

Erectile Dysfunction in Men Presenting at a Tertiary Hospital in South East Nigeria

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ABSTRACT

Background: Sexual health is an integral part of general health which is often neglected. Sexual dysfunction is a common problem that affects the quality of life of both patients and their sexual partner(s). Erectile dysfunction (ED) is one of the most prevalent sexual dysfunctions in men. **Objective.** To determine the prevalence of erectile dysfunction and the associated factors among adult males attending the general outpatient at Federal Medical Center(FMC) Umuahia, South East Nigeria. **Methodology.** This was a cross-sectional study involving 421 respondents recruited by systematic random sampling from the General Outpatient Clinic, FMC Umuahia using the International Index of Erectile Function (IIEF-5) scale. **Results.** The mean age of respondents was 35.2 ± 12.0 years. Among the respondents, 219(52%) had ED while a greater proportion of those who had ED had mild ED 109 (49.8%). The prevalence of ED increased in age from 41.9% in respondents < 40years to 70.2% in respondents ≥ 40 years ($p < 0.05$). The other factors associated with ED on bivariate analysis include tobacco use ($p < 0.05$), alcohol intake ($p < 0.05$), diabetes mellitus, hypertension, use of anti hypertensive drugs, use of oral hypoglycemic drugs. **Conclusion.** Erectile dysfunction is a common problem among the males in our study population. About five out of every ten adult men in this study have Erectile dysfunction (ED).

Keywords: Sexual health, Stress management, Risk factors, Sexual dysfunction,

INTRODUCTION

Sexual health is an integral part of general health and its disorders can markedly affect one's quality of life.¹ Erectile dysfunction (ED) is one of the most prevalent and poorly treated sexual dysfunction.² Erectile dysfunction is significantly associated with aging, and other common non communicable diseases (NCDs) such as cardiovascular disease, diabetes mellitus, mental health disorders, trauma, interpersonal problems and unhealthy lifestyle.³

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Erectile dysfunction is an under-reported common male sexual dysfunction, with a global prevalence ranging from 15% to 55% among adult males.⁴ Studies across the globe show that erectile dysfunction poses a substantial health and economic burden.^{5,6} With regards to the burden posed by erectile dysfunction, it becomes necessary that the family physician's approach to care should go beyond the biomedical model of care which focuses on the organic causes of ED and encompass the psycho-social context such as the individual's Perceived Stress Level(PSL).⁷ Although ED is considered benign, it poses significant health burden; and adversely affects the Health Related Quality of Life (HRQoL) of both patients and their partners^{8,9}. Also, ED adversely affects the sexual life of both the patients and their partners leading to poor self-esteem, anxiety and depression.⁹ Furthermore, studies have shown that ED is associated with significant economic loss as men who have ED report more impairment in activity and higher work productivity loss.^{5,6} Undoubtedly, these show that ED is a serious health and economic problem, hence requires a need for early recognition and institution of appropriate therapy. The International index of erectile function 5 (IIEF-5) is the abridged 5 item of International Index of Erectile Function- 15 (IIEF) tool. It has been used in several population based and hospital based studies since its introduction with ease and adequate result even in Nigeria. This tool enables the physician to detect ED and guides in the management of ED in men. However, the IIEF-5 has been the most widely used tool.¹⁰

METHODOLOGY. The study was carried out at the General Outpatient Clinic (GOPC) of . Federal Medical Centre Umuahia(FMC-U) in southeast Nigeria.

Data Collection. The study population comprise all adult male patients aged 18 years and above attending the GOPC of FMC-U. This was a hospital-based cross-sectional study. It was carried out over a period of twelve weeks between March and May

2022.

The sample size was determined using Cochran's statistical formula for estimating minimum sample size in health related studies¹¹.

Therefore, 421 adult male patients were recruited for this study. A systematic random sampling method was used to recruit 421 adult male patients who gave consent and satisfied the exclusion criteria. A well-structured and pre-tested "interviewer administered questionnaire" was used to collect data for the study. They completed the abridged version of the International Index of Erectile (IIEF-5) function, after informed consent had been obtained from each of the participants. A demographics questionnaire was used to elicit information on demographic characteristics.

Data analysis: The data was collated, coded and imputed into the IBM SPSS statistics version 25. Frequency tables was used to present the demographic characteristics of respondents and factors affecting erectile dysfunction.

RESULTS

The socio-demographic characteristics of respondents is illustrated in table 1. The ages of respondents ranged from 18 - 62 years. The mean age of all the respondents was 35.2 ± 12.03 years. The age group 21 - 29 years 163 (38.7%) had the highest number of respondents while the least number of respondents 10 (2.4%) were in age group ≥ 60 years. Majority of the respondents are single 230(54.6%) while 177(42.1%) are married.

