

Age at diagnosis and duration of type 2 diabetes seen in Benin City, Nigeria

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Abstract

It has been reported that type 2 diabetes is occurring at an earlier age than previously. We have therefore studied the age at diagnosis and duration of type 2 diabetes among Nigerians. There were 732 patients studied, of whom 467 (64%) were female. Mean age was 58 ± 11 years, and mean diabetes duration was 5 ± 5 years. The commonest age at diagnosis was in the fifth decade and 69% of the patients had been diagnosed within the last 5 years. This may be due to increased rates of diagnosis of diabetes, or high mortality in those with a longer duration of diabetes.

Introduction

Diabetes mellitus is a chronic metabolic disorder that has assumed pandemic proportions.¹ It is associated with significant morbidity and mortality, and its prevalence in Nigeria is about 2.2%.² The numbers of type 2 diabetic patients seen in our clinic is on the increase, and the condition is now believed to be occurring at a much earlier age than previously. However, there are insufficient data to support this trend. The age at diagnosis of type 2 diabetes is undocumented in our practice area, and the aim of this study was therefore to document the age at diagnosis of type 2 diabetes patients seen in two Diabetes Clinics in Benin City, Nigeria.

Patients and methods

This study was a retrospective study, and medical records of all type 2 diabetic patients seen at our Diabetes Clinics over a 60-month period were examined. Patients whose age at diagnosis of diabetes was 30 years and above were included in the study. Data extracted and recorded included age, age at diagnosis of diabetes, duration of diabetes, gender, history of hypertension, family history of diabetes, blood pressure, occupation,

and anthropometric indices – waist circumference and body mass index (BMI). Fasting plasma glucose was also measured. Diabetes was defined according to the 1999 American Diabetes Association criteria.¹ Using World Health Organization criteria,³ generalised obesity was classified as a BMI >30.0 kg/m² in both genders. Statistical analysis was carried out using the Statistical Package for Social Sciences (SPSS) software version 16. Data were expressed as means \pm standard deviation (SD). Comparison of means was done using Student's *t*-test for continuous data. The level of statistical significance was set at $p < 0.05$.

For the purposes of this study, the 'young' age group was defined as those younger than 45 years old; 'middle age' was 45–64 years, and the 'elderly' age group was older than 65 years.

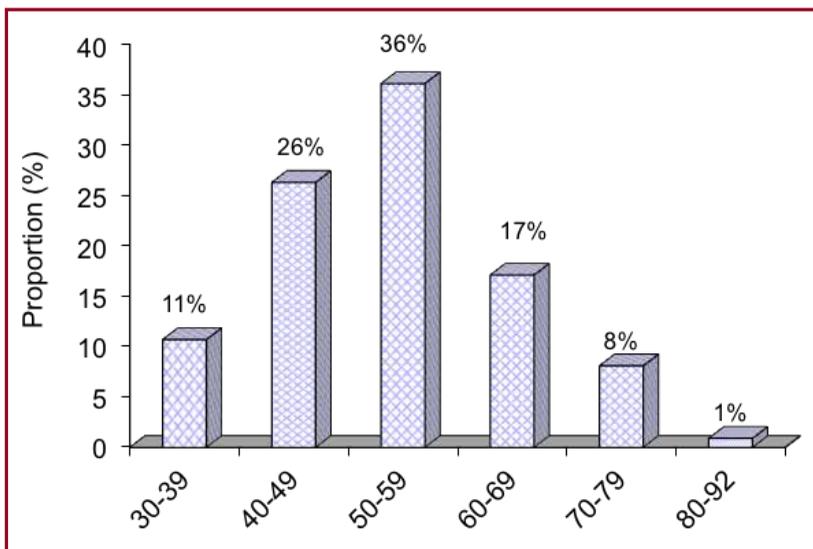


Figure 1. Proportion of type 2 diabetic patients by age

Results

The study population consisted of 732 patients with type 2 diabetes, of which 467 (64%) were female, giving a female to male ratio of 1.8:1.0. The mean \pm SD age at diagnosis of diabetes was 53 ± 11 years (range 30–92 years). The distribution of patients by 10-year age groups is shown in Figure 1, and Figure 2 shows the diabetes duration. It can be seen that most patients (60%) were in the age range 40–59 years, and that 69% had a diabetes duration of less than 5 years. Mean age was 58 ± 11 years, and mean diabetes duration was 5 ± 5 years. The age at

