

A-COMPARATIVE STUDY LEVELS OF BLOOD SUGAR ACCORDING TO AGE AND GENDER

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Abstract:

This study aimed to assess the clinical symptoms associated with this disease over time.

A convenience sampling approach was used. Outpatients were selected to participate after providing written informed consent. The study lasted approximately six months, and participants ranged in age from 40 to 65 years. Type 2 diabetes was identified using the patient's glycated hemoglobin (HbA1c) level, which was recorded over the previous 30 days and reflects their blood glucose control. Demographic information was also collected from the patients, including age, sex, socioeconomic status, health status, co-morbidities, and diabetes-related symptoms. SPSS software was used to analyze the data.

The results showed that the mean age was significantly higher in diabetic patients with less than one year of diabetes (60.44 ± 15.88 years) compared to those with one to five years of diabetes (52.26 ± 14.37 years) and those with more than five years of diabetes (53.95 ± 14.28 years) ($p < 0.001$). Group with a duration of less than one year (89 cases, 59.3%) compared to the group with a duration of one to five years (54 cases, 36.0%) and the group with a duration of more than five years (11 cases, 7.3%) ($p < 0.001$).

Keyword: comparative , levels ,blood sugar, age, gender.

Introduction :

Diabetes, also known as prediabetes, is a chronic condition characterized by prolonged high blood sugar levels. It occurs when a person's body is unable to properly produce the hormone responsible for regulating blood sugar levels, which is known as insulin. There are two main types of diabetes: type 1 and type 2.

In type 1 diabetes, a person's body stops producing insulin completely or partially, and usually requires treatment with insulin injections. In type 2 diabetes, the person's body is unable to use insulin effectively or does not produce a sufficient amount of it, and it can be controlled by proper nutrition, physical activity, and sometimes by medications.

Diabetes may lead to serious health complications if not properly controlled, such as problems with the heart, blood vessels, kidneys, and eyes, in addition to problems with the nervous system.

Therefore, it is important to monitor blood sugar levels regularly, follow a healthy diet, practice physical activity, and consult the specialized medical team to maintain good health and reduce potential risks. The blood level is 70-105 mg/dL when fasting. In case of an increase in the level known as (hyperglycemia) In a low- level condition called (hypoglycemia)

Insulin Structure

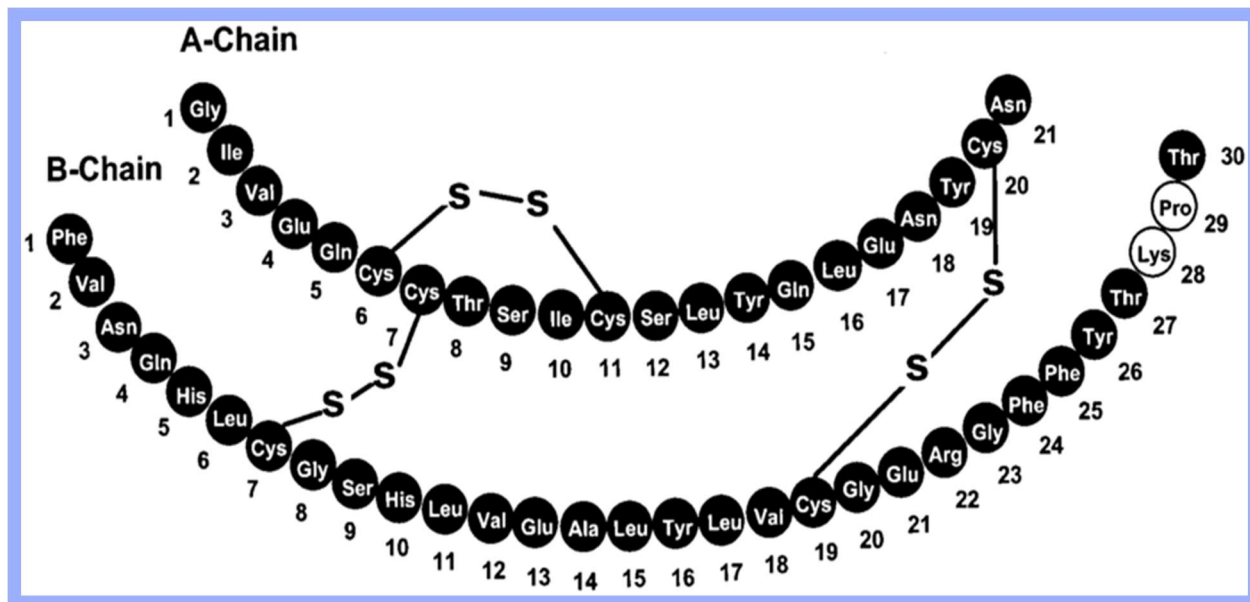


Figure (1): The structure of Insulin.

