Original Research Article

PREVALENCEOF ERECTILE DYSFUNCTION AND AWARENESS OF ITS TREATMENT IN ABUJA, NIGERIA.

ABSTRACT

INTRODUCTION

Erectile dysfunction (ED) is the most common male sexual dysfunction all over the World. It is underestimated in developing countries including Nigeria because it is assumed not to be a life threatening condition which is associated with stigmatization and poor health seeking behavior. The Prevalence rate of ED among specific age groups has not been reported in most available local studies. This study was aimed at determining the prevalence rates of ED and the severity of ED among different age groups and patients' awareness of its treatment.

METHODS

The study was a descriptive cross-sectional hospital based survey among men aged 18years and above seen in the outpatient clinics of University of Abuja Teaching Hospital, Gwagwalada, Abuja, Nigeria. Self reported erectile dysfunction was obtained using proforma. The prevalence and severity of ED was obtained using International Index of Erectile Function-5 Questionnaire (IIEF-5).

RESULTS

A total of 378 subjects were recruited for this study with age range of 18-76years. The prevalence of ED in this study using IIEF-5 was 66.4%.The prevalence of ED was noted to increase with increasing age as ED was more prevalent (59%) among men aged 60-79 year. ED was least common among the young subjects (15.7%) and the most severe ED found among the elderly There was a positive correlation between age and ED (rho =0.306).There was statistically significance association between ED and co-morbidities with hypertension accounting for 22.5% and diabetes 16.7%. The percentage of subjects aware of treatment for ED was 39.4% and 20.4%

of the subjects had sought help from doctors. Only about a quarter (26.5%) of the subjects had their sexual challenges discussed with the doctor.

CONCLUSION

ED is a common medical and social problem in our environment though still shrouded in secrecy. ED is more prevalent and severe among age 60-79years. Awareness of treatment seeking behavior and the ability of the attending physicians to discuss with men about their sexual health remains quite poor in our environment.

KEY WORDS: Sexual dysfunction, Erectile dysfunction, Prevalence, men, IIEF-5

INTRODUCTION

The National Institute of Health (NIH) defines erectile dysfunction as the consistent inability to maintain a penile erection, sufficiently for satisfactory sexual intercourse.[1] It is projected that the number of men with this condition will rise to 322 million by the year 2025.[2]

Erectile Dysfunction (ED) reduces the quality of life, and is associated with depression, increased anxiety and poor self-esteem in affected patients.[3] Despite these effects, ED seems to be a very sensitive issue and most individuals do not wish to have it discussed.[3]ED is underestimated in developing countries including Nigeria because it is not seen as a life threatening condition and may not be reported partly due to the stigma associated with it.[4] Some men believe that it may resolve on its own, while others attribute it to the aging process. Others don't know that treatment can be offered by physicians and some others resort to the use of alternative medications. It is common for men to suffer psychological trauma when they no longer fulfil what is deemed as a man's role in sexual relationships. Most men, even when they admit there is a problem with their erections, they are unwilling to seek help.[5]

Prevalence rates of ED among specific age groups are not reported in most available studies and this poses difficulties in making conclusions regarding the prevalence of different degrees of severity of ED among different age groups. This study was aimed at determining the prevalence

rates of ED and the severity of ED among different age groups and patients' awareness of its treatment.

