

Article

A Study on the Prevalence of Diabetes in Thi-Qar City

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Annotation: Diabetes is one serious life disorder whose incidence is rising worldwide. The study was designed to examine the prevalence of 100 patients with diabetes mellitus. Over a period of time, we collected data for patients from Al-Hussein Education Hospital and the Special Centre for Diabetes in Thi-Qar from February 2023 to February 2024, which has been studied according to age, residential area, and sex. According to the study, the risk of developing diabetes increases with age, particularly if the person is losing weight and eating a poor diet. Diabetes becomes more common as people age and become obese. The study also found that the percentage of cases of men with diabetes increases a little more than in women and for different factors. As for the geographical distribution, it was found that urban logicians spread the disease at a higher percentage than in rural areas because of population distribution and other economic factors.

Keywords: diabetes, Diabetes Mellitus (DM), HLA (human leukocyte antigen) gene, HIV AIDS

1. Introduction

The history of diabetes dates back thousands of years, and its earliest known documentation can be traced back to ancient Egypt. The Egyptians recognized a condition with symptoms that we now associate with diabetes, such as weight loss and excessive urination. However, they did not have a clear understanding of the underlying causes or mechanisms of the disease. Diabetes means "to pass through" in Greek, whereas the Latin word for honey, diabetes mellitus denotes sweetness [1]. With almost one death per second, diabetes is a major cause of protracted illness and early mortality, accounting for a greater number of deaths annually than HIV AIDS [2]. With the onset of global industrialization and the startling increase in obesity, diabetes has become an epidemic on a global scale. For two primary reasons, however, it is exceedingly challenging to determine an appropriate prevalence measure [3]. According to current surveys, the prevalence of adult diabetes is expected to rise from 4% in 1995 to 6.4% by 2025, with data collection standards and methodologies differing greatly across different regions of the world [1]. The most prevalent metabolic illness, diabetes mellitus poses a serious challenge to healthcare globally [4]. Although that belongs to the most severe of the five categories of deadly diseases, it is regarded as one of the ten most dangerous diseases in the world [5].

Diabetes mellitus is a metabolic disease that affects how proteins, lipids, and carbohydrates are metabolized. It is caused by a malfunction in either the secretion of insulin or how it interacts with target tissues, or both [6]. This results in an accumulation of blood sugar, which frequently results in chronic hyperglycemia [7]. One of the main risk factors for diabetes complications is thought to be persistent hyperglycemia [2]. It's critical to realize that the term "diabetes" refers to a broad range of illnesses that result in persistently

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high blood sugar. The categorization of diabetes mellitus is based on the distinct pathophysiology of each kind [8]. Type 1 diabetes mellitus (T1DM) is an autoimmune illness in which activated CD4+ and CD8+ T cells and macrophages enter the pancreatic islets and kill B cells. T1DM was originally known as insulin-dependent diabetes mellitus or juvenile-onset diabetes. The start of type 1 diabetes [9] It is well established that hereditary and environmental factors both contribute to the pathophysiology of type 1 diabetes. According to genetic research, T1DM is the most prevalent type of diabetes mellitus in the US [10]. According to genetic research, T1DM is strongly linked to the HLA (human leukocyte antigen) gene on chromosome 6. The cell surface is home to HLA proteins, which aid the immune system in differentiating between external infectious and noninfectious pathogens and healthy cells within the body [11]. Deviations from normal HLA proteins result in autoimmune responses directed against B cells a different gene involved in HLA viability is crucial in T1DM [12]. Evidence points to specific viruses as potential T1DM triggers; some T1DM patients experience the development of additional [13]. Idiopathic diabetes mellitus is less common than autoimmune T1DM and is found in African and Asian populations. The etiology and pathogenesis are not well unstated nevertheless the absence of antibodies to B-cells results in deficient insulin secretion and attenuated cytotoketoacidosis [10].

2. Materials and Methods

The data were collected from the records of 100 patients from Al-Hussein Education Hospital and the Special Centre for Diabetes in Thi-Qar for the time period from February 2023 until February 2024. The information's classification has been counted according to age, residency, and sex type. and used a chart to compare the results of the comparison between the results study.

3. Results and Discussion

Table 1 shows the number of patients by age group. The results showed that the higher percentage of the disease in the age group (50-49) and by (43%), followed by group (40-49) and by (26%), (<60) by (20%) and then (>40) by (11%).

