ABSTRACT

**Background:** Erectile dysfunction (ED) is a well-recognised complication of Type 2 Diabetes mellitus (T2DM). This condition impacts negatively on the psychosocial wellbeing of the affected persons. Previous studies indicated that this condition is common among diabetics; also, Nigerian studies have identified some risk factors predisposing to this diabetic complication. The need to determine the magnitude of this disease and factors predisposing to the disease in this environment was considered necessary. This study aimed to determine the prevalence and severity of erectile dysfunction in males with Type 2 Diabetes, the associated risk factors and to correlate erectile dysfunction with cardiovascular risk factors in these persons.

**Methods:** This was a cross-sectional comparative study on erectile dysfunction in Nigerian males with Type 2 diabetes mellitus. One hundred and sixty men with Type 2 diabetes mellitus and eighty age-matched men without diabetes mellitus participated in the study. Two sets of questionnaires were administered to all the subjects. The first questionnaire was to obtain socio-demographic and clinical data while the second was the International Index of Erectile Function (IIEF-5) questionnaire and was used to evaluate erectile dysfunction. Clinical assessment carried out included height, weight, body mass index (BMI), waist circumference (WC), waist-hip ratio (WHR), blood pressure and presence of peripheral neuropathy. Each subject observed an overnight fast and blood samples were collected for fasting plasma glucose (FPG), serum lipid profile, Glycosylated haemoglobin (HbA1c), packed cell volume (PCV), Homocysteine (Hcy), free testosterone (fTe) and Luteinising hormone (LH). Chi-square analysis was used for comparison of proportions while the independent
samples t-test was used to compare means. Multiple logistic regression was used to
determine the strength of the risk factors and Pearson correlation was done to assess the
relationship between ED and cardiovascular risk factors. Differences were statistically
significant when p value ≤ 0.05.

Results: The prevalence of erectile dysfunction in men with T2DM was 73.8% while in the
control subjects the prevalence was 40% ($\chi^2 = 25.9$, df = 1, p=0.00). The severity of ED
increased with age in the study subjects. There were statistically significant differences
between study and control subjects with respect to BMI (p=0.00), WC (p=0.00), WHR
(p=0.02), alcohol consumption (p=0.02), Hypertension (p=0.00), fTe (p=0.00), LH (p=0.00)
and Hcy (p=0.00). Statistically significant risk factors for ED in the study subjects (i.e. men
with T2DM) were duration of DM (p=0.002), cigarette smoking (p=0.007), age (p=0.002),
peripheral neuropathy (p=0.00), postural hypotension (p=0.01), and fTe (p=0.002). Elevated
plasma homocysteine, a cardiovascular risk factor correlated positively with ED in this study.

Conclusion: Erectile dysfunction is very common in men with T2DM with a prevalence rate
of 73.8% and the prevalence rate of ED was significantly higher in men with T2DM compared
to non-diabetic men. Significant risk factors for ED in men with T2DM were duration of DM,
smoking, increasing age, low free testosterone level, presence of peripheral neuropathy and
postural hypotension. Management of diabetic men should include assessment of erectile
function for early detection and treatment.