ORIGINAL ARTICLE

Erectile Dysfunction Among Men Attending Surgical Outpatients Department in a Tertiary Hospital in South-Western Nigeria

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ABSTRACT

Background: Erectile dysfunction is becoming a public health issue with high incidences reported in community studies. **Objective:** To evaluate the characteristics and outcome of treatment in men with erectile dysfunction in a tertiary center in Ibadan southwestern Nigeria. **Methods:** Data of men with erectile dysfunction was retrieved between July 2004 and June 2014 and analyzed using SPSS version 16 statistical software. **Results:** Eighty-nine men with erectile dysfunction were managed which constituted 2% of all urological cases seen during the study period. Their median and mean ages were 39 years and 39.6 ± 1.2SD (range 19-76 years). The peak age incidence at 30-44 years was 41.6% and reduced with increasing age after 65 years to 4.5%. The etiologies were psychogenic in 55%, organic in 27%, idiopathic in 17% and 1% was familial. 67.5%, 31.5% and 3.4% were married, single and separated respectively. Seventy percent neither smoked cigarette nor drank alcohol, 21.3% drank alcohol and 9% took both alcohol and smoked cigarette. Seventy seven and half percent of men presented within 5 years of their symptom. The treatments offered were PDE type 5 inhibitors alone or in combination with psychotherapy or modification of medications. The outcome of these treatments ranged from 89% to 91% success rate. **Conclusion:** The number of men with erectile dysfunction managed in the tertiary hospital is very low though the outcome of treatment is within acceptable range. Increase public enlightenment may encourage increase hospital patronage and access to the available treatments for erectile dysfunction.

KEYWORDS: Erectile dysfunction, Ibadan, tertiary hospital

INTRODUCTION

Erectile dysfunction (ED) is the inability of a man to achieve or sustain erection for satisfactory sexual intercourse.[1] ED tends to affect the psychological and emotional well-being of men.[2] Some men who have this problem are often shy to complain because of loss of self-esteem associated with this condition thus resulting in late presentation that delays early treatment.[3] Some men do prefer to seek remedy to this condition by patronizing African traditional herbal practitioner.[4]

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ED is commonly seen among men with hypertension,[5] diabetic mellitus[6] and psychosis when it is often related to the disease as well as the medications.[2] Other known causes of ED are sickle cell hemoglobinopathy patients who develop priapism.[7] It is common among married men and those with significant alcohol ingestion and cigarette smoking.[2]

ED is quite common in a community survey, and psychiatric outpatient cross-sectional survey in Nigeria as well as worldwide.[2,3,5,8] We are not aware of any study of ED in outpatients attending urology surgical clinic in our environment. Therefore, we reviewed the data of men who attended the Urology Surgical outpatient in our tertiary hospital over a 10 year period. This was done to evaluate the percentage of men with

ED and the frequency per year, their characteristics, treatment offered and the outcome of such treatment.

MATERIALS AND METHODS

This retrospective study was conducted at a tertiary hospital in Ibadan, in the South-Western part of Nigeria. Ibadan is the capital of Oyo State with a total area of 1,190 sq m (3,080 km²). Ibadan has a population of 3.2 million and metro density of 600/square m (250/km²). It is the site of University of Ibadan, the premier university in Nigeria.

The data of men with ED who attended the urology surgical outpatient clinic between July 2004 and June 2014 was retrieved. The indices studied were the number of cases per year, the age, and the body mass index (BMI), duration of symptom, etiology, social habits, the treatment offered, and the outcome of such treatment.

The treatment was said to be successful once the patient could consistently achieve a satisfactory erection during sexual intercourse. The success rate was determined from the actual numbers of patients that were followed up at the outpatient clinic.

The data was analyzed using both Microsoft Excel spread sheath of Window 2010 and Statistical Package for Social Science (SPSS Version 16, Chicago, IL, USA). A continuous variable was expressed in mean, median, and standard deviation (SD) while nonparametric variables were expressed in numbers and percentages. Chi-square was used to analyze numeric variables while nonparametric variables were analyzed using Pearson's coefficient correlation (r). The level of significance was placed at $P < 0.05$ with a confidence interval of 95%.

