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Original Article

PREVALENCE OF DIABETES MELLITUS IN OUTDOOR PATIENTS

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ABSTRACT:

Diabetes mellitus (DM), commonly known as diabetes, is a group of metabolic disorders characterized by a high blood sugar level over a prolonged period and is diagnosed by fasting plasma glucose level ≥ 7.0 mmol/L (126 mg/dL). A total of 201 patients were included in the study. There were 123 (61.19%) males and 78 (38.81%) females in the study. The mean age of al the patients was 34.35±5.23 years. The prevalence of diabetic patients among symptomatic patients was 56.98%.

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INTRODUCTION:

Diabetes mellitus (DM), commonly known as diabetes, is a group of metabolic disorders characterized by a high blood sugar level over a prolonged period. Symptoms of diabetes often include frequent urination, increased thirst, and increased appetite. If left untreated, diabetes can cause many complications. Acute complications can include diabetic ketoacidosis, hyperosmolar hyperglycemic state, or death. Serious long-term complications include cardiovascular disease, stroke, chronic kidney disease, foot ulcers, damage to the nerves, damage to the eyes and cognitive impairment (1, 2).

The two main types of diabetes are called insulin dependent (type 1) and non-insulin dependent (type 2) diabetes. In type 1 diabetes there is no insulin or not enough of it. In type 2 diabetes, there is generally enough insulin but the cells upon which it should act are not normally sensitive to its action. Type 1 diabetes is characterized by loss of the insulin-producing beta cells of the pancreatic islets, leading to insulin deficiency. This type can be further classified as immune-mediated or idiopathic. Most type 1 diabetes is of the immune-mediated nature, in which a T cell-mediated autoimmune attack leads to the loss of beta cells and thus insulin. It causes approximately 10% of

diabetes mellitus cases in North America and Europe. Most affected people are otherwise healthy and of a healthy weight when onset occurs. Sensitivity and responsiveness to insulin are usually normal, especially in the early stages. Although it has been called juvenile diabetes due to the frequent onset in children, most individuals living with type 1 diabetes are now adults (3, 4).

Type 2 diabetes is characterized by insulin resistance, which may be combined with relatively reduced insulin secretion. The defective responsiveness of body tissues to insulin is believed to involve the insulin receptor. However, the specific defects are not known. Diabetes mellitus cases due to a known defect are classified separately. Type 2 diabetes is the most common type of diabetes mellitus. Many people with type 2 diabetes have evidence of prediabetes (impaired fasting glucose and/or impaired glucose tolerance) before meeting the criteria for type 2 diabetes. The progression of prediabetes to overt type 2 diabetes can be slowed or reversed by lifestyle changes or medications that improve insulin sensitivity or reduce the liver's glucose production (5, 6). The Purpose of this study was to see the prevalence of diabetes mellitus in the patients presenting in the outdoor department.

MATERIAL AND METHODS:

This observational study was conducted in the outdoor departments of different hospitals. All the patients presenting in outdoor department irrespective of their symptoms were included in this study. Lab reports of random blood sugar were obtained. All the relevant demographic data was entered in SPSS 23. The categorical variables were presented as frequency and percentages. The quantitative variables were presented as mean and standard deviations. The relevant statistical analysis was performed.

RESULTS:

A total of 201 patients were included in the study. There were 123 (61.19%) males and 78 (38.81%) females in the study. The mean age of al the patients was 34.35±5.23 years and the mean age of male patients was 35.78±6.34 years and the mean age of female patients was 33.12±4.56 years. A total of 115 (57.21%) patients were having symptoms not related to diabetes and only 86 (42.79%) had symptoms related to diabetes i.e. increased urination, polydipsia etc. Among the patients who were asymptomatic, only 5 (2.49%) patients were diabetic i.e. having blood sugar levels of ≥ 126mg/dl and among the patients who were having symptoms only 49 (24.38%) patients were having blood sugar levels of ≥ 126mg/dl and were labelled as diabetic. Out of 201, only 54 patients (26.87%) were labelled as diabetic and 147

patients (73.13%) were labelled as non-diabetic. The prevalence of diabetic patients among symptomatic patients was 56.98%. Out of five pregnant females only one was labelled as diabetic.

DISCUSSION:

Diabetes mellitus is characterized by recurrent or persistent high blood sugar, and is diagnosed by fasting plasma glucose level ≥ 7.0 mmol/L (126 mg/dL) or Plasma glucose ≥ 11.1 mmol/L (200 mg/dL) two hours after a 75 gram oral glucose load as in a glucose tolerance test (OGTT) or symptoms of high blood sugar and casual plasma glucose ≥ 11.1 mmol/L (200 mg/dL) or glycated hemoglobin (HbA1C) ≥ 48 mmol/mol (≥ 6.5 DCCT %). A positive result, in the absence of unequivocal high blood sugar, should be confirmed by a repeat of any of the above methods on a different day. It is preferable to measure a fasting glucose level because of the ease of measurement and the considerable time commitment of formal glucose tolerance testing, which takes two hours to complete and offers no prognostic advantage over the fasting test. According to the current definition, two fasting glucose measurements above 7.0 mmol/L (126 mg/dL) is considered diagnostic for diabetes mellitus. As Per the WHO, people with fasting glucose levels from 6.1 to 6.9 mmol/L (110 to 125 mg/dL) are considered to have impaired fasting glucose. People with plasma glucose at or above 7.8 mmol/L (140

mg/dL), but not over 11.1 mmol/L (200 mg/dL), two hours after a 75 gram oral glucose load are considered to have impaired glucose tolerance. Of these two prediabetic states, the latter in particular is a major risk factor for progression to full-blown diabetes mellitus, as well as cardiovascular disease. The American Diabetes Association (ADA) since 2003 uses a slightly different range for impaired fasting glucose of 5.6 to 6.9 mmol/L (100 to 125 mg/dL). Glycated hemoglobin is better than fasting glucose for determining risks of cardiovascular disease and death from any cause (7-10).

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