Table 1. The Percentage of the Diabetic by Age Group

Age	40<	40-49	50-59	60>
Patients N=100	11	26	43	20
Percentage	11%	26%	43%	20%

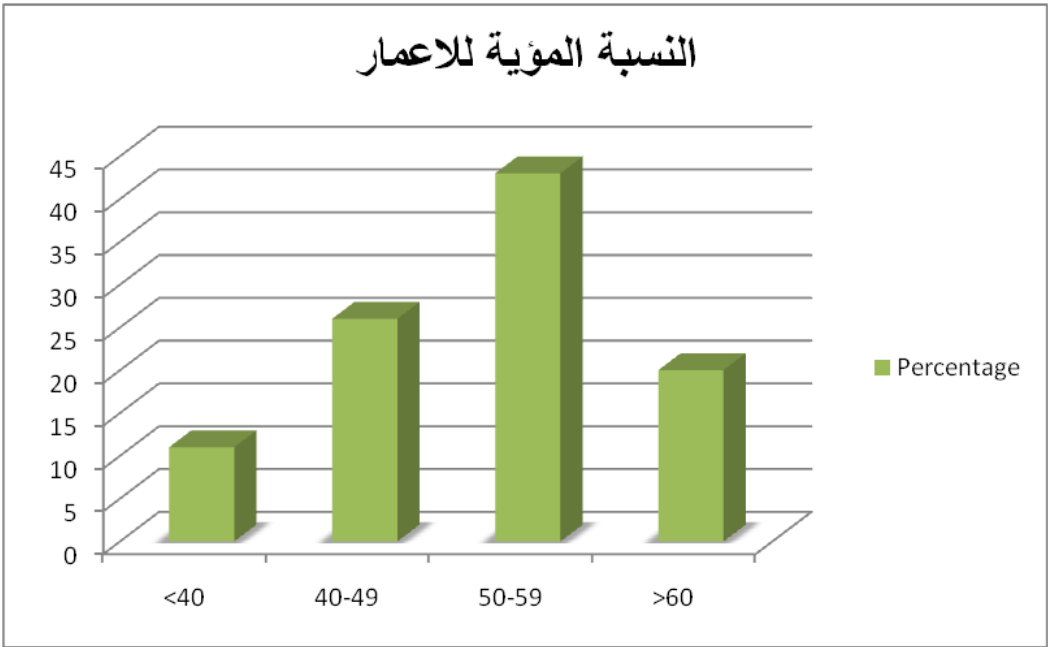


Figure 1. The Percentage of the Diabetic by Age Group

Table 2 shows that (51%) of patients with diabetes are male and (49%) female according to the sex type.

