

Prevalence And Predictors Of Erectile Dysfunction In Men Living With Type 2 Diabetes In A Tertiary Hospital In Southern Nigeria

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I. Background

Diabetes mellitus is a group of metabolic diseases characterized by chronic hyperglycemia and long-term complications involving the eyes, kidneys, heart, foot and nerves¹. Erectile dysfunction is the most common sexual dysfunction in men living with diabetes. It defines a persistent inability to achieve or maintain an erection for satisfactory sexual intercourse for more than 6 months².

Erectile dysfunction (ED) affects the sexual health of men, with a worldwide prevalence of 3-76.5% with its wide range accounted for by differences in age, study population and assessment criteria of ED³⁻⁶. The occurrence of ED in men living with diabetes mellitus is 2-3 times higher than in men without DM⁷.

II. Objectives

To determine the prevalence and predictors of erectile dysfunction among a cohort of type 2 DM men accessing care at the University of Port Harcourt Teaching Hospital, Choba

III. Methods

A hospital-based cross-sectional study was conducted at the Medical Outpatients Clinic of the University of Port Harcourt Teaching Hospital, Choba, consisting of 150 men living with type 2 diabetes (T2DM) over 6 months, between April and September 2022. Participants were selected using a systematic random sampling method. An interviewer-administered structured proforma and the Sexual Dysfunction in Asian men with Diabetes (SAD-men) were used. A general physical examination and blood pressure measurements were carried out and values for fasting blood glucose, glycated haemoglobin, fasting blood glucose and serum PSA were retrieved from patients' records. Participants with medications affecting erectile dysfunction, prior pelvic /spinal surgery and hypogonadism were excluded from the study.

IV. Results

Table 1: Demographic Data

Variable	Frequency (n=150)	Percent (%)
Age Groups		
30 – 39	4	2.7
40 – 49	18	12
50 – 59	59	39.3
60 and above	69	46
Marital Status		
Single	14	9.3
Married	136	90.7
Duration of DM		
1-5 years	51	34
6-10 years	24	16
>10 years	75	50

Table 2: Association of Sexual Function with Demographic Factors

Variable	Impaired Sexual Function		Total n, %	Chi-square (p-value)	O.R (95% Confidence interval)
	Yes n (%)	No n (%)			
Age Groups					
50 and above	70(54.7)	58(45.3)	128(100.0)	1.43 (0.232)	1.7 (0.7 – 4.3)
>50	9(40.9)	13(59.1)	22(100.0)		
Marital status					
Single	5(35.7)	9(64.3)	14(100.0)	1.78 (0.182)	0.4 (0.1 – 1.4)
Married	74(54.4)	62(45.6)	136(100.0)		
Duration of DM					
>5 years	53(53.5)	46(46.5)	99(100.0)	0.08 (0.767)	1.1 (0.5 – 2.1)
1 – 5 years	26(51.0)	25(49.0)	51(100.0)		
Poor control of DM					
No	33(67.3)	16(32.7)	49(100.0)	6.29 (0.012)*	2.4 (1.2 – 5.0)
Yes	46(45.5)	55(54.5)	101(100.0)		

*Statistically significant (p<0.05)

