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Prevalence of diabetes mellitus and type of therapy among Iraqi patients aged 20 years and above in Baghdad

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Abstract

Through a period extended from 6 June, 2018 to 1 February, 2019, 100 Iraqi patients diagnosed clinically with diabetes mellitus were participated they conducted to an Outpatient Clinic in Baghdad. According to age, the lowest diabetes mellitus incidence was among (71-80) years old age group (1%), whereas the highest diabetes mellitus incidence was among (41-50) years old age group (34%). On the other hand, the lowest incidence of diabetes mellitus was among (41-50) kg weight group (3%), whereas the highest incidence was among (81-90) kg weight group (41%) in both males and females (P≤0.05). Our results showed that 26(26%) of patients (males and females) had HbA1c level within the range (11-11.9), followed by 17(17%) of patients within the range (10-10.9). The highest diabetes mellitus patient percentage was used hypoglycemic medicines (tablets) 61(61%), while the percentage of patients that used insulin was 21(21%). From the results most of patients depended on the medicines on the therapy 82(82%) rather that the diet 18(18%) (P≤0.05).

Keywords: Diabetes mellitus, HbA1c level and Diabetes therapy.

Introduction

Diabetes mellitus (DM) is a metabolic disorders characterized by hyperglycemia due to reduce in insulin secretion levels and/or action. Diabetes is a worldwide medical problem. People with diabetes are increase every day as a result of ageing, unhealthy diet, obesity and change lifestyle (1). Diabetes mellitus is very prevalent, affecting over 217 million people worldwide, and its pre- valence is expected to increase in the future (2). According to the World Health Organization, at least 366 million people around the world are projected to have diabetes mellitus by the year 2030 (3).

In developed countries, diabetes has been reported as the seventh leading cause of death (4), and the leading cause of dysfunction, and failure of different organs, especially the eyes, kidneys, nerves, heart, and blood vessels, so more concern in diabetes management and control are needed (5). The postulated mechanism for diabetic effects on periodontal disease is that diabetes-enhanced inflammation and apoptosis specifically affect periodontal tissues (6).

Four subtypes of diabetes mellitus are known; insulin-dependent diabetes mellitus (IDDM) which known as Type 1 diabetes, present due to failure of pancreatic beta-cells to produce insulin, this type effect both children and adults who will require daily injections of insulin.

Type 2 diabetes (T2DM), also called non-insulin-dependent diabetes mellitus (NIDDM) or adult-onset diabetes which it represent the most common type of diabetes disease. This type associated with overweight and is caused by insulin resistance treated with oral medications or exogenous insulin in addition to diet regimens (5). T2DM accounts for 90% to 95% of diabetes; it is a heterogeneous group of disorders characterized by insulin resistance, impaired insulin secretion and increased glucose production (7&8).

Gestational diabetes develops in some pregnancies, but disappears postpartum (9&10). Cause factors are obesity, a family history of diabetes and race. Other types of diabetes result from genetic disorders, surgery, drugs, malnutrition, infections and other illness are rare in incidence (10). The study aimed to investigate prevalence and treatment of diabetes Mellitus among different age groups of Iraqi patients.

Materials and Method

This study was conducted in Baghdad/ Iraq, during the period from 6 June, 2018 till 1 February, 2019, on 100 subjects (50 females and 50 males) who were

attending the Outpatient Clinic in Baghdad. The age of the subjects ranged between 20-80 years.

The information pertaining to age, gender, weight, duration of diabetes and the type of therapy for diabetes was recorded in special case records.

Blood samples were gathered from the subjects to conduct some of laboratory investigations using standard protocols for estimation of RBS and HbA1c%.

Statistical analysis: The Chi-square ($\chi 2$) test was employed for comparison among groups. P value ≤ 0.05 was considered statistically significant.

Results and Discussions

Subjects and Period of Study: In this study, 100 Iraqi patients diagnosed clinically with diabetes mellitus were participated they conducted to the Outpatient Clinic in Baghdad. This study was conducted during the period extended from 6 June, 2018 till 1 February, 2019.

Distribution of diabetes mellitus patients according to age and sex: The distribution of diabetes mellitus patients according to age and sex was summarized in table 1.

Among the diabetes mellitus patients the age ranged from 21 years to 80 years, the lowest diabetes mellitus incidence was among (71-80) years old age group (1%) followed by (20-30) year's old age group (6%), whereas the highest diabetes mellitus incidence was among (41-50) years old age group (34%) (No significant difference at P≤ 0.05). The table also shows that the diabetes mellitus incidence was same among males and females. On a study done by Ueno *et al*., (11), found that the characteristics of subjects in each age group are similar. The proportion of female was higher than that of male.

