2014). “A Yoga intervention for type 2 diabetes risk reduction: A pilot randomized controlled trial”.BMC Complementary and Alternative Medicine; 14:212.
12. Manyam BV, Sahay BK, Sahay RK.(2002). “Lifestyle modification in management of diabetes mellitus”. J Indian Med Assoc. 100:178–80. [[PubMed](#)]
13. Ramaiah,S.A.A., (1986). “Yoga Therapy for Diabetes: Washington,D.C. Study”. International Conference on Traditional Medicine, Madras, Published by Siddha Medical Board Govt. of Tamil Nadu, India.
14. Sahay,B.K. (1994). “Yoga and Diabetes in Nova Nordisk Diabetes update 94” Proceedings Ed. Anil Kapur, Health Care Communications, Bombay, 159-68.
15. Sahay,B.K.(1986). “Yoga and Diabetes” .J Association Physician India.1986; 34:645-48
16. Sharma,R.,Gupta,N.,Bijlani,R.L. (2008). “Effect of yoga Based Lifestyle Intervention on Subjective Wellbeing”. Indian J Physiological Pharmacology.252:123-31.
17. Viveka P. Jyotsna, Ansumali Joshi, Smita Ambekar, Neeta Kumar, Anju Dhawan, and Vishnubhatla Sreenivas.(2012). “Comprehensive yogic breathing program improves quality of life in patients with diabetes.” Indian J Endocrinology Metabolism. May-Jun; 16(3): 423–428.