Table 3: Association of erectile dysfunction with clinical factors

Variable	Impaired Sexual Function		Total n, %	Chi-square (p-value)	O.R (95% Confidence interval)
	Yes n (%)	No n (%)			
Hypoglycaemia					
Yes	29(49.2)	30(50.8)	59(100.0)	0.48 (0.488)	0.7 (0.4 – 1.5)
No	50(54.9)	41(45.1)	91(100.0)		
Hyperglycaemia					
Yes	62(53.4)	54(46.6)	116(100.0)	0.01 (0.947)	1.0 (0.4 – 2.2)
No	17(53.1)	15(46.9)	32(100.0)		
Nerve Problems in the past 6 months					
Yes	57(55.3)	46(44.7)	103(100.0)	1.49 (0.222)	1.5 (0.7 – 3.1)
No	20(44.4)	25(55.6)	45(100.0)		
Blurry Vision in the past 6 months					
Yes	50(54.3)	42(45.7)	92(100.0)	0.27 (0.603)	1.1 (0.6 – 2.2)
No	29(50.0)	29(50.0)	58(100.0)		
Hypertension					
Yes	38(48.7)	40(51.3)	78(100.0)	1.01 (0.313)	0.7 (0.3 – 1.3)
No	41(56.9)	31(43.1)	72(100.0)		
High Cholesterol					
Yes	18(62.1)	11(37.9)	29(100.0)	1.09 (0.295)	1.5 (0.6 – 3.5)
No	61(51.3)	58(48.7)	119(100.0)		
Sinusitis/Allergies					
Yes	6(100.0)	0(0.0)	6(100.0)	5.61 (0.018)*	1.9 (1.6 – 3.2)
No	73(50.7)	71(49.3)	144(100.0)		
Prostate problems					
Yes	10(55.6)	8(44.4)	18(100.0)	0.07 (0.794)	1.1 (0.4 – 3.1)
No	69(52.3)	63(47.7)	132(100.0)		
Stress in the past 6 months					
Yes	41(56.9)	31(43.1)	72(100.0)	1.01 (0.313)	1.3 (0.7 – 2.6)
No	38(48.7)	40(51.3)	78(100.0)		
Difficulty sleeping					
Yes	29(54.7)	24(45.3)	53(100.0)	0.13 (0.710)	1.1 (0.5 – 2.2)
No	50(51.5)	47(48.5)	97(100.0)		
Depression					
Yes	17(100.0)	0(0.0)	17(100.0)	17.23 (0.0001)*	2.1 (1.7 – 2.5)
No	62(46.6)	71(53.4)	133(100.0)		
Phimosis					
Yes	2(100.0)	0(0.0)	2(100.0)	1.82 (0.177)	1.9 (1.6 – 2.2)
No	77(52.0)	71(48.0)	148(100.0)		

The results showed that 52.6% of the participants had erectile dysfunction which increased with age >50 years (OR: 1.7 95% C.I.: 0.7-4.3), duration of diabetes mellitus > 5 years (OR: 1.1 95% C.I.:0.5-2.1),

hyperglycemia (OR: 2.4 95% C.I.:1.2-5.0), neuropathy (OR: 1.5 95% C.I.:0.7-3.1), retinopathy (OR: 1.1 95% C.I.:0.6-2.2), dyslipidemia (OR: 1.5 95% C.I.:0.6-3.5), increased stress levels in the last 6 months (OR: 1.3 95% C.I.:0.7-2.6), depression (OR: 2.1 95% C.I.:1.7-2.5), sinusitis (OR: 1.9 95% C.I.:1.6-3.2), and persons with phimosis (OR: 1.9 95% C.I.:1.6-2.2). Logistic regression determined that depression, poor glycaemic control and allergies were significantly associated with erectile dysfunction.

V. Discussion

The prevalence determined in this study is similar to prior studies done by Ezeude et al⁸ (48.4%) and Ugwu et al⁹, however, some other studies^{2,3,5} had an even higher prevalence. This was in contrast with studies by Olamoyegun et al⁵ (69.5%) and Ugwumba et al³ with an ED prevalence of 94.7% (and severe ED = 35.4%). This disparity in prevalence can be accounted for by the differences in study population and location and varied assessment tools utilised for diagnosing ED². This study utilized a different validated assessment tool with comparable results to other local studies conducted.

Increased age >50 years, long duration of diabetes (> 5 years), hyperglycaemia, peripheral neuropathy, retinopathy, dyslipidemia, increased stress levels, sinusitis, insomnia and phimosis were associated with an increased risk of ED, however, these were not statistically significant in this study. This was also similar to the findings by Ezeude et al⁸. Poor glycemic control, sinusitis and depression were significantly associated with an increased risk for ED -similar to other local studies done^{8,10}. Studies^{11,12} show a relationship between chronic sinusitis and ED, even when adjusted for confounders. While the exact aetiology is unknown, certain factors such as reduced quality of life from symptoms, chronic systemic inflammation, hypoxia and exacerbation of cardiovascular disease have been implicated¹¹.

VI. Conclusion

The prevalence of erectile dysfunction is high among T2DM men (53%). Poor glycemic control, sinusitis and depression significantly increase the risk of erectile dysfunction and are independent predictors of erectile dysfunction. The need for early screening and prompt therapy is advocated for all cases of ED.

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