PH1 Investigation Into Diabetics

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Historical Origins and Epidemiological Study of Diabetes

The first mention of diabetes was in 1552 BC when Hesy-ra, who was an Egyptian physician, recognized that frequent urination was a major symptom of an enigmatic disease. During this time, it was discovered that ants were attracted to the urine of people who had the disease as compared to normal people, as is written in the third-dynasty Egyptian papyrus. In 500 BC first explanations of sugar in the urine and in obese persons were made. The disease was given a Greek name meaning pass through or siphon. The naming resulted as patients drained more through urination than they consumed. Diabetes is commonly related to other health concerns. It affects people in all parts of the world. Diabetes is hereditary in some cases, whereby it is inherited within the family, but in most instances, the disease results from the lifestyle people live.

According to a WHO publication, Basic Epidemiology (1993 p.g.2), the study of why diseases occur in different people is known as epidemiology. Infectious epidemiology is the study of communicable diseases, while Chronic disease epidemiology is the study of diseases that have a prolonged duration, of heart diseases, cancer, and diabetes. Determinants are factors that bring about change in a person's health. Disease distribution includes the person who got the disease, the place where he or she got the disease and the time when he or she got the disease. In epidemiology research, it is assumed that a disease occurrence is not random and systematic investigation can help in identifying preventive factors, then comparisons can be made from there to come up with valid answers.

Types, Prevalence, and Global Burden of Diabetes

Diabetes is a group of metabolic disorders that include type 1, type 2 and gestational. The human body processes the food to provide body cells with the energy needed. Food containing carbohydrates is broken down in the stomach into glucose. The glucose is then absorbed into the bloodstream. When the body detects that the glucose levels in the bloodstream have started to increase, the pancreas produces insulin that enables the body to get the energy needed. Insulin regulates the amount of glucose getting into the muscles. When the glucose starts to decrease again, the liver produces the stored glucose. The body functions best when glucose is at its optimum level. Within the human body, there is a cycle that balances the glucose and insulin levels considering the food a person has eaten:

the pancreas and the liver. When this system fails, a person develops diabetes.

Diabetes 2 affects 10 percent of the population. In type 1 diabetes, the body does not produce insulin. This is a result of the body destroying the insulin-producing cells in the pancreas, a condition known as an autoimmune response.it is the most common type of diabetes, and it is normally witnessed in young people below the age of forty. Glucose absorbed into the bloodstream is not regulated by insulin. Hence, the glucose levels rise until the body responds by trying to get rid of some of the glucose through the kidneys. People with this kind of diabetes tend to urinate and drink a lot of water. The urine produced contains a lot of glucose and this creates an environment in which bacteria can thrive easily, as a result, one experience genital itching. More bacteria also breed in fresh wounds, resulting in slow healing. Glucose also causes the liquid in the lens of the eyes to be cloudy, hence causing blurred vision. The body also starts to break down the fats in order to acquire an energy source, resulting in weight loss. The condition can be reversed when one gets treated with insulin.

Type 2 diabetes is most common in people above the age of 40 and mainly affects 90 percent of the population. It results when the body is not producing enough insulin or the insulin being produced does not function properly. It occurs mostly in overweight people because of the excess fat which prevents insulin from working properly, as a result, more glucose enters the bloodstream.

According to the International Diabetes Federation’s 2025 Diabetes Atlas, 589 million adults aged 20–79 were living with diabetes in 2024, and the total is projected to rise to 853 million by 2050. Diabetes therefore remains a growing global health challenge affecting adults across working and later life. Some of the existing cases of diabetics are not diagnosed. Diabetes leads to complications like kidney disease, heart failure, retinopathy, and neuropathy. This complication affects the health of an individual and the family. The risks brought about by the disease include obesity, impaired glucose tolerance, insulin resistance and physical inactivity. IDF estimates that 80 percent of the diabetics exist in low and middle-income countries posing a threat to development.in sub-Saharan Africa, approximately 90 percent of diabetics are undiagnosed due to a lack of resources, while in high-income countries, a third of the people are undiagnosed. Impaired glucose tolerance was seen in 316 million people, 6.9 percent of the adult population, and by 2035, the number will have increased tremendously.

Social Determinants, Public Health Risk, and Future Innovation

Social determinants of health include race, income, education, ethnicity, transportation and food access. People who do not have enough money due to low-income issues can be bared of good health because they cannot pay for the service. Individuals who are illiterate can sometimes fail to seek medical attention or fail to interpret basic medical prescriptions from doctors. Diabetes exists in society due to a lack of proper education in that most people in society are not informed of how diabetes comes up and how it can be prevented. People who are infected with diabetes do not know

how to go about the procedures given by the doctors. Some people even take the wrong dosage due to illiteracy. Limited food access can also lead to bad health. Transportation issues also contribute to health determination in that transportation problems can cause late arrivals and missed appointments with medical practitioners. Language barrier presents a limitation on communication between the doctors and the patients if at all they do not speak the same language. People have adopted an urban lifestyle, which in most cases is not in line with the health doctrines. Westernized diets, which are in most cases sugary, fatty and unhealthy, are common and are loved by people as they exist as fast foods.

In conclusion, diabetes presents a major crisis that is threatening to overwhelm worldwide health systems. Medical complications caused by diabetes are the major causes of death in most countries. Diabetes leads as a cause of premature death, owing that there is no cure for diabetes. People living with diabetes should ensure proper diet and sufficient body exercise while seeking proper medication. Seeking proper medication can be expensive to the individuals and their families, but diabetics should ensure their diet is healthy and proper exercise is done. Diagnosis is very important because early detection of the disease can help in its control. Complications of diabetes vary greatly to the extent that even when symptoms exist, diabetes may not be recognized as the cause. Vaccinations should be kept up to date and blood sugar should be monitored, diabetics should get involved in physical activities to manage their weight. Blood pressure and cholesterol should be kept under control.

Advancements in technology in the medical industry will allow for new discoveries and inventions. In the future, with much optimism, scientists will discover a particular gene that causes this kind of disease, and valid preventive measures will be put in place. With the discovery of the remedy for diabetes, millions of lives will be saved annually. Increased and continued sensitization of people based on diabetes-related education and focusing of resources on helping the affected poor people will be of much help before the remedy is discovered.

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