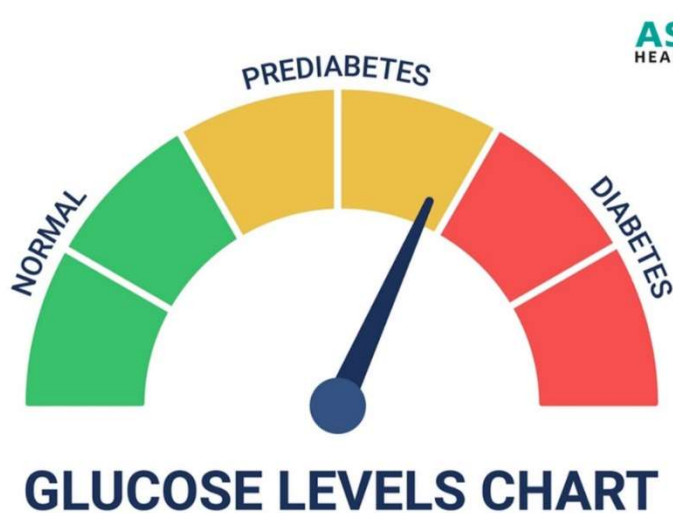


Figure (2): Glucose levels chart

Chronic hyper glycaemia results, usually accompanied by glycosuria and other biochemical abnormalities as ketoacidosis or hyperosmolar coma. In the united states in(1987) 14 million people are identified as having diabetes ,144000 deaths.

Diabetes was initially diagnosed by the oral glucose tolerance test .

Optimal distinction between normal and diabetic individuals occurs at a fasting glucose around 140 mg/dl and glucose levels greater than 200mg/dl 2 h after an oral glucose load. Urine glucose measurements are inadequate for diagnostic purposes

Classification of diabetes:

Type 1: Insulin Dependent Diabetes Mellitus (IDDM)

Approximately 5-10% of all cases of diabetes mellitus are in this category, patient usually are feeling polyuria , polydipsia and rapid weight loss.

Although it may become symptomatic at any age , its onset usually occurs in youth.

Type 2 :- Non Insulin Dependent Diabetes Mellitus (NIDDM)

Obesity is commonly associated and weight loss alone usually improves the hyper glycaemia .

however many individual with NIDDM may require dietary manipulation an oral hypo glycaemia ,or insulin to control hyper glycaemia.

World Health Organization (WHO) has been divided this type in to two main groups ,Obese and Non Obese . A post receptor defect in insulin action with in cells, there are no (HLA) associations and no islet cell antibodies are found.

Obesity is associated with hyper insulins in the absence of NIDDM and it is possible that obese patients who develop NIDDM either have diminished pancreatic reserve or a secretory defect in pancreatic β -cells, resulting in a failure to respond normally to glucose.

Results:

The results of practical tests appear that the relation of the types with respect to many variables such as normal, gender, ages, and weights represents the functions dependents for the sugar ranges with respect to the variables that remark previously in this study.

Table(1):-Diabetes levels is normal: (Type 1)

Name	Age	Gender	Sugar	Standard
Patient 1	22	Female	92	120mg/dl
2 Patient	24	Female	105	120mg/dl
3 Patient	26	Male	112	120mg/dl

