

Diabetes: A Pandemic Health Issue in India



লেখকঃ বিমল কুমার রায়

যোগাযোগঃ RayB@missouri.edu

পরিচিতিঃ Bimal K Ray is a professor at the University of Missouri-Columbia, Missouri, USA. His research interest focuses on understanding the molecular basis of diseases including arthritis, atherosclerosis and cancer metastasis. He is an alumnus of Calcutta University where he received Bachelor's, Master's and PhD degrees before moving to the USA. He loves to travel to India for inspiration and rejuvenation.

Adult onset or type 2 diabetes accounts for 90 to 95% of diabetes patients and is highly prevalent among Indians. According to an estimate from the World Health Organization, by 2025, India will be the number one in the world with the maximum number of people with diabetes. Affected people will be in the age group 40-64. Although it is unclear why Indians are so susceptible to developing type 2 diabetes, it appears that both hereditary and environmental factors may influence the onset of the disease. This is obviously a serious concern and needs our attention for the sake of a healthy nation.

Why should we care about diabetes?

Diabetes is a silent killer which indicates that patients who develop diabetes will not at all know about it for years. At the early stage of the onset of diabetes, only the blood sugar level would increase with absolutely no sign of any discomfort whatsoever. Obviously, affected patients unknowingly ignore for many years until sudden eruption of secondary consequences. One of the most common secondary consequences is cardiovascular disease with blocked blood vessels leading to thrombosis and heart failure. Another very common consequence is damage to the eye that would lead to blindness. Chronic renal failure affecting kidney function is also a common occurrence. Furthermore, nerve damage affects movement and poor blood circulation in the limbs leads to gangrene with risk of amputation of toes, feet, and even legs. These outcomes of diabetes are obviously quite serious and totally incapacitate with ultimate death of patients with diabetes.



How do you diagnose diabetes?

Unfortunately, the early stage of diabetes presents no symptoms. As the disease progresses, three classical symptoms of diabetes crop up which include increased thirst, increased appetite and frequent urination. With further progression of the disease

without any control, the patient would start losing weight. Occasionally, blurred vision is also possible. Since the blood sugar level increases in diabetes, testing blood sugar level would identify the disease. In the early stage of diabetes, however, blood sugar level is only somewhat above the normal levels and may remain undiagnosed. Unfortunately, damage to cardiovascular system can occur during this early pre-diabetic stage before a definitive diagnosis is made and this often is a major health problem, when an unsuspecting patient suddenly suffers a heart attack.

How does a person develop diabetes?

Age onset type-2 diabetes is often called a metabolic syndrome disease which means that it is caused by a malfunction of the metabolic process when cells in our body become resistant to insulin, and therefore tolerate high levels of glucose in the blood. Overweight and lack of physical exercise are two major behavioral factors that contribute to developing diabetes. Hereditary factor or factors also play a major role in the onset of this disease. A number of genes that are associated with different aspects of the complex process of glucose metabolism have been linked to type 2 diabetes. Mutation in one or several of these genes quite possibly accounts for the hereditary factor that is more prevalent among Indians, giving rise to such a high incidence of diabetes. Despite a critical role of gene mutation contributing as a hereditary factor, behavioral or environmental factors undoubtedly play an important role in the development of type 2 diabetes. Although we cannot control hereditary factors, a better management of behavioral or environmental factor can greatly reduce the damage caused by diabetes.

How can we prevent diabetes?

Since the cause of diabetes and type 2 diabetes, in particular, is a combination of genetic and environmental factors, an effective therapeutic prevention is yet to be found. Despite the lack of available cure at present, harmful and deadly consequences of diabetes can still be dealt with by changing dietary habits, daily physical exercise and taking some of the available medications to lower blood sugar level. These are the silver-linings against the dark cloud of this deadly disease and these regimens allow people with diabetes live a healthy and happy life with normal life expectancy.

Taking the following precautions and accordingly changing food habits one can control diabetes. These desirable changes include:

- Avoid sweets completely.
- Fried and fatty foods should be minimized.

- Foods containing more fiber such as leafy vegetables should be taken. This will help to reduce the absorption of glucose into the blood stream, thereby reducing the sugar level in the blood.
- Consumption of egg yolk, and meat should be reduced. Eat fish and chicken instead.
- Amount of oil used in a day should not exceed 4 teaspoons.
- Avoid eating hydrogenated and saturated fat such as Vanaspathi and Margarine.
- Avoid excessive eating.

Daily regimen of physical exercise is also very important to maintain blood sugar level under control. Exercise for at least 30 minutes a day is a great practice. Resistance exercises such as weight lifting or even yard work are good examples of resistance exercise. Brisk walking for at least 30 minutes every day is also a great way of exercising.

Finally, being alert, motivated and understanding the severity of this silent disease will be beneficial to our health and well-being.