



Review article

Natures approach to counteract diabetes**Shailju Gurunani*, Manjusha Yeole, Yogesh Gholve, Sonal Motghare**

Priyadarshini J. L. College of Pharmacy, Nagpur, Maharashtra, India

Corresponding author: Shailju Gurunani, ✉ shailjug@rediffmail.com

Priyadarshini J. L. College of Pharmacy, Nagpur, Maharashtra, India

© The author(s). This is an open access article distributed under the terms of the Creative Commons Attribution License (<https://creativecommons.org/licenses/by-nc/4.0/>). See <https://jmpas.com/reprints-and-permissions> for full terms and conditions.**Received – 25 May 2018, Revised - 04 June 2018, Accepted – 28 September 2018 (DD-MM-YYYY)****Refer This Article**Shailju Gurunani, Manjusha Yeole, Yogesh Gholve, Sonal Motghare, 2018. Natures approach to counteract diabetes. Journal of medical pharmaceutical and allied sciences, V 7 - I 5, Pages -678 – 680. Doi: <https://doi.org/10.55522/jmpas.V7I5.0177>.**ABSTRACT**

Diabetes is a common chronic ailment afflicting our society from various walks of life. The astronomic increase in the prevalence of diabetes has made it a major public health challenge. This chronic illness requires continuing medical care and ongoing patient self-management, education and support to prevent acute complications and to reduce the risk of long-term complications. Diabetes care is complex and requires multifactorial risk reduction strategies beyond glycemic control. A large body of evidence exists that supports a range of interventions to improve diabetes outcomes. These standards of care are intended to provide clinicians, patients, researchers, payers, and other interested individuals with the components of diabetes care, general treatment goals, and tools to evaluate the quality of care. It is clear that optimal diabetes management requires an organized, systematic approach and involvement of a coordinated team of dedicated health care professionals working in an environment where patient-centered high-quality care is a priority. The objective of this review is to update the diabetic patient with different approaches towards the systems of medicine like N- Naturopathy, A-Ayurveda, T- Tinctures from Homeopathy, U- Unani, R- Regulating food habits, E- Exercise and S- Siddha. Educating the diabetic person regarding causes, symptoms, disorders associated with Diabetes Mellitus, Self-medication and Self-monitoring are also the good strategies to counteract Diabetes which will reduce premature death worldwide.

Keywords: Diabetes, Siddha, Naturopathy, Allopathic, Ayurveda, Homeopathy, Unani.**INTRODUCTION**

Diabetes is a lifelong disease that is characterized by increased levels of sugar levels in the blood. It is either caused due to lack of insulin (a protein that regulates blood glucose levels) or due to lack of response to insulin produced by the body. Diabetes caused by lack of insulin is called type 1 diabetes. It develops due to fault in the genes that make insulin and is seen in young adults and teenagers. Diabetes caused by failure of response to insulin is called type 2 diabetes. It is more common type of diabetes and is found in adults. It is caused mainly due to lifestyle factors. Some of the common symptoms of diabetes are hunger, frequent urination and increased thirst. Lifestyle factors like unhealthy diet, sedentary lifestyle and obesity are main contributing factors of type 2 diabetes. In fact, type 2 diabetes is one of the most common 'lifestyle diseases' which is plaguing people in the developed countries. Diabetes is also known to cause complications like heart diseases and hypertension. As per the

WHO, diabetes mellitus (DM) is a heterogeneous metabolic disorder characterized by common features of chronic hyperglycaemia with disturbance of carbohydrate, fat, and protein metabolism.

Naturopathy

Naturopathy or naturopathic medicine is a form of alternative medicine that employs an array of pseudoscientific practices branded as "natural", "non-invasive", and as promoting "self-healing". The ideology and methods of naturopathy are based on vitalism and folk medicine, rather than evidence-based medicine. Naturopathic practitioners generally recommend against following modern medical practices, including but not limited to medical testing, drugs, vaccinations, and surgery. Instead, naturopathic study and practice rely on unscientific notions, often leading naturopathic doctors to diagnoses and treatments that have no factual merit.

Nair R. et al 2016 evaluated the effect of Naturopathy on the Fasting blood glucose (FBG), postprandial blood glucose (PPBG)

levels and Body Mass Index (BMI) in patients with Type 2 Diabetes Mellitus. A total of 50 patients were recruited and divided into two Groups. Group I (Intervention group = 32 sittings) were on both naturopathy and allopathic medication with diet control and Group II (control group) were on allopathic medication and diet control. The study parameters were [1, 2].

assessed at baseline and after two months intervention. The result suggested significant changes in the levels of FBG and PPBG in both the groups and improvement was seen in Body Mass Index (BMI) only in group I patients.

