

OUTCOME OF HEALTH SCREENING BY GRACE MEDICAL FOUNDATION ON 18TH

JUNE 2022 AT AKONOMA

RESULTS OF THE RANDOM BLOOD GLUCOSE SCREENING FOR PARTICIPANT

INTRODUCTION

Diabetes Mellitus is a disorder in which the body does not produce enough or respond normally to insulin causing blood sugar Glucose levels to be abnormally high.

Insulin

Insulin, a hormone released from the pancreas (an organ behind the stomach that also produces digestive enzymes), controls the amount of glucose in the blood. Glucose in the bloodstream stimulates the pancreas to produce insulin. Insulin helps glucose to move from the blood into the cells. Once inside the cells, glucose is converted to energy, which is used immediately, or the glucose is stored as fat or the starch glycogen until it is needed.

How Insulin Works

The levels of glucose in the blood vary normally throughout the day. They rise after a meal and return to pre-meal levels within about 2 hours after eating. Once the levels of glucose in the blood return to pre-meal levels, insulin production decreases. The variation in blood glucose levels is usually within a narrow range, about 70 to 110 milligrams per deciliter (mg/dL), or 3.9 to 6.1 millimoles per liter (mmol/L) of blood in healthy people. If people eat a large amount of carbohydrates, the levels may increase more. People older than 65 years tend to have slightly higher levels, especially after eating.

If the body does not produce enough insulin to move the glucose into the cells, or if the cells stop responding normally to insulin (called insulin resistance), the resulting high levels of glucose in the blood and the inadequate amount of glucose in the cells together produce the symptoms and complications of diabetes.

Prediabetes

Prediabetes is a condition in which blood glucose levels are too high to be considered normal but not high enough to be labeled diabetes. People have prediabetes if their fasting blood glucose level is between 100 mg/dL (5.6 mmol/L) and 125 mg/dL (6.9 mmol/L) or if their blood glucose level 2 hours after a glucose tolerance test is between 140 mg/dL (7.8 mmol/L) and 199 mg/dL (11.0 mmol/L). Prediabetes carries a higher risk of future diabetes as well as heart disease.

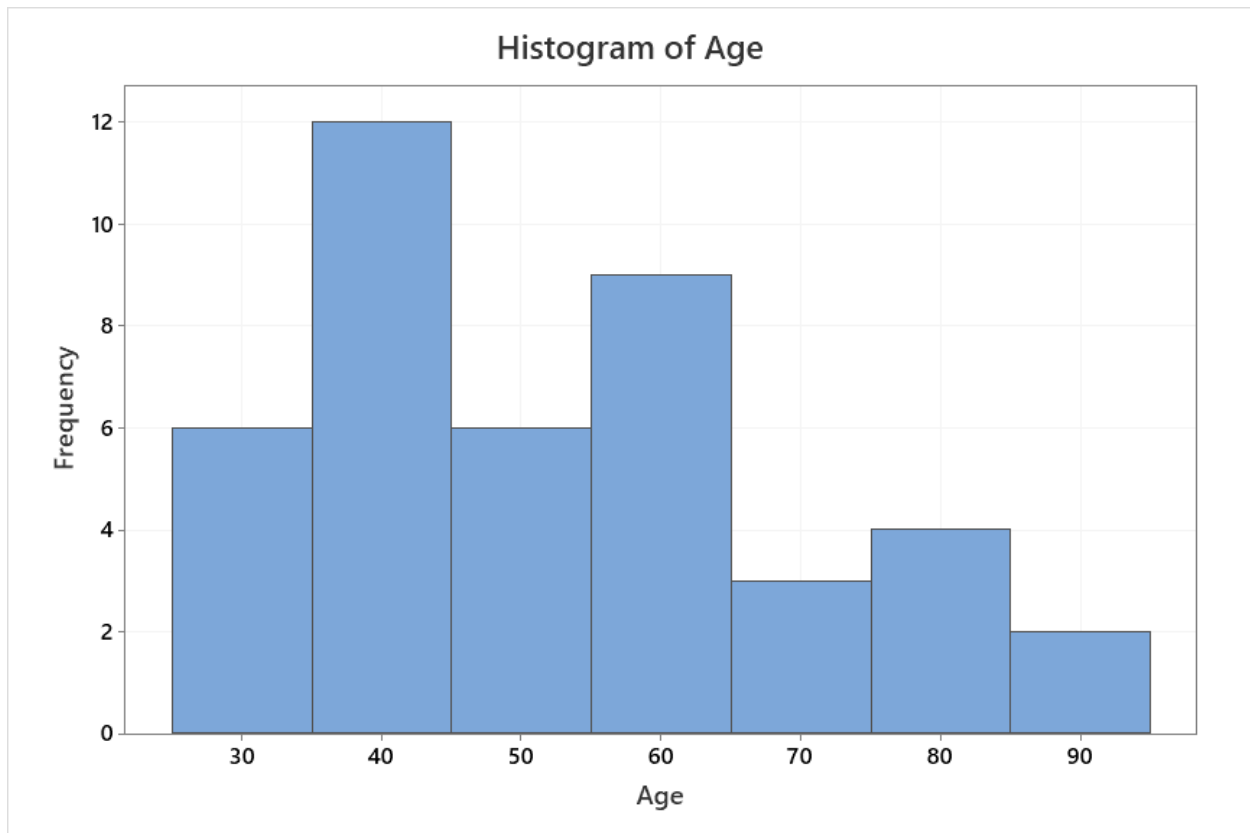
Decreasing body weight by 5 to 10% through diet and exercise can significantly reduce the risk of developing diabetes.