Table 2. The Percentage Distribution by Sex Group

Sex group	Patients	Percentage
Male	51	51%
Female	49	49%

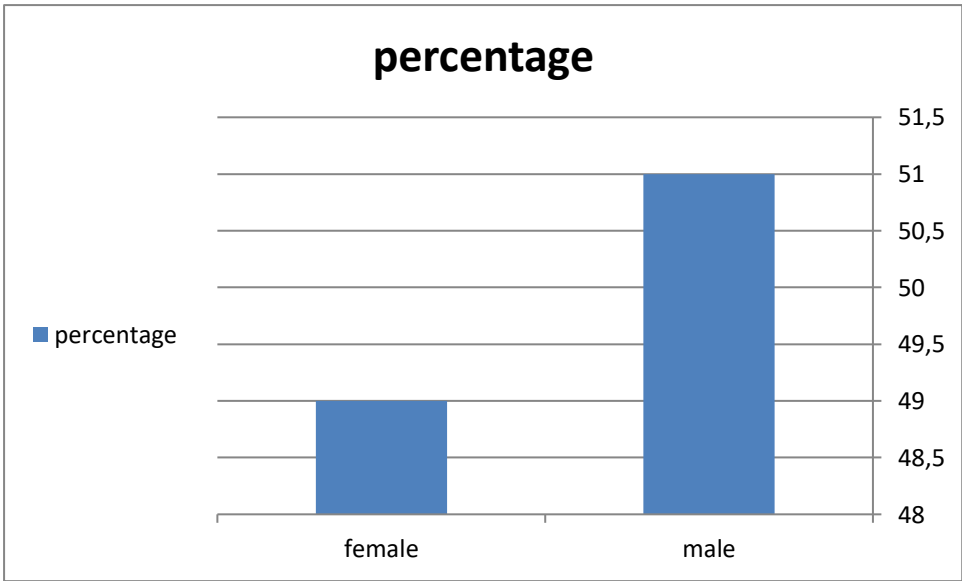


Figure 2. The Percentage Distribution by Sex Group

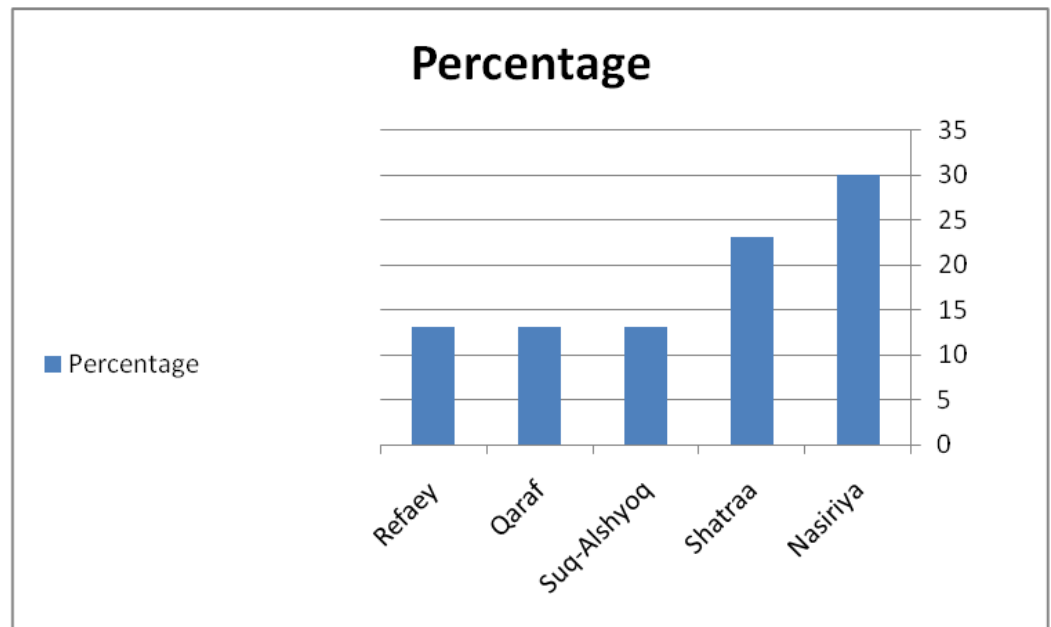


Figure 3. The Prevalence Rate in Residential Areas

Diabetes together with being overweight are quite heterogeneous various illnesses. The global prevalence of diabetes will increase by 42% between 2003 and 2025 [14]. Diabetes is a growing problem worldwide and has become a global disease. Currently, diabetes is estimated to affect approximately 4% of the whole population of the world and this figure rises to 5.4% for those over the age of 20 [15]. The fact that diabetes prevalence increases with age is steady with previous research findings. As shown Table 1 diabetes prevalence is highest in the 50–59 age group at 43%. Globally the prevalence of diabetes is similar in men and women, on the other hand to some extent higher in men <60 years of age and in females at older ages [16]. The study shows in Table 2 that males have the highest percentage of prevalence (51%), followed by females (49%). Numerous variables contribute to the explanation of the sharp rise in the prevalence of diabetes. It is an aging condition, to start. More than 20% of people 65 and older or older have diabetes. Second, diabetes is closely linked to obesity [17]. It is commonly recognized that a higher percentage of individuals with type 2 diabetes—between 80% and 90%—are fat [18]. According to a different study, of the men surveyed, 37% were overweight (BMI >30 kg/m²) and 20.7% were obese (BMI, 25–29.9 kg/m²). Also, 39.3% of women were obese, and 27% were overweight [19]. Diabetes risk rose with age and BMI in males as well as females, both current and past smokers had a greater incidence of diabetes [20]. And it should be noted that diabetes takes a particular toll on women. The burden of diabetes on women is unique because diabetes can affect both the mother and the fetus [21]. And according to this study, the prevalence is highest in urban areas compared to rural areas. As can be seen in the last Figure 3, the prevalence rate in Nasiriya is 30%, while the same rate (13%) is observed in Refaey, Karaf, and Souk al-Shuyoq. This prevalence is due to a number of causes that can influence the distribution of the percentage of patients in residential areas, such as a larger urban population than in rural areas, in addition to differences in economic levels. It should also be remembered that while certain factors may increase personal risk, in many cases, an unhealthy lifestyle is the broader problem [12]. Research on the risk factors for type 1 diabetes is ongoing. On the other hand, your chance of getting type 1 diabetes is somewhat increased if you have a family member who has the condition [9]. Type 2 diabetes is also influenced by lifestyle choices. Family members typically have similar food and activity patterns, and obesity tends to run in families [22].

4. Conclusion

The prevalence of diabetes increased with age. In particular, diabetes is more common in adults over 50 than in younger adults. Being a man is one of the risk factors for diabetes. According to the study, although diabetes prevalence is identical in men and women, it is marginally higher in men. Obesity be more common in people with diabetes; 80–90% of people with type 2 diabetes are obese. The percentage of people with an illness is higher in metropolitan regions than it is in rural areas.

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