Ayurveda

Ayurveda does not regard diabetes mellitus as a disease that can be treated by mere medicine or by a dietary regimen. Though it is *ayapya* (not totally curable / difficult to cure) disease, the prolonged use of the above treatment procedure will not only generate the person free from Diabetes Mellitus but protect to live a long life (*deergha jeevanam*), healthy (*sukhayu*) and will be useful to the society (*hitayu*). As per Ayurveda, there are so many drugs and formularies but the main drugs are either bitter (*Tikta*) or astringent (*kashaya*) in taste. They improve the fat and carbohydrate metabolism. Some of the medicines are given below; the drug of choice is (1) *Shilajatu* (2) *Guggulu* and (3) *Haritaki* (*myrobalan*) and *Amalaki*. For obese persons *Guggulu* may also be used as *Guggulu* has been proved as hypo-cholesterimic drug.

Tincture from homeopathy

Homeopathic treatment can help improve the general health of a person with diabetes. If a person with diabetes is in good health, his or her insulin requirements will be steady and the blood glucose well controlled. If the general health is poor, it can be very difficult to achieve good control. This can be helped by administering a “constitutional” remedy, based on the totality of the patient’s symptoms and characteristics. The effect will be to improve the general sense of well-being, to improve diabetes control, and maybe to lower the insulin or drug requirements.

The remedy *Syzygium* (*Jambol* seeds) has a reputation for a specific effect on diabetes, and can be given in mother tincture, three drops daily in water. I cannot claim much success with this, but a veterinary colleague has reported excellent results in dogs. *Boericke’s Materia Medica* mentions several other remedies, which cause diabetic symptoms, such as an increased urinary output and the presence of sugar in the urine (*glycosuria*), in their provings. *Uranium nitricum* is one of these, and it is associated with great emaciation and fluid retention, thirst, nausea and vomiting. It can be tried in low potency, twice daily [3-7].

Unani

Unani therapy tries to make the pancreas to once again functional at a normal and their natural level. There is no western

medicine, which rejuvenates the pancreases. Unani, with its herbo-mineral treatment course achieve this. They strongly believe that a total cure is possible through enlivening the inactive pancreatic cells, which are responsible for this condition. The basic cause of diabetes is being treated through Unani medicine. In classical Unani literature, most of the Unani physicians have described *Ziabetas* or *Siyabates* with its number of Greek and Arabic vernaculars and defined *Ziabetas* symptomatically as characterized by excessive thirst and increased frequency of urination soon after taking fluid. They mentioned diabetes a disease with frequency of urination soon after taking fluid. It was described by various Greek vernacular as synonyms of diabetes like “*Ziabetas*”, “*Ziasaqus*” and “*Qaramees*” and also by different Arabic vernacular like “*Dawar*” (*giddiness*), “*Dolab*” (*water wheel*) and “*Zalaqul kulliya*” (*slippery nature of the kidney or diarrhea of the kidneys*). The various classical text books also contain detailed descriptions of this disease, differentiating its distinguished features from other diseases known as *tashkhees e fariqa*. The effect of Unani coded drug UNIM-210 was evaluated in twenty patients with type-2 diabetes. The patients included in trial group were given UNIM-210 two tablets of 500 mg each twice daily, orally with water for a period of 150 days along with normal diet. UNIM-210 significantly lowered the biochemical parameters such as fasting (FF) glucose level (28%), post prandial (PP) glucose level (18%), blood urea (23%), serum creatinine (10%), serum glutamate pyruvate transaminase (SGPT) (44%) and serum glutamate oxaloacetate transaminase (SGOT) (33%), whereas no significant changes were observed in total protein level. A significant decrease was observed in the level of serum albumin (13%), when compared with before treatment to the after treatment of drug UNIM-210. In follow-ups (I to IVth) studies a gradual reduction in fasting glucose but not gradual decrease was observed in post prandial glucose level. Pathological studies had shown that a significant reduction were observed in erythrocyte sedimentation rate (ESR) (59%), total leucocyte counts (TLC) (12%), polymorph (15%) and eosinophil counts (EOS) (13%) and statistically non-significant except ESR and polymorphs ($P < 0.0001$), when compared with before treatment to the after treatment of the patients to this drug. No significant changes had been observed in haemoglobin level and red blood corpuscles (RBC) counts.

Regulating food habit

Eating nutritious, wholesome food in the right quantities is beneficial for all beings, especially diabetics. One key to maintaining a healthy blood sugar level is to be consistent in your eating habits by following some type of diabetic diet. A competent dietician can recommend a diet that is ideal for you. The Diabetic Food Pyramid is one way for diabetics to control and fine-tune their daily food intake to the optimum levels for balanced blood sugar and good health.

Exercise and education

During exercise, whole-body oxygen consumption may increase by as much as 20-fold, and even greater increases may occur in the working muscles. To meet its energy needs under these circumstances, skeletal muscle uses, at a greatly increased rate, its own stores of glycogen and triglycerides, as well as free fatty acids (FFAs) derived from the breakdown of adipose tissue triglycerides and glucose released from the liver.

Siddha and Self-Monitoring

Siddha medicine is one of the oldest medicine system known to mankind and they get medication from siddha system more than 10000 years ago. Herbs are the main source of the siddha medicines and also used inorganic substance and animal products. There are many siddha formulary drugs for diabetes which has no side effect such as madhumega Chooranam, aavarai kudineer, naval kottai chooranam, seenthil chooranam, elavanga elagam, thetran kottai elagam and sengkottai elagam. Siddha medicinal plants which are most effective and the most commonly studied in relation to diabetes are Citrus bergamia, Eugenia jamolana, Ferrula asafoetida, Helicteres isora, Murraya koenigi, Syzygium cumini, Tinospora cordifolia, Terminalia arjuna and Gymnema sylvestre. [8-12].