RESULTS

Over the study period, a total of 5,572 patients were seen at the urology surgical outpatient with 89 (2%) of them diagnosed to have ED. The mean age of ED was 39.6 ± 1.2 SD (range 19–76) years with a median age of 39 years.

Figure 1 shows the decline over the years of the surgical outpatient clinic attendance of men who had ED. In the 1st year
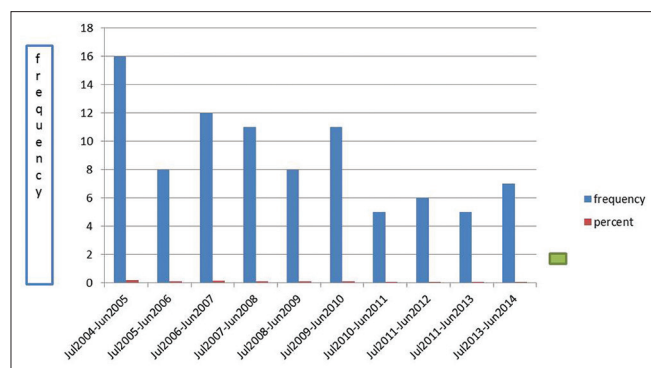
Tables 1: Characteristic of erectile dysfunction at Ibadan

Characteristics	Frequency	Percentage	Pearson's correlation coefficient (r)
Age group (years)			
<29	21	23.6	0.018
30-44	37	41.6	
45-64	27	30.3	
≥65	4	4.5	
BMI (kg/m²)			
<18.5	5	5.6	
18.5-24.9	39	43.8	
25-29.9	20	22.5	
30-35	2	2.2	
>35<40	1	1.1	
No record	22	24.7	
Marital status			
Married	55	61.8	
Single	28	31.5	
Separated	3	3.4	
Widow	2	2.2	
Divorced	1	1.1	
Duration of symptoms (years)			
<1	33	37.1	
1-5	36	40.4	
6-10	15	16.9	
11-15	2	2.2	
16-20	2	2.2	
26-30	1	1.1	
Social habits			
Alcohol ingestion	19	21.3	0.221
Cigarette and alcohol	8	9.9	
Neither cigarette nor alcohol	62	69.7	
Etiology			
Psychogenic	40	45	
Organic	33	37	
Idiopathic	15	17	
Familial	1	1	

BMI: Body mass index

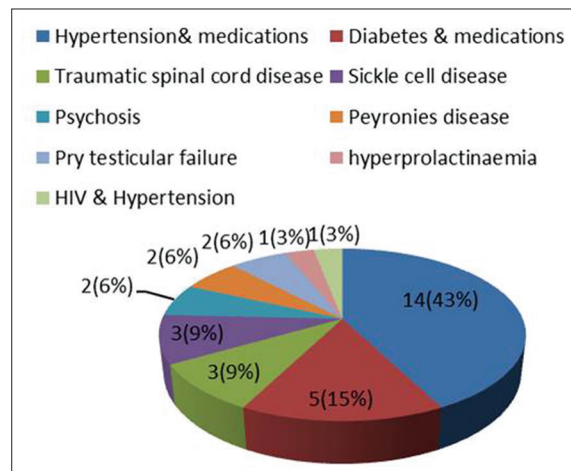**Figure 1:** The number of men with erectile dysfunction seen per year

Figure 2: The details of organic causes of erectile dysfunction seen at Ibadan

Table 2: The treatment for erectile dysfunction and the outcome of such treatment

Treatment	Improved	No-improvement	LTFUP	Total	Success-rate (percentage of follow-up)
PDE5-I alone	25	3	13	41	25/28 (89)
PDE5-I + ORX	10	1	0	11	10/11 (91)
ORX	9	1	0	10	9/10 (90)
Psychotherapy	7	1	0	08	7/8 (90)
On evaluation	Indeterminate	Indeterminate	Indeterminate	19	Indeterminate

LTFUP: Lost to follow-up, PDE5-I: Phosphodiesterase Type 5 inhibitor, ORX: Other therapy such as modification of antihypertensives, anxiolytics, physiotherapy, intramuscular testosterone, varicocelctomy rehydration, and analgesics

of study, there were 16 patients, and this dropped to seven at the last year of study with an average of 8.9 men per year.