Variable	Frequency (F)	Percentage (%)
Age Group (Years)		
≤ 20	18	4.3
21 - 29	163	38.7
30 - 39	89	21.1
40 -49	84	20.0
50 - 59	57	13.5
≥ 60	10	2.4
Total	421	100
Range	18 - 62 years	
Mean age (Mean ± SD)	35.2 ± 12.03 years	
Marital Status		
Single	230	54.6
Married	177	42.1
Separated/Divorced	6	1.4
Widowed	8	1.9
Total	421	100
Educational Status		
No formal education	0.00	0.00
Primary education	36	8.5
Secondary education	154	36.6
Tertiary education		
Total	421	100
Current Employment Status		
Employed	274	65.1
Unemployed	147	34.9
Total	421	100

The pattern of erectile dysfunction among respondents is shown in figure 1. The highest proportion of ED was mild 109 (49.8%), followed closely by moderate type 98 (44.7%) while the least had severe ED 12 (5.5%).

Table 2: Association of age and tobacco use with erectile dysfunction among respondents.

Variable	No ED (n = 202)	ED (n = 219)	χ^2	p-value (< 0.05)
Age				
< 40 years	157 (58.1)	113 (41.9)	31.17	0.000*
≥ 40 years	45 (29.8)	106 (70.2)	7	
Tobacco use				
Yes	22 (31.4)	48 (68.6)	9.216	0.002*
No	180 (51.3)	171 (48.7)		

* p-value less than 0.05

It can be seen that in the respondents below 40 years of age, 41.9% had ED whereas 58.1% of them did not have ED.

However, among those greater than or equal to 40 years of age, about 70.2% of them had ED compared to 29.8% that did not. This shows that ED increases with age above 40 years. This association between age and ED is statistically significant ($\chi^2 = 31.177$, p-value = 0.000).

It can also be seen that more than two third of ED respondents (68.6%) use tobacco compared to 48.7% that did not use tobacco. This shows that ED increases with tobacco use. This association between ED and tobacco use was statistically significant ($\chi^2 = 9.216$, p-value = 0.002).

More than half proportion of ED respondents (52.1%) took alcohol compared to 41% of them who did not take alcohol among the study respondents (Table 3).

This shows that ED increases with alcohol intake. This association between ED and alcohol intake was statistically significant ($\chi^2 = 4.804$, p-value = 0.028).

A higher proportion of ED respondents (83.3%) had diabetes mellitus compared to 50.6% who didn't have diabetes mellitus. This shows that ED increases in those with diabetes mellitus. This association between ED and diabetes mellitus was statistically significant ($\chi^2 = 7.388$, p-value = 0.007).

Table 3: Association of illicit drug use, alcohol intake and diabetes mellitus with erectile dysfunction among respondents

Variable	No ED (n = 202)	ED (n = 219)	χ^2	p-value (< 0.05)
Use of illicit drugs				
Yes	14 (53.8)	12 (46.2)	0.382	0.537
No	188 (47.6)	207 (52.4)		
Alcohol intake				
Yes	127 (47.9)	138 (52.1)	4.804	0.028*
No	92 (59.0)	64 (41.0)		
Diabetes mellitus				
Yes	3 (16.7)	15 (83.3)	7.388	0.007*
No	199 (49.4)	204 (50.6)		

The association of hypertension, benign prostate hyperplasia/cancer of prostate (BPH/CAP) and obesity with erectile dysfunction among respondents is shown in table 4.

It can be seen that more than two third proportion of ED respondents (79.1%) had hypertension compared to 48.9% who didn't have hypertension. This association between ED and hypertension was statistically significant ($\chi^2 = 14.041$, p-value = 0.000).

However, more than half proportion of ED respondents (52.4%) had not been diagnosed or on treatment for benign prostate hyperplasia or cancer of the prostate compared to 33.3% who had BPH and CAP. This shows that ED does not increase in those with BPH or CAP. This association between ED and BPH/CAP is not statistically significant ($\chi^2 = 1.287$, p-value = 0.257).

Likewise, more than half proportion of ED respondents (52.8%) were not obese compared to 25.0% who were obese. This shows that ED does not increase in those with obesity. This association between ED and obesity is not statistically significant ($\chi^2 = 3.613$, p-value = 0.57).

Table 4: Association of hypertension, CAP/BPH and obesity with erectile dysfunction among respondents.