Distribution of diabetes mellitus patients according to weight: The distribution of diabetes mellitus patients according to weight was summarized in table 2.

Among the diabetes mellitus patients the weight ranged from 41 kg to 110 kg, the lowest incidence of diabetes mellitus was among (41-50) kg weight group (3%), whereas the highest incidence of diabetes mellitus was among (81-90) kg weight group (41%) in both males and females (P≤0.05).

Distribution of the patients according to duration of diabetes: The distribution of patients according to duration of diabetes was summarized in table 3. The duration of diabetes ranged from less than 1 year to more than 20 years, and the duration of diabetes was different in both males and females.

Estimation of HbA1c% for the patients: The blood chemical analysis for hemoglobin A1c (HbA1c) level was estimated for all patients, and among the diabetes mellitus patients the HbA1c level ranged from (7-7.9) to (15-15.9). The results in figure 1, showed that 26(26%) of patients (males and females) had HbA1c level within the range (11-11.9), followed by 17(17%) of patients within the range (10-10.9).

Type of the therapy: Depending on the type of therapy, patients were divided into three groups; one use of insulin, the second use of hypoglycemic medicines (tablets), and other group don't use any therapy (diet). The results in figure 2, showed that the lowest diabetes mellitus patients percentage was used the diet in therapy 18(18%), whereas the highest diabetes mellitus patient's percentage was used hypoglycemic medicines (tablets) 61(61%). On other hand the percentage of patients that used insulin was 21(21%). From the results most of patients depended on the medicines on the therapy 82(82%) rather that the diet 18(18%) (P≤0.05).

Table 1: Distribution of diabetes mellitus patients according to age and sex

Age groups	Diabetes mellitus patients					
	Male		Female		Total	
	No.	(%)	No.	(%)	No.	(%)
20-30 years	3	6	3	6	6	6
31-40 years	9	18	8	16	17	17
41-50 years	17	34	17	34	34	34
51-60 years	11	22	15	30	26	26
61-70 years	9	18	7	14	16	16
71-80 years	1	2	0	0	1	1
Total	50	100	50	100	100	100

Table 2: Distribution of diabetes mellitus patients according to weight

Weight groups Kg	Diabetes mellitus patients					
	Male		female		Total	
	No.	%*	No.	%*	No.	%*
41-50	1	2	2	4	3	3
51-60	3	6	3	6	6	6
61-70	6	12	6	12	12	12
71-80	8	16	9	18	17	17
81-90	21	42*	20	40*	41	41*
91-00	9	18	8	16	17	17
101-110	2	4	2	4	4	4
Total	50	100	50	100	100	100

***Out of total number of diabetes mellitus patients (100). P≤0.05**

Table 3: Distribution of the patients according to duration of diabetes

Duration of diabetes groups	Diabetes mellitus patients					
	Male		female		Total	
	No.	%	No.	%	No.	%
<1 years	7	14	7	14	14	14
1-4 years	18	36	11	22	29	29
5-9 years	7	14	19	38	26	26
10-15 years	15	30	11	22	26	26
16-20 years	2	4	2	4	4	4
> 20 years	1	2	0	0	1	1
Total	50	100	50	100	100	100