Figure 2 shows the exact organic causes of ED. Hypertension and its medication was the commonest cause of ED accounting for 14 (43%). Other organic causes were diabetes mellitus and it medications 5 (15%), traumatic spinal cord disease, and sickle cell diseases complicated by priapism were each 3 (9%), respectively. Less common causes were psychosis 2 (6%), Peyronie's disease 2 (6%), and primary testicular failure 2 (6%) while a patient (3%) had hyperprolactinemia and another man (3%) had both retroviral infection and hypertension.

In Table 1, under the age of 29 years, 23.6% of men had ED. This increased to 41.6% at the age group of 30–44 years. Thereafter it decline to 30.3% at 45–64 years and remained low 4.5% at age 65 years and above.

Sixty-seven (75%) of men with ED had their BMI recorded while there was no record for 22 (25%). Of the 67 men whose BMI were recorded; 5 (5.6%) were underweight <18.5 kg/m², 59 (66.3%) were within normal range, 2 (2.2%) were overweight and 1 (1.1%) morbidly obese. There was a positive Pearson's coefficient correlation between BMI and age of men with ED, $r = 0.018$ with significant two-tailed, $P = 0.885$.

Fifty-five (61.8%) men with ED were married, and 28 (31.5%) were single. Others were separated 3 (3.4%), widowed 2 (2.2%) and 1 (1.1%) was divorced.

Of the social habits; 62 (69.7%) men with ED neither smoked a cigarette nor drank alcohol, 19 (21.3%) took alcohol, and only 8 (9.0%) smoked a cigarette and also ingested alcohol. There was a weak Pearson's coefficient correlation between marital status and social habits, $r = 0.221$.

Sixty-nine men (77.5%) had ED for up to 5 years before presenting at the hospital, while 15 (16.9%) of them had ED for 6–10 years. 3 (3.3%) had ED for 16–30 years.

Table 1 also shows the distribution of the various categorical causes of ED where 40 (45%) were psychogenic, 33 (37%) were organic, 15 (17%) were idiopathic, and 1% was familial.

Table 2 shows the treatment offered and the outcome of such treatment. Forty-one men with ED were treated with phosphodiesterase Type 5 inhibitor (PDE5-I) alone namely sildenafil, vardenafil, or tadalafil of which 25 of them had improvement of their symptoms, 13 were lost to follow-up and no improvement in three. The success rate of PDE5-I alone was 89% (25 of 28). Eleven men had a combination of PDE5-I and other treatment such as modification of anti-hypertensives, psychotherapy, anticholinergic, physiotherapy, tamoxifen, and bilateral varicocelectomy. There was symptom improvement in ten patients and one had no response. The success rate of PDE5-I with other treatment was 91% (10 of 11). Ten men received other treatments such as varicocelectomy (5), physiotherapy and anxiolytic (1), intramuscular testosterone (1) and rehydration and analgesics for the patient with sickle cell post priapism (3). Nine of these ten men (90%) responded satisfactorily. Of the eight men who had psychotherapy and sex therapy, seven responded satisfactorily to the treatment with a success rate of 90%. Nineteen men were still on evaluation for the cause of their ED while 13 were lost to follow-up.

DISCUSSION

The incidence of ED among men who patronized the urology outpatient clinic in the tertiary teaching hospital was very low in this study despite the high prevalence of 55.1% reported by Adebusoye *et al*.[9] at the general outpatient clinic in 2005 in the same institution in Ibadan. The prevalence in community studies was similarly reported to be high in Nigeria that is 41.5% in Niger Delta region,[5] 45.7%[3] and 57.4%[10] in Lagos, and 43.8% in Osogbo.[11] The overall prevalence of ED in Europe, Asia, and Brazil was 15% in Brazil, 17% in Italy, 22% in Malaysia, 34% in Japan,[12] and 52% in Boston and Massachusetts in the USA.[8]

Omisanjo *et al*.,[3] reported that only 31% of men with ED actually discussed their problem. Men with ED in our environment are often embarrassed, have low self-esteem and often preferred to take herbal medications the efficacies of which are not well documented.[3,4] It is therefore not surprising that the number of patients seen per year in this study dropped to an average of 8.9 men per year.