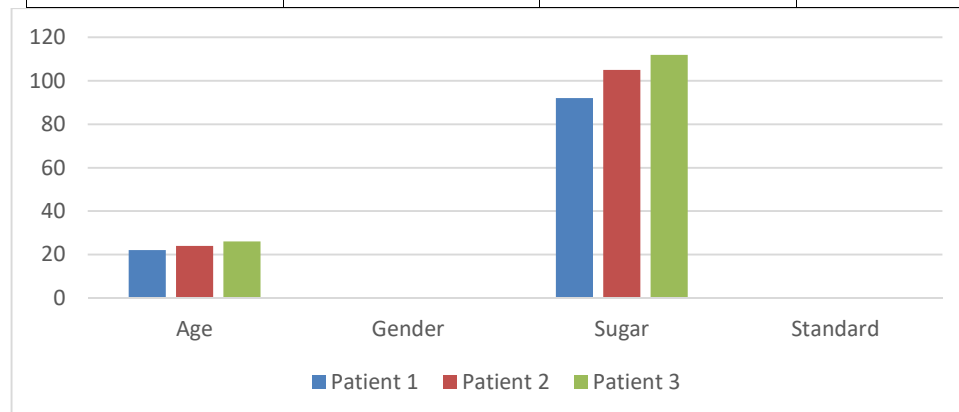
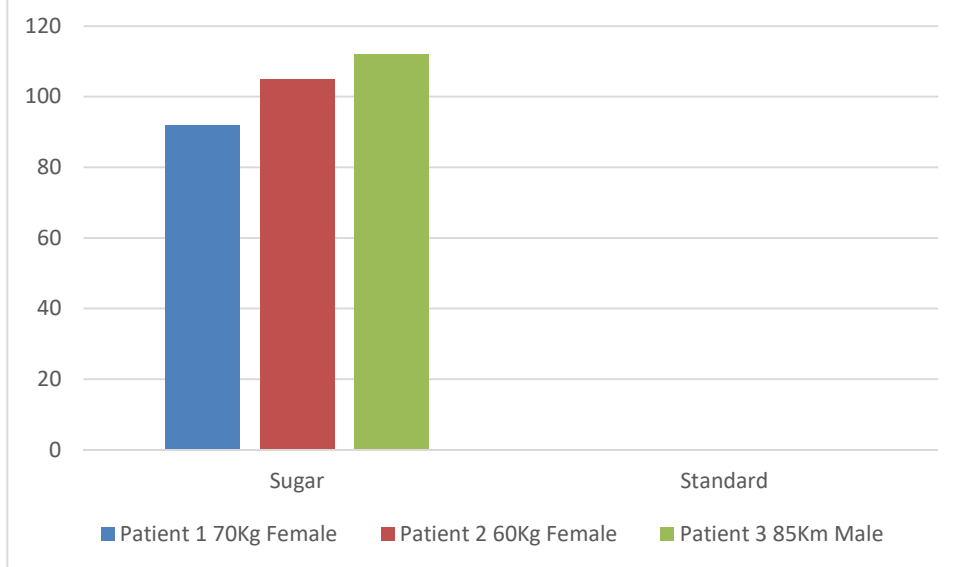


Figure (3):The range of sugar as a function of several parameters.

Table(2):-Diabetes levels is normal: (Type 2)

Name	Weight	Gender	Sugar	Standard
Patient 1	70Kg	Female	92	120mg/dl
2 Patient	60Kg	Female	105	120mg/dl
Patient 3	85Km	Male	112	120mg/dl

**Figure (4): The range of sugar as a function of several and stander parameters.****Table (3) :-Diabetes levels according to smoking: (Type 2).**

Name	Age	Gender	Sugar	Standard
4 Patient	21	Male	105	120mg/dl
5 Patient	26	Male	99	120mg/dl
6 Patient	65	Male	143	120mg/dl

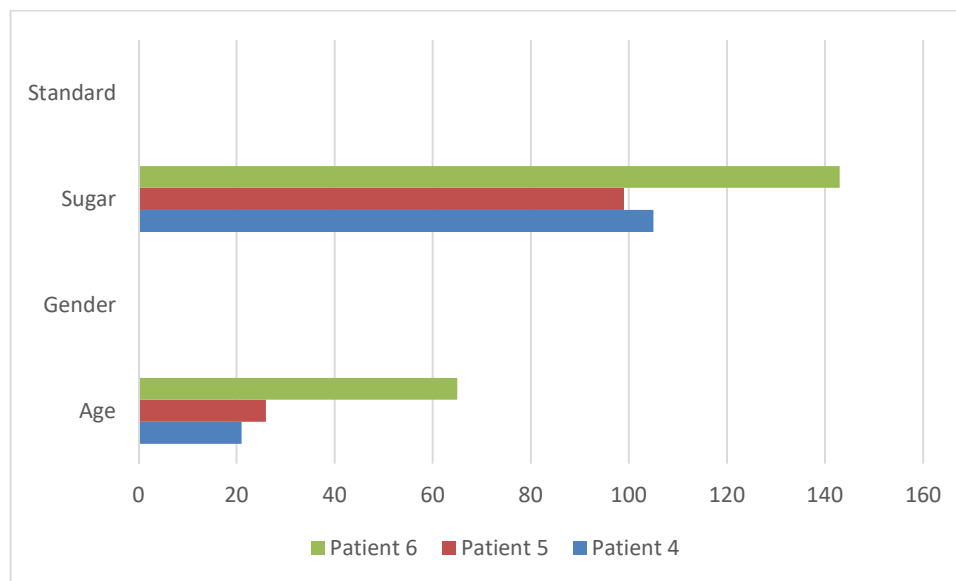


Figure (4): Diabetes levels according to smoking: (Type 2).