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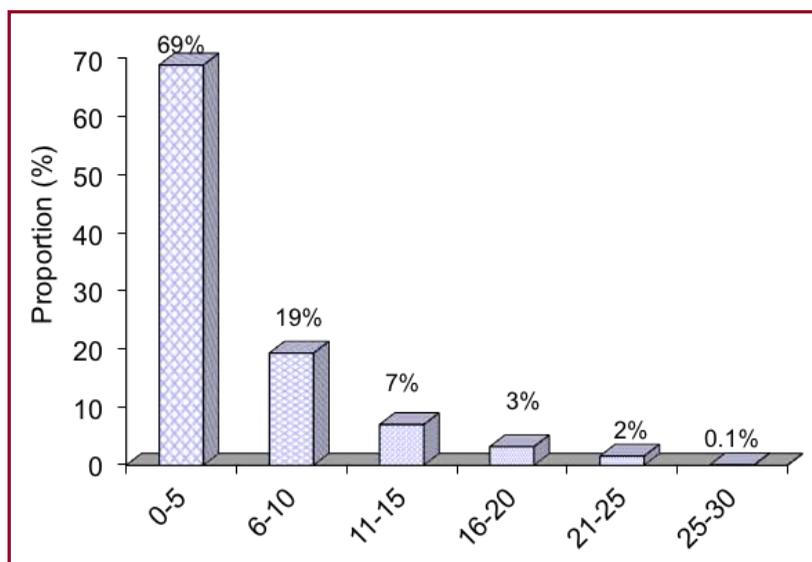


Figure 2. Proportion of type 2 diabetic patients by duration of disease

diagnosis was in the elderly group for 15% of patients, in middle-age in 61%, and in the young age group for 24% of patients. There was a family history of diabetes in 171 (23%) patients. Hypertension was present in 298 (40%); mean systolic blood pressure (BP) was 133 ± 21 mmHg, and diastolic BP 82 ± 12 mmHg. Mean BMI was 28.3 ± 5.2 kg/m² and 187 (25%) patients were obese. Mean waist circumference (WC) was 96 ± 12 cm. Mean fasting plasma glucose was 11.1 ± 6.0 mmol/l.

Comparing parameters by gender, there was a significant difference only for BMI and WC. BMI was 26.7 ± 4.2 in males and 29.1 ± 5.5 in females ($p=0.001$). WC was 93 ± 11 in males and 97 ± 12 in females ($p=0.001$).

Discussion

The study showed that onset of diabetes was mainly in middle age, with a peak age at diagnosis in the fifth decade of life, and a mean age at diagnosis of 53 years. This finding is comparable to that of 54 ± 14 years reported by Harzallah et al⁴ in Tunis but less than the 56 ± 11 years reported by Winkley et al⁵ in London, and 59 years by Corona et al⁶. The finding that the occurrence of type 2 diabetes was commonest (36%) in the 50–59 years age group was similar to the finding of 32% by Zaman and Borang in a rural area of India.⁷

Almost 70% of our patients had a duration of diabetes

of 0–5 years, and 88% had developed the disease within the last decade. This finding may be due to increased diabetes awareness, screening for diabetes, and early diagnosis of new cases within the last decade. It may also suggest a genuine increase in new cases. There is a possibility that patients with a longer duration of diabetes may die of diabetes or its complications, thus accounting for the relatively few cases of long-standing diabetes in resource-challenged areas such as ours.

Diabetes management is largely paid for out of pocket in our environment. There is also a lack of adequate diabetologists and other trained personnel to manage diabetes. In conclusion, the commonest age at diagnosis of type 2 diabetes was in the fifth decade in our environment. Duration of diabetes was low, possibly due to an increase in new diagnosis, or to premature mortality.

Acknowledgement

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