Variable	No ED (n = 202)	ED (n =212)	χ^2	p-value (< 0.05)
Hypertension				
Yes	9 (20.9)	34 (79.1)	14.041	0.000*
No	193 (49.4)	185 (48.9)		
Benign prostate hyperplasia / cancer of the prostate				
Yes	6 (66.7)	3 (33.3)	1.287	0.257
No	196 (47.6)	216 (52.4)		
Obesity				
Yes	9 (75.0)	3 (25.0)	3.613	0.57
No	193 (47.6)	216 (52.8)		

DISCUSSION

The socio-demographic characteristics findings in this study showed majority of the respondents were single, had tertiary education and were employed which is similar to what was reported in a cross sectional study by Okey-Ewurum *et al* in Port-Harcourt.¹² However, in a cross sectional study by Oyelade *et al* in Ogbomoso the findings varied,¹³ This could be as a result of difference in study population. The prevalence of erectile dysfunction among respondents in this study was high at 52%. Oyelade *et al*, in their cross sectional study in Ogbomoso, south western Nigeria reported an ED prevalence of 58.9% among the study population.¹³ This finding is also consistent with the findings of Mutagaywa *et al*. (55.1%) and Accam (60%) in two different cross sectional study in Tanzania and Ghana respectively.^{14,15}

Concerning the pattern of ED in this study, almost half of the ED respondents (49.8%) had mild ED and over two fifth of the ED respondents (44.7%) had moderate ED while only 5.5% had severe ED among the study respondents. This finding was similar to other studies done which showed more of mild ED and less of severe ED.^{3,18,19,20} In a hospital based cross-sectional study in Ilorin, Falade *et al* reported mild ED (64.9%), mild-moderate ED (24%), moderate ED (8.2%) and severe ED (2.9%) in his respondents.¹⁶ Similarly, in a cross-sectional study in Abuja, Obiatuegwu *et al* reported mild ED (42.2%), mild-

moderate ED (38.9%), moderate ED (16.7%) and severe ED (2.2%).¹⁷

This study showed that tobacco use was associated with erectile dysfunction among the respondents. In this study, more than two third of ED respondents (68.6%) use tobacco compared to 48.7% that did not use tobacco. This showed that ED increases with tobacco use. This finding is similar to findings in other studies which showed that tobacco use is associated with erectile dysfunction.^{21,22} In a cross sectional study in Edo, Nigeria Irekpita *et al* reported cigarette smoking was associated with ED.²¹ Abu *et al* in a cross sectional study in Abuja, Nigeria reported cigarette smoking was associated with ED as smokers had significantly higher prevalence of ED than non smokers.⁹ Ezeude *et al* in a cross sectional hospital based study in Nnewi, Nigeria also reported no significant association between erectile dysfunction and tobacco use.²⁴

This study showed that alcohol intake was associated with erectile dysfunction. In this study, more than half of the proportion of ED respondents (52.1%) took alcohol compared to 41% who did not take alcohol. This showed that ED increases with alcohol intake. This finding is similar to findings in other studies.^{18,19} In a cross sectional study in Benin, Nigeria Yovwin *et al* reported alcohol consumption was associated with ED. 4 Irekpita and Olugbenga in descriptive cross sectional studies in Osogbo and Edo respectively, also reported significant association between ED and intake of alcohol.^{19,20}

In this study, it can be seen that more than two third

proportion of ED respondents (79.1%) had hypertension compared to 48.9% who didn't have hypertension. This showed that ED incidence increases with hypertension. Ogunfowokon *et al* in a cross sectional study in Asaba, Nigeria reported prevalence of ED was higher in patients with longer duration of hypertension as well as increasing years of being hypertensive.²¹

This study showed that diabetes mellitus was associated with ED. It can be seen that more than two third proportion of ED respondents (83.3%) had diabetes mellitus compared to 50.6% who didn't have diabetes mellitus. This showed that ED risk increases in those with diabetes mellitus. This finding is similar to findings in other studies. Ogunfowokon also found there was significant association between ED and DM on bivariate analysis.²¹

CONCLUSION

In this study, factors associated with erectile dysfunction were age, tobacco use, alcohol intake, diabetes mellitus, hypertension, use of anti hypertensive and oral hypoglycemic medications which were statistically significant.

Recommendation

Considering the high burden of erectile dysfunction found among men in this study, it is recommended that health care professionals especially the family physicians need to be involved in holistic and patient centred care which incorporates sexual health assessment in men.

This study also shows that the factors contributing to erectile dysfunction were modifiable risk factors relating to lifestyle and morbidity. In view of this, interventions at individual, family and community levels should be employed to improve the sexual health of men

Authors' roles

Conceptualization, article write up and preparation of the manuscript - BCA

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Data Analysis and manuscript preparation- BIN

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