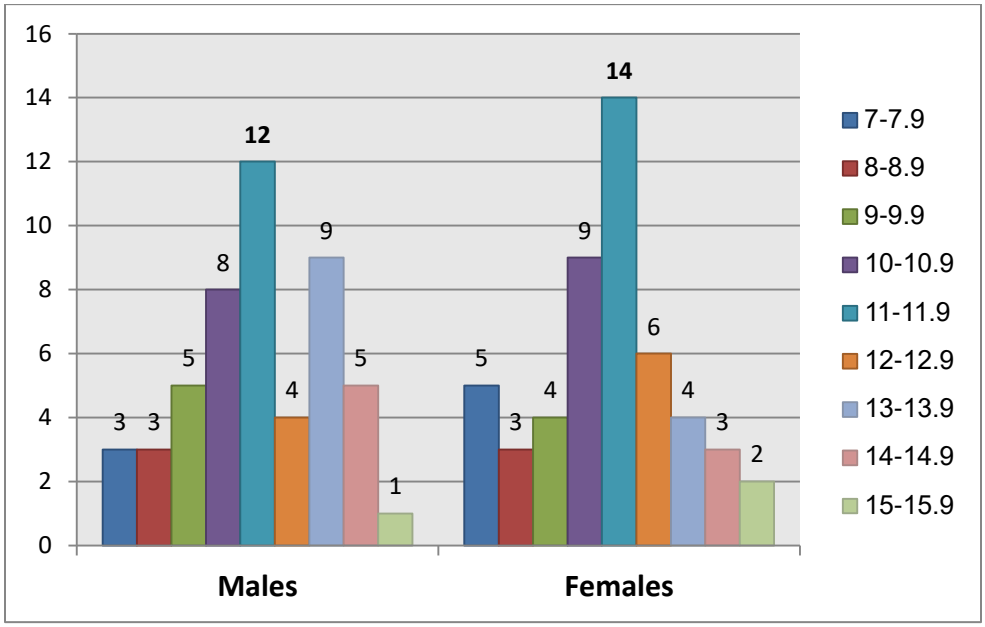

Figure 1: Numbers of diabetes mellitus patients according to levels of HbA1c%

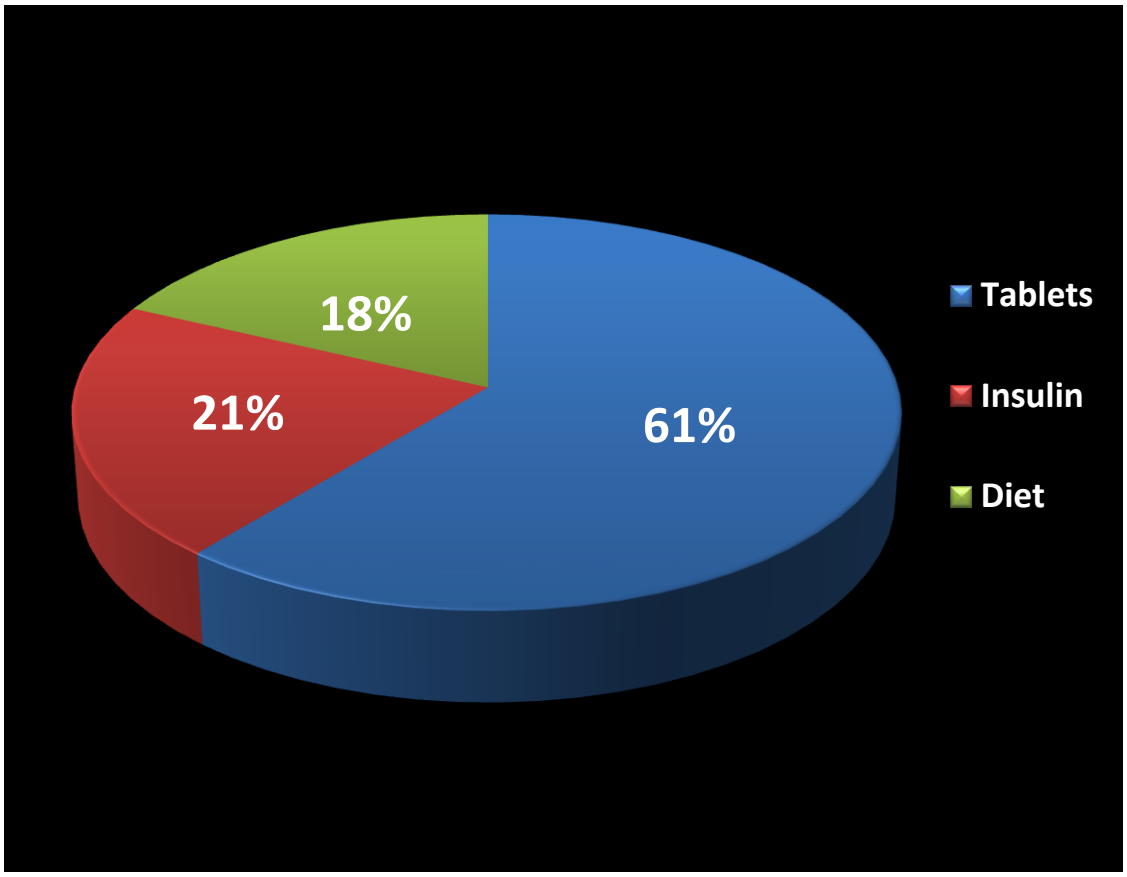

Figure 2: Distribution of diabetes mellitus patients according to type of therapy

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