The mean age of 39.9 years of men with ED in this study is similar to that of other studies in Nigeria that were between 33.6 years and 36.8 years.[3,11] It has been reported that ED increases with increase in age, however, in this study, it was more common (65.2%) below age 44 years and declined with increase in age.[3,8,9,11,13] This is in contrast to a community study

at Osogbo in Nigeria where the majority of respondent were in the age group of 20–29 years. This may be due to the larger aging population in the Western world with an average life expectancy of 70 years in 2011 compared to Nigeria with a life expectancy is 52 years in the same year.[14]

In this study, majority (43.8%) of the men had normal BMI, kg/m², and only 24.7% were overweight and obese. The BMI, kg/m² correlated with the age (Pearson correlation coefficient significant $r = 0.018$ and two-tail, $P = 0.884$) in this study and is in consonance with the finding by Olugbenga-Bello et al.,[11] and Adebusoye et al.[9] The men with ED, who were overweight, were slightly <25% (62 of 248 men with ED) previously reported by Adebusoye et al.,[9] and much <46.8% reported by Olarinoye et al.[15] in Ilorin. In this study, 3.3% of men were frankly obese that is comparable to 4.8% reported by Olarinoye et al.[15] in Ilorin. The high prevalence of ED in overweight and obese men was due to the effect on blood vessels and reduced testosterone.[16] The limitation in this retrospective study was that the BMI of 24.7% of men with ED were not documented. Therefore, we cannot conclusively state what proportions of men with ED in this study that were normal, overweight, or obese.

The majority of men with ED in this study were married (61.8%). This is in consonance with other reports in Nigeria of 60.7% by Idung et al.[5] and 64.8% by Adebusoye et al.[9] in Ibadan. It is not surprising because married men are more likely to be more concerned about sexual issues that may threaten their marriage. Therefore, they are often more likely to seek any means of solving their problems. Olarinoye et al.,[15] reported a very high percentage of married men with ED (96.1%) among diabetics. Of note about 1/3rd of men with ED in this study were single, which implies that both married and single men were concerned about their ED.

As with other studies, this study also showed that hypertension and its medications, diabetes and its medication, traumatic spinal cord disease, and sickle cell disease complicated by priapism were common organic causes of ED.[2,5-7] These conditions cause progressive thickening and disruption of the endothelium and or occlusion of the vessels that ultimately affect effective blood flow and venous drainage to and from the penis manifesting as ED.

The introduction of PDE5-I is reported to achieve satisfactory penile erection in 78%, and 95% of men with ED. This is similar to this study where 89% of men treated with PDE5-I achieved satisfactory erection.[17,18] As in other studies, psychotherapy and sex therapy, modification of medications and combination of PDE5-I with other treatment modalities in this study all resulted in accepted penile erection in 90–91% of men with ED.[19] With this level of success it is hoped that more men would turn up for the treatment of their ED. None of the patients was treated with medicated urethral system for erection or prosthesis.

Unfortunately, men with ED constituted only 2% of all urological patients seen at our tertiary hospital. This is in contrast to the high incidence of ED reported in many community studies.[3,5,9-11] There is a missing link between high community incidences of ED and low hospital patronage despite the acceptable outcome of treatment for ED among men who present at the hospital.

It is possible that men with ED are not well informed about the high success rate of treating this problem and where to go. There is a need to ensure proper dissemination of information in the management of ED, such as discussing ED at a regularly period in different media facility as well as in small community gathering. This information should include the incidence of this condition, the possible causes, the available treatment and the outcome as well as where the treatment can be given. Strict privacy during consultation should be ensured, and the physician should be passionate.

CONCLUSION

The hospital patronage for the treatment of ED is very low despite the favorable outcome of treatment. A coordinated dissemination of information about ED is necessary.

Conflicts of interest
There are no conflicts of interest.

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