Table (4) :-Diabetes levels according to wightes: (Type 2).

Name	Weight	Gender	Sugar	Standard
4 Patient	125Kg	Male	105	120mg/dl
5 Patient	66Kg	Male	99	120mg/dl
6 Patient	90Kg	Male	143	120mg/dl

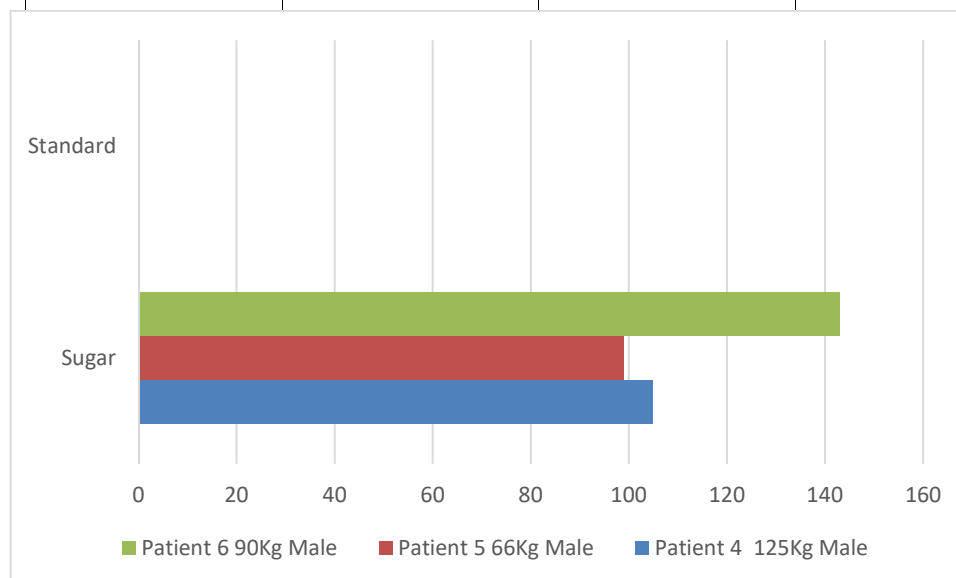


Figure (5): Diabetes levels according to weights.

Table (4) :- Diabetes level according to obesity : (Type 3)

Name	Age	Gender	Sugar	Standard
7 Patient	26	Male	118	120mg/dl
Patient 8	36	Male	110	120mg/dl
9 Patient	18	Female	145	120mg/dl

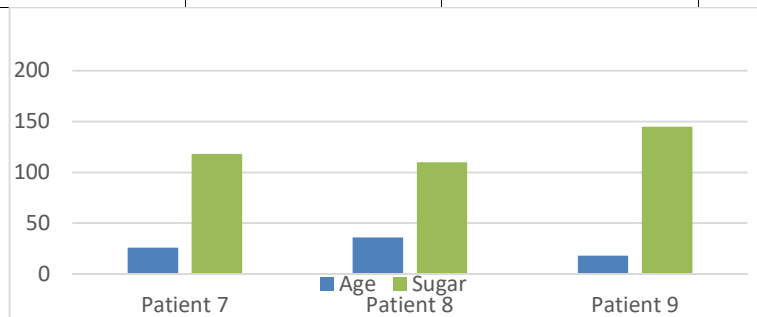


Figure (5): Diabetes levels according to ages and weights.

Table (5): - Diabetes level according to obesity.

Name	Weight	Gender	Sugar	Standard
7 Patient	150Kg	Male	118	120mg/dl
8 Patient	110Kg	Male	110	120mg/dl
9 Patient	122Kg	Female	145	120mg/dl