METHODOLOGY

The study was a descriptive cross-sectional hospital based survey among consenting men aged 18years and above in the University of Abuja Teaching Hospital, Gwagwalada, Abuja (UATH) Nigeria from October 2018 to December 2018. UATH is a cosmopolitan tertiary hospital that attends to patients in Abuja and neighboring States. The study was approved by the Health Research and Ethics Committee (HREC) of the University of Abuja Teaching Hospital with HREC protocol number: UATH/HREC/PR/2018/010/176 and approval number: UATH/HREC/PR/2018/010/030. All participants gave written informed consent, and the procedures followed were in accordance with institutional guidelines. Subjects were recruited serially and men with significant cognitive impairment and any documented psychiatric illness were excluded. The questionnaires were administered to the subjects by well-trained research assistants. Participants' socio-demographic data, clinical and surgical histories were asked and documented. Self reported erectile dysfunction was obtained using a proforma and International Index of Erectile Function-5 Questionnaire (IIEF-5) was used to objectively determined those that had erectile dysfunction and the severity of erectile dysfunction. The International Index of Erectile Function-5 Questionnaire is a brief, reliable and valid self-administered questionnaire containing five domains, erectile function (questions 1 to 5,15), intercourse satisfaction (questions 6 to 8), orgasmic function (questions 9, 10), sexual desire (questions 11, 12), and overall satisfaction (questions 13, 14). The erectile function was classified based on the scores on IIEF-5 into severe 0-7; moderate 8-11; mild to moderate 12-16; mild ED;17-21, and 22-25, no dysfunction. Data analysis was done with the IBM- Statistical Package for Social Sciences (SPSS), version 20. Continuous variables were presented as means ±S.D. Categorical variables were expressed as frequencies and percentages. P-value < 0.05 was considered significant and the confidence Interval (CI) of 95% was used.

RESULTS

Table 1 shows the socio-demographic characteristics of the study population.

	Erectile Dysfunction			
	Yes	No		
	n=102	n=276		
			χ^2	P-value
Age group(years), Number (Prevalence of ED in group,%)				
18-39	30(15.7)	161(84.3)	39.335	<0.001
40-59	43(31.2)	95(68.8)		
60-79	29(59.2)	20(40.8)		
Ethnicity (Prevalence of ED in group %)			6.298	0.098
Yoruba	21(40.4)	31(59.6)		
Hausa	14(25.5)	41(74.5)		
Igbo	23(28.4)	58(71.6)		
Others	44(23.2)	146(76.8)		

Level of Education			25.441	<0.001
Number (Prevalence of ED in group, %)				
Primary	16(55.2)	13(44.8)		
Secondary	35(36.1)	62(63.9)		
Tertiary	45(18.9)	193(81.1)		
No formal Education	6(42.9)	8(57.1)		
Occupation			3.653	0.724
Number (Prevalence of ED in group, %)				
Civil servant	26(23.0)	87(77.0)		
Trading/Business	31(31.3)	68(68.7)		
unemployed/students	20(24.4)	62(75.6)		
Retired	4(44.4)	5(55.6)		
Others	17(28.8)	42(71.2)		
Artisans	1(25.0)	3(75.0)		
Professionals	3(25.0)	9(75.0)		

A total of 378 subjects were recruited for this study, with a mean age of 41± (13.6) years and an age range was 18-76years. One hundred and two (27.0%) had erectile dysfunction while 276 (73.0%) did not. The mean age of men with ED, 48.9 (SD13.6) years, was significantly higher

than that of those without ED, 38.1 (SD12.5) years, p<0.001. Majority of the subjects, 260(68.8%) were married while the rest were either unmarried or separated. Two hundred and thirty eight (63%) of the subjects had had tertiary education and 95(25.1%) had had secondary education. ED was more prevalent (59.2%) among men aged 60 to 79 years while 31.2% of middle aged men and 15.7% of young men had ED respectively. There is a positive correlation between age and ED as shown in table 2 below. The association between men that had ED and those that did not have ED in the different age groups was statistically significant (P<0.001) as shown in table 3. There is a statistically significant association between age and prevalence of ED: as age increased the prevalence of ED also increased.

Table 2 shows the correlation between ED and age

		Erectile dysfunction/Age
Spearman's rho	Correlation Coefficient	0.306
	P-value	0.001
	N	378

There was no statistical significance between ED and ethnic group (P -0.098)

A higher percentage (63%) of the subjects had tertiary education .However, more than half (55.2%) of those who had ED have primary level of education as highest level of education. Those with no formal education who had ED was 42.9%.There was statistical significance between educational level and ED (P<0.001).As the level of education rose the prevalence of ED significantly decreased.