Type 1 diabetes In type 1 diabetes (formerly called insulin-dependent diabetes or juvenile-onset diabetes), the body's immune system attacks the insulin-producing cells of the pancreas, and more than 90% of them are permanently destroyed. The pancreas, therefore, produces little or no insulin. Only about 5 to 10% of all people with diabetes have type 1 disease. Most people who have type 1 diabetes develop the disease before age 30, although it can develop later in life. Scientists believe that an environmental factor—possibly a viral infection or a nutritional factor during childhood or early adulthood—causes the immune system to destroy the insulin-producing cells of the pancreas. A genetic predisposition makes some people more susceptible to an environmental factor.

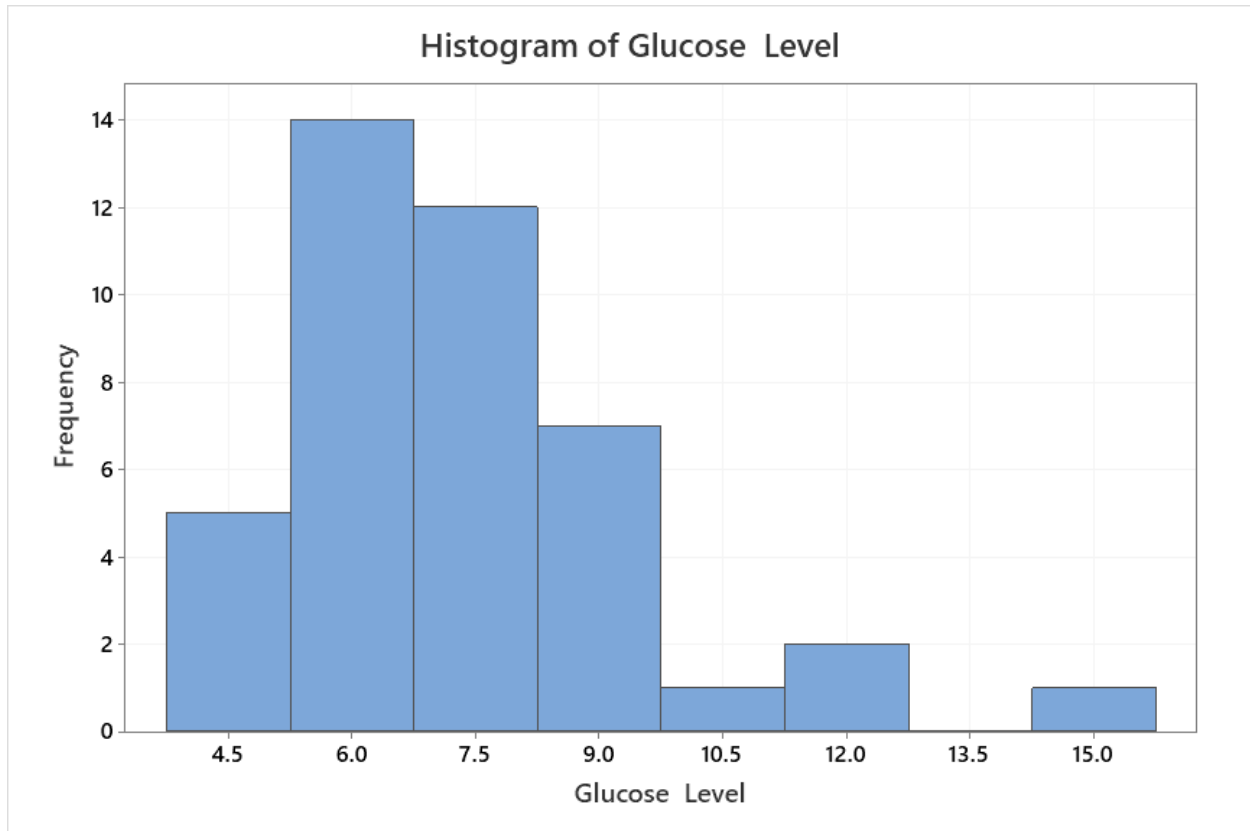
Type 2 diabetes In type 2 diabetes (formerly called non-insulin-dependent diabetes or adult-onset diabetes), the pancreas often continues to produce insulin, sometimes even at higher-than-normal levels, especially early in the disease. However, the body develops resistance to the effects of insulin, so there is not enough insulin to meet the body's needs. As type 2 diabetes progresses, the insulin-producing ability of the pancreas decreases.

CLINICAL PROCEDURE

First and foremost, the participant involved were asked whether they have eaten before the procedure or not. Depending on the response given the test was either a Fasting Blood Glucose or Random blood Glucose. The finger was cleaned with an alcohol pad and then the finger was pierced with a lancet. The first blood was wiped off and the glucometer was used to check the participant Glucose level.