CONCLUSION

Diabetes itself does not kill, but some refer to it as "modern-day leprosy" because the disease complications are a "living hell." Anyone with diabetes should take serious preventative measures each day to minimize the damage it causes, or in time their body will likely develop many of the complications. Whatever may be the cause of or course of the disease it generally brought to control only by a healthy life style. Medicines will not help unless the patient follows a healthy way of living and the most of the time strict observance of a healthy life style helps to avoid medication. The goal of treatment in diabetes is to reduce high level of glucose in the blood stream. The aim of the treatment is to remove the cause of the disease and building the wellbeing of the patient. The care team should prioritize timely and appropriate intensification of lifestyle and/or pharmaceutical therapy of patients who have not achieved beneficial levels of blood pressure, lipid, or glucose control. Successful diabetes care requires a systematic approach to supporting patients' behavior change efforts, including a) healthy lifestyle changes (physical activity, healthy eating, nonuse of tobacco, weight management, effective coping), b) disease self-management (medication taking and management; self-monitoring of glucose and blood pressure when clinically appropriate), and c) prevention of diabetes complications (self-monitoring of foot health; active participation in screening for eye, foot, and renal complications; immunizations. Thus, it is clear that optimal diabetes management requires an organized, systematic approach and involvement of a coordinated team of dedicated health

care professionals working in an environment where patient-centered high-quality care is a priority.

REFERENCES

1. Wilson K, 2005. Characteristics of Pediatric and Adolescent Patients Attending a Naturopathic College Clinic in Canada. *Pediatrics*. 115(3), Pages 338–343. <https://doi.org/10.1542/peds.2004-1901>.
2. Busse, J W, Wilson K, Campbell J B, 2008. Attitudes towards vaccination among chiropractic and naturopathic students. *Vaccine*. 26(49), Pages 6237–6243. Doi: 10.1371/journal.pone.0236691.
3. Singh O, 2012. Phytochemical investigation and antifungal activity of the seeds of *Centratherum anthelminticum*; Kuntze, *Acta Poloniae Pharmaceutica Drug Research*. 69(6), Pages 1183-1187. Doi: 10.3923/ijp.2013.211.226.
4. Lateef M. Khan, Sameer E. Al-Harthi, Omar I. Saadah 2013. Adverse drug reactions in hospitalized pediatric patients of Saudi Arabian University Hospital and impact of pharmacovigilance in reporting ADR. *Saudi Pharmaceutical Journal*. 21, Pages 261–266. Doi: 10.1016/j.jsps.2012.09.004.
5. Padmaja Uday Kumar, Prabha Adhikari, Pratibha Periera, 2009. A Prospective Analysis of Adverse Drug Reactions in a South Indian Hospital. *Online Journal of Health and Allied Sciences*. 8(3), Pages 1-6. Doi: <http://www.ojhas.org/issue31/2009-3-12.htm>.
6. Wilson K, Mills E, Boon H, 2004. A survey of attitudes towards paediatric vaccinations amongst Canadian naturopathic students. *Vaccine*. 22 (3–4), Pages 329–334.
7. Rukamani N, Deepali S, Ranjna C, 2016. Effect of Two Months Naturopathy Treatment in Non-Insulin Dependent Diabetes Mellitus Patients. *International Journal of Science and Research (IJSR)*. 5(1), Pages 290-293.
8. Srinivas P, Pramela D, Shailaja B, 2014. Diabetes Mellitus (Madhumeha) an Ayurvedic Review, *International Journal of Pharmacy and Pharmaceutical Sciences*. 6(1), Pages 345-349.
9. Abdul A R, Arish M K, Sherwani MHM, 2015. Concept of Ziahetus shakari Type 2 Diabetes Mellitus in Unani System of Medicine, *Int. Jou. of Adva. Complementary and Traditional Medicine*, 1(11), Pages 10-15.
10. Buchanan T A, Xiang A H, Peters R K, 1997. Effects of diet and exercise in preventing NIDDM in people with impaired glucose tolerance. The Da Qing IGT and Diabetes Study. 20, Pages 537–544. Doi: 10.2337/diacare.20.4.537.
11. Sheikh R, Shahzad A, Mahwash F, 2018. Toxicity of anticancer drugs and its prevention with special reference to the role of garlic constituents. *Annals Phytomed*. 7(1), Pages 13-26. Doi: 10.21276/ap.2018.7.1.3.
12. Zhang J, Wel-Tan H, Hu C, 2018. Anticancer activity of 23, 24-dihydrocucurbitacin B against the Hela human cervical cell line is due to apoptosis and G2/M cell cycle arrest. *Therap med*. 15, Pages 2575-2582. Doi: 10.3892/etm.2018.5710.