



## Living Healthy with Diabetes: Need to Know

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### Abstract

Diabetes is a major global health concern. People with diabetes have worse mental health outcomes than those without diabetes. The prevalence of diabetes ranges from 6% to 13% and is highest in low-income countries. Between 2005 and 2015, the incidence of diabetes increased at an alarming pace, from 333 million cases to 435 million cases, and more than 700 million adults are expected to have diabetes by the year 2025. The global cost of diabetes in 2014 was estimated at \$825 billion annually. Given the increased incidence of diabetes and its associated cost, it is important to better understand the disease as it relates to other conditions. Among persons with diabetes, mental health problems are well documented, and depression is the most common problem. In fact, persons with diabetes are twice as likely to experience depression compared to those without diabetes. A large body of research finds the relationship between diabetes and depression is bidirectional, where depression is associated with decreased metabolic control and diabetes may increase depressive symptoms. Studies have also shown that depressive illness in those with diabetes is associated with increased risk for medical complications, disability, and mortality [1-3].

### Diabetes Medication

Recently researchers developed a huge package of medicine for the treatment of glucose elevations in type 2 Diabetes. In the approved list of glucose-lowering medications includes several new classes of drugs like as Glucagon-Like Peptide 1 receptor agonist (GLP-1 agonists), Dipeptidyl-Peptidase-4 inhibitor (DPP-4 inhibitors), and Sodium-Glucose co Transporter 2 inhibitor (SGLT-2 inhibitors). The traditional anti diabetic agent like sulfonylureas, thiazolidinediones, metformin etc., are still playing important role in the management of diabetes. All the antidiabetic drugs are having the good tendency against HbA1c and the blood glucose lowering ability and whole agents are FDA approved. HbA1c and the blood glucose lowering abilities are the proxy markers or Disease-Oriented Evidence (DOEs). While DOEs generally point us in the right direction, it is important that treatment decisions are based on data involving hard outcomes, also known as Patient-Oriented Evidence that Matters (POEMs), when available. Many of the available diabetes medication options are associated with serious adverse events (e.g., congestive heart failure, fracture, pancreatitis, severe hypoglycemia, cancer) so providers must use caution when choosing different medication options [1-4].

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### Research on Herbal Medicine to Fight Diabetes

There is a significant interest in the use of phytomedicine in the treatment and prevention of diabetes as well as metabolic syndromes which are interlinked with diabetes. Consistent hyperglycemia or uncontrolled diabetes is a potential factor to cause some persistent complications like as kidney disease, vision loss, cardiovascular disease, and lower-limb amputations which contributed towards morbidity and mortality in diabetes. In recent time herbal medicines are playing a serious contribution to the treatment and management of diabetes. However, the selection of herbs might depend on several factors, which include the stage of progression of diabetes, types of comorbidities that the patients are having, availability, affordability as well as the safety profile of the herbs. The herbal and natural remedy that play the role in the treatment or prevention of this morbid disorder-diabetes, including their underlying mechanisms for the blood glucose-lowering [5].

### Research on Vitamins for Management of Diabetes

Diabetes is influencing globally which is scheduled as the major health complications where type 2 Diabetes more frequent. The application of pharmacological agent against glucose lowering ability remained unclear and limited due to their some adverse effects. So many researchers and scientists have prompted the role of non-pharmacological therapies in T2DM. In the developed and developing countries, the use of non-pharmacological agents like vitamin and their derivatives

against type 2 Diabetes is enhancing significantly. There is evidence that certain vitamins may have roles in the management of T2DM. The uses of vitamin A, C, E, D, K and the B group vitamins (B1, B3, B7, B6, B9, and B12) in the management of T2DM [2].

### **Advance Exercise and Yoga for Diabetic Care**

Regular exercise is a well-known factor to have or to control diabetic conditions. The motivation is required in the recent time on regular exercise to manage the diabetic patients. Recent update indicating that there is a lack of motivation for the general populations to participate in a regular yoga and exercise program. Unwillingness is remained a strong factor to do the exercise which helps people with inability to find an enjoyable exercise activity. Attempts to find results that provide effective aerobic challenges and an enjoyable to participate in fraught with difficulty. Evidence for the merits of exercise for those with diabetes was robust. Numerous reports have addressed the degree of noncompliance to exercise recommendations and the barriers reported for this non-adherence. Additional studies concluded that most medical providers are deficient in informal training in the prescription of an exercise program [3,6,7].

Taking anti-diabetic or pharmacological agent has some adverse effects. Non-medicinal treatment is having useful benefit to managing diabetes and its secondary complications. From the recent reports, it could be concluded that Yoga plays a vital role as an adjuvant in the management of risk factors, disease progression and the complications of the T2DM. Further studies are warranted using standard research designs and variables to find out the various mechanisms of effects of Yoga in detail [3,6-8].

### **Diabetes with Healing (Fractures)**

It is found that infection, operation or reoperation procedure is an indicating factor to draw people with diabetes. In addition, when only peripheral lower extremity fractures (i.e., below the knee) were examined, diabetes significantly increased the rates of nonunion. Diabetes substantially alters bone metabolism and soft tissue healing, posing a risk of adverse fracture healing and other complications. This provides evidence that the presence of diabetes significantly increases the risks of infection, malunion, nonunion and re-operation across a wide variety of surgically treated lower extremity fractures [9].

### **Diabetes Associated with Sleep**

Recent investigations addressed that there is significant evidence between duration of sleep and metabolic disorders. Type 2 Diabetes

and obesity are major result and sign due to less or more sleeping time. Extensive research, review and investigation have been carried out against the hormonal, behavioural, and genetic mechanisms which are underlying this relationship. It is scheduled that the more sleeping time has the deleterious effects as it has established a remarkable activity to induce metabolic disorders. Existing epidemiological findings, experimental work, and most importantly putative molecular and behavioural mechanisms connecting excessive sleep duration with both obesity and type 2 Diabetes mellitus. It will also address recent findings suggesting a worrisome bidirectional effect such that metabolic disorders create a positive feedback loop which further perpetuates excessive sleep [10].

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