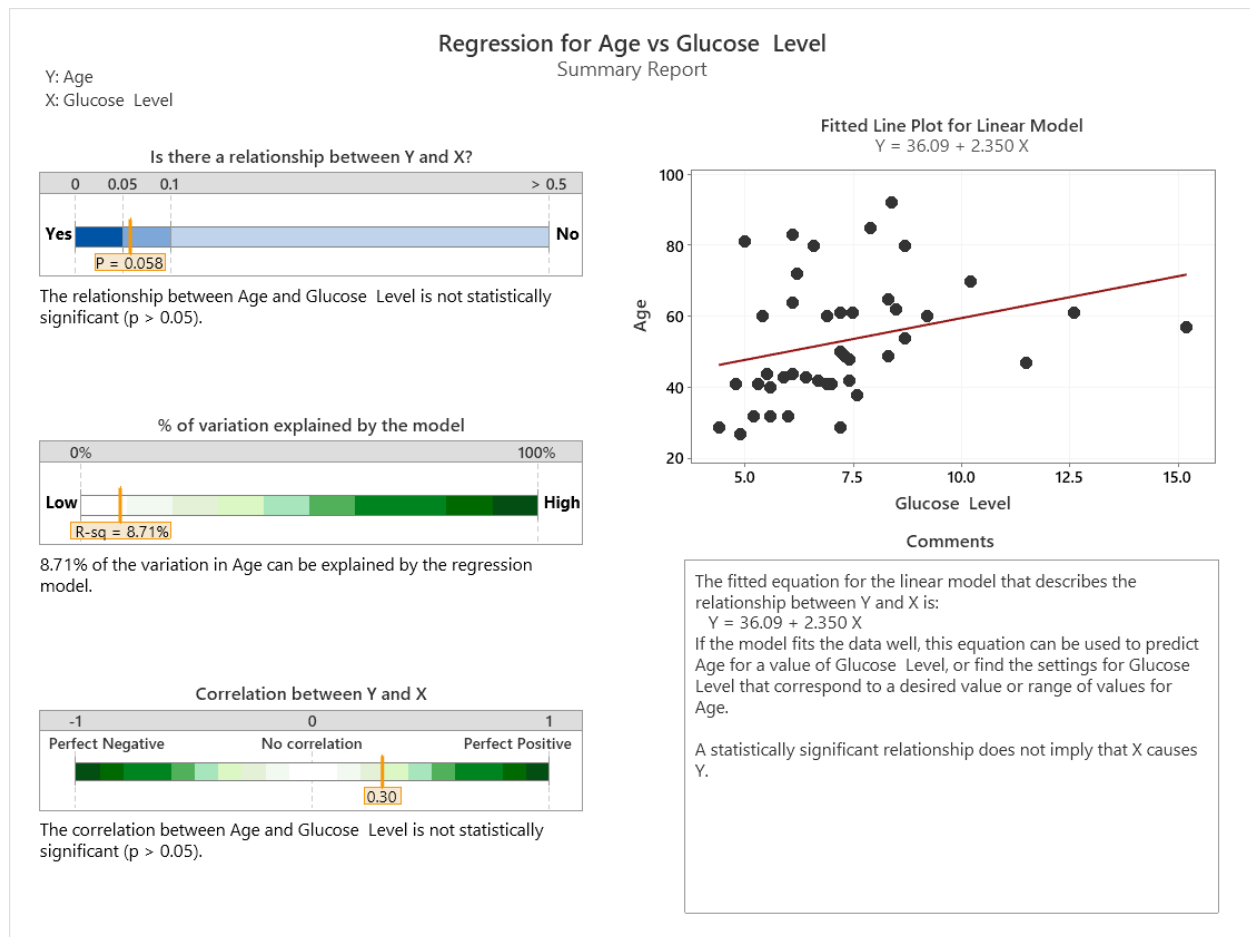


From the Diagram above, shows a Histogram of the age ranges of the participant screened on that day. The diagram shows that most of the participant were in the 40's, followed by age 60, whereas age 30 and 50 being on the same frequency, age group 80 and the last group range being 90. This can clinically be referenced to the fact the some of the risk factors for developing diabetes mellitus can be associated to Age. Even though people within their young ages can be at risk of developing Diabetes, its prevalence cannot be compared to the middled aged and the older people. Hence it is very important that people within the age group of 30-70 years be very cautious of their lifestyle.



The Diagram illustrated above indicate the outcome of the random blood glucose level from the screening. Information from the participant showed that all of them had taken in breakfast before the start of the screening, hence the test performed was a random blood glucose screening.

Clinically the range of a random blood glucose is from 8.0-11.0 mmol/L. This can be factored to the period with the last meal was taken any RBG value above 11.0 mmol/L is considered diabetic. The graph indicated that the participants Glucose level was between the range of 4.5-12.0 mmol/L and one being 15.0mmol/L. Most of the participant had their level within the non-diabetic glucose range of less than 11.0mmol/L. The participant with the value of 10.5 mmol/L could be considered Pre diabetic whilst 3 participants had an RBG levels of 12.0 and 15.0 mmol/L which is considered Diabetic.



The above diagram is illustrating the relationship between the participant age groups and their sugar levels respectively. It can be seen from the scatter diagram that most of the Random blood Glucose level was within the range of 4.0 mmol/L and 10.0mmol. This can be clinically inferred that the majority of the participant involved in the screening were nondiabetic which they had their age range between 20-80 years.

It can also be seen from the diagram that 3 participants had their RBG levels being above the reference range of 11.0 mmol/L. The participant had an age group of between 50 and 60 years.

It can be fairly said based on the outcome of the Random blood Glucose of the participant that majority of the participant were nondiabetic but will encouraged to still maintain a healthy lifestyle.

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