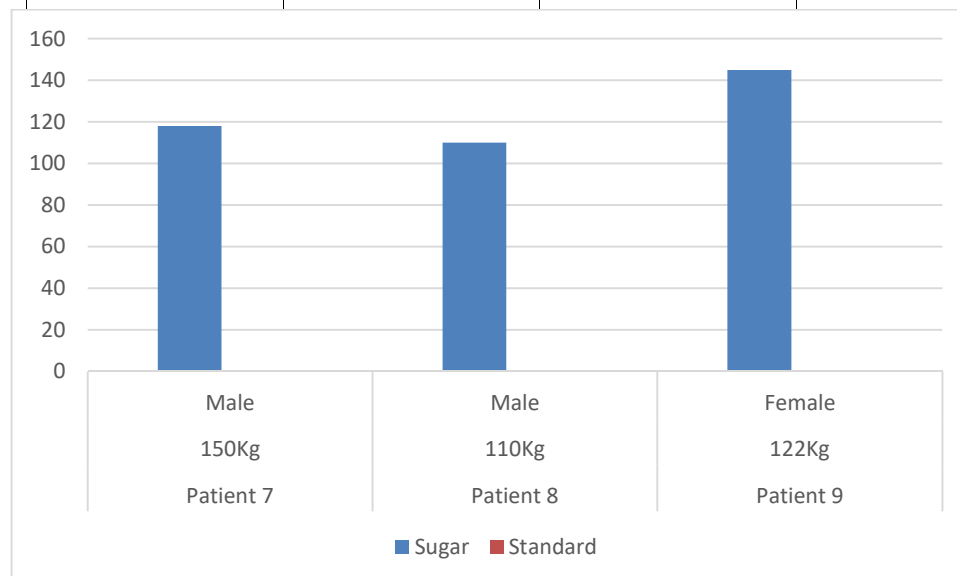
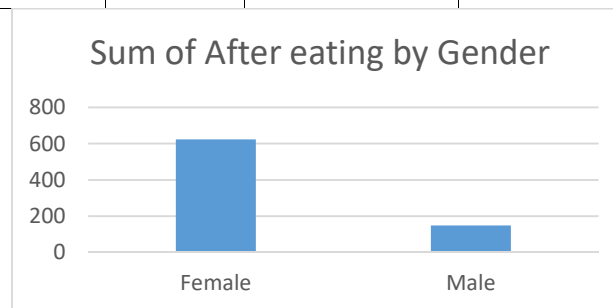


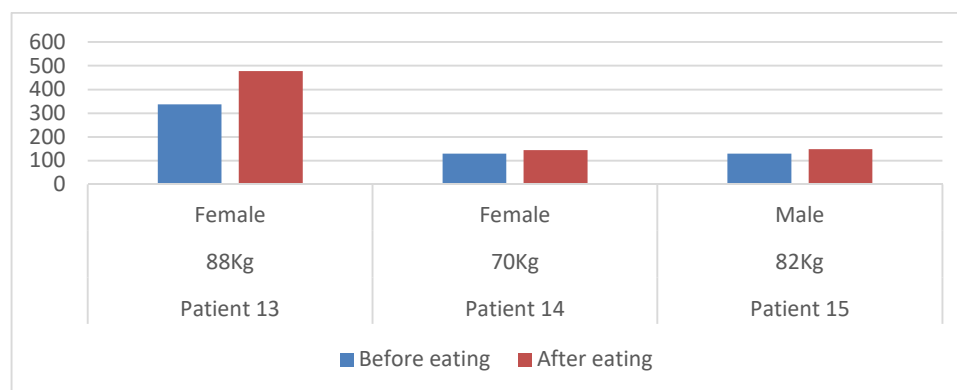
Figure (6): Diabetes levels according to genders and weights.

Table (5): Diabetic patient: (Type 4).

Name	Age	Gender	Before eating	After eating	Standard
10 Patient	42	Female	337	478	120mg/dl
11 Patient	66	Female	129	145	120mg/dl
12 Patient	70	Male	130	148	120mg/dl

**Figure (6): Sum of after eating by gender.****Table (6): Diabetes levels before and after.**

Name	Weight	Gender	Before eating	After eating	Standard
13 Patient	88Kg	Female	337	478	120mg/dl
14 Patient	70Kg	Female	129	145	120mg/dl
15 Patient	82Kg	Male	130	148	120mg/dl

**Figure (6): Diabetes levels before and after.**

Conclusion:

With age, the risk of hypoglycemia (low blood glucose) increases. Type 2 diabetes is often diagnosed in people in their late forties, and as they age, they may experience difficulties and a lack of response to medications and treatments for this chronic condition. Those aged 60 and older are the most susceptible to this disease. The development, management, and treatment of diabetes may be complicated by other illnesses. The influence of other diseases is another important factor in controlling the progression or worsening of this chronic condition, due to the combination of medications taken. Target blood glucose levels also vary. Scheduled clinical follow-up within the treatment protocols for this type of diabetes must be meticulous.

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