Civil servants made up 113 (29.9%)-of the study sample while 82 (21.7%) were either unemployed or students. There was however no significant association between occupation and prevalence of ED. (p = 0.724)

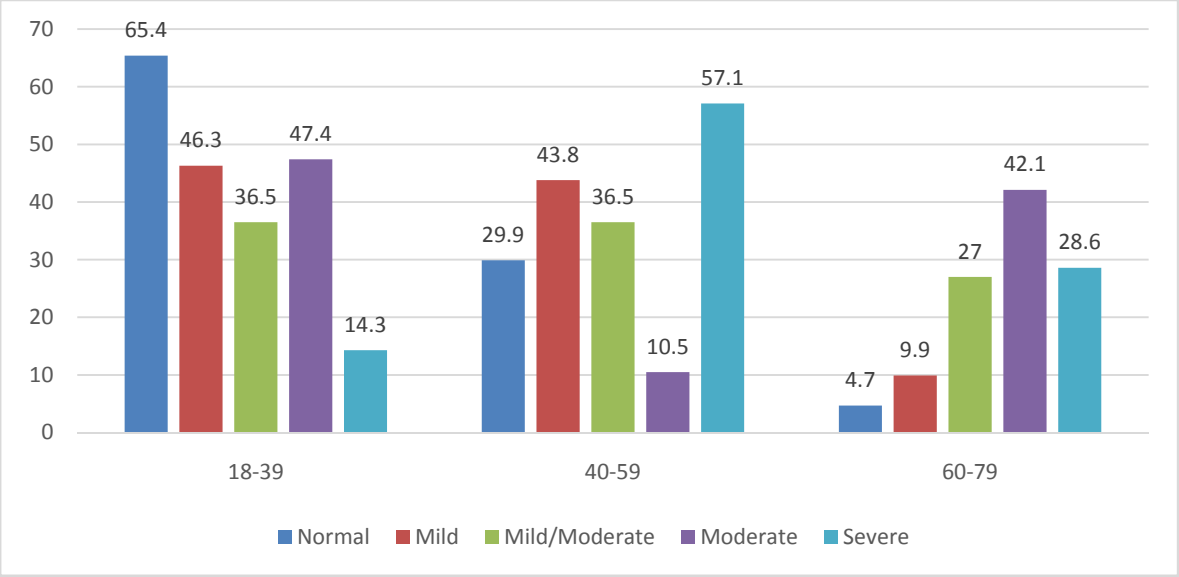

Figure 1: Distribution of ED and severity of ED among the different age groups

Figure 1 shows that ED was more prevalent among age group 60-99years(59.2%) and age 60-79 years had the most severe ED (4.7%).ED was less common among the young age group(15.7%) but mild ED was more prevalent among them(46.3%).

Table 3 shows the IIEF-5 scores, the relationship between ED and co-mobidities, lifestyle, BMI respectively.

	Erectile Dysfunction (SELF REPORTED)			
	Yes	No		
	n=102	n=276		
			χ^2	P-value
IIEF			143.4	<0.001
Normal	7(5.5)	120(94.5)		
Mild	29(17.9)	133(82.1)		
mild/Moderate	42(66.7)	21(33.3)		
Moderate	18(94.7)	1(5.3)		
Severe	6(85.7)	1(14.3)		
Co-morbidity			30.816	<0.001
None	58(20.9)	219(79.1)		
Hypertension	23(42.6)	31(57.4)		
Diabetic	17(60.7)	11(39.3)		
Heart Disease	0	7(100.0)		
Others	4(33.3)	8(66.7)		
Smoke cigarette			13.447	<0.001

No	76(23.5)	247(76.5)		
Yes	26(47.3)	29(52.7)		
Alcohol intake			0.335	0.563
No	64(26.0)	182(74.0)		
Yes	38(28.8)	94(71.2)		
BMI			0.308	0.857
Normal	36(25.4)	106(74.6)		
Overweight	44(28.0)	113(72.0)		
Obese	22(27.8)	57(