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(RESEARCH ARTICLE)

Evaluation and follow up patients with diabetes mellitus who attended Sabratha diabetic center

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Abstract

Background: Diabetes is a public health challenge facing the world. Awareness and long term diabetes have an enormous effect, including cardiovascular disease and microvascular disease. Objective: This study aimed to estimate diabetes incidence and it is complications.

Methods: A hundred diabetic patients who attended Galil diabetic center in Sabratha city had participated in this study in May 2013.

Results: The mean age was 56 years old. Diabetes was more prevalent in females than in males (62%vs38%). The mean blood glucose concentration was 168 mg/dl, reflecting poor glycemic control, as 16% of diabetic patients moved to treatment with insulin.

Conclusion: Poor glycemic control means of fasting plasma glucose was 168 mg/dl, and 16% started to use insulin therapy, along with 15% had hypertension.

Keywords: Diabetes; Glucose; Sabratha; Females

1. Introduction

Diabetes is defined as high blood glucose levels (hyperglycemia) due to defects in insulin secretion, action, or both [1]. Diabetes can be classified as Type 1 diabetes, Type 2 diabetes, gestational diabetes, and other types [2]. Type 1 diabetes is the most common type of diabetes during childhood and adolescence [3]. Whereas Type 2 diabetes mellitus (T2DM) usually occurs in adulthood, particularly after 40 years old [4] and accounted for more than 90% of diabetic patients [5,1]. However, worldwide, Type 1 accounts for roughly 10% of diabetes [6,1]. Globally, diabetes is expected to rise from 171 million patients in 2000 to 366 million by 2030. [7]. However, the prevalence of diabetes was estimated in many Arabic countries, in Lebanon at approximately 15.8%, Bahrain (25.5%), United Arab Emirates (23.3%), and Saudi Arabia (23.7%) [8]. In 2000 in Libya, it has been estimated that the number of diabetic patients was 88000 and is expected to reach 245,000 by the year 2030 [9]; likewise, in Libya, diabetic patients had been estimated roughly about 14.1% [10]. The increased incidence of diabetes mellitus is due to lifestyle changes like decreased physical activity and an unhealthy diet [8]. This study aims to estimate the prevalence of diabetes patients in females and males, awareness, and treatment of DM, using glucose analysis and an interview to assess patients through socioeconomic characteristics.

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2. Material and method

A hundred diabetic patients who attended Galil diabetic center in Sabratha city participated in the study. Sabratha is a city located 60 km northwest of Tripoli, the capital of Libya. Five ml of venous blood samples were collected in a Sodium fluoride glucose tube to measure plasma glucose concentration. In addition, a questionnaire gathered data on the participants sociodemographic characteristics, including age, gender, physical activity, family history, diabetes complications, and duration of the disease. The study was conducted from May 2013 to June 2013 and all diabetic patients gave their consent.

3. Results

Our data showed that the patients ages ranged from 23 to 79 years old, and the mean age was 56 years old.

Table1 shows the prevalence of diabetes between females and males.

Variable	Results
Mean age	56 years old
Males	38
Females	62
Total	100

Table 2 shows the distribution of diabetic patients among age groups.

Age group	Number of cases	Mean of blood glucose concentration
20-34	4	129 mg/dl
35-49	28	189mg/dl
50-64	40	179mg/dl
65-80	28	174mg/dl
Total	100	

Table 3 shows the demographic characteristics of diabetic patients.

Variable	Yes	No
Health food	70 (70%)	30 (30%)
Physical activity	40 (40%)	60 (60%)
Family history with T2DM	38 (38%)	62 (62%)

Table 4 shows the disease period in a different age group.

Disease period	Number of cases
1<	18 (18%)
1-9 years	49 (49%)
10-19 years	24 (24%)
20-29 years	7 (7%)
30-40years	2 (2%)
Total	100 (100)

4. Discussion

Our data showed that the majority of patients were females, 62%, whereas only 38% were males. A similar study in Libya showed that diabetes was higher in females (57%) than in males (43%) [5]. The study showed increased blood glucose levels in the 35-49 years old age bracket; the mean blood glucose was189mg/dl, confirming that age is a risk factor for the disease. Moreover, most diabetic patients were in the age group between 50-64 years old. Olokoba et al. [11] also mentioned that most diabetic patients are between 45 and 64 years in developing countries. Another important finding in a recent survey is that 38% of patients had a family history of diabetes; either their father or mother had diabetes. This indicates that there is a strong relationship between genetics and DMT2. If family members is diabetes, other relatives are at high risk of developing the disease, and this risk is enhanced for the close relatives [12]. However, in the northwest area of Libya, in 1999, another study also found a high prevalence of positive family history in 28.2% out of 15212 diabetic patients. In this study, 60% of participants were physically inactive, and 30% ate an unbalanced diet [13]. Furthermore, the prevalence of hypertension was 15%, 55% did not visit an optometrist, and 39% were unfamiliar with diabetes and its complications. However, with this poor control, 16% started to use insulin. Therefore, ignored diabetes can affect the heart, kidney, nerves and blood vessels.

5. Conclusion

Low glycemic control showed by high mean of fasting plasma glucose was 168 mg/dl, and 16% started to use insulin therapy, along with 15% had hypertension. More attention, consideration, and patient's knowledge could reduce or prevent diabetes complications.

Compliance with ethical standards

Disclosure of conflict of interest

The authors have no conflicts of interest.

Statement of informed consent

All patients in this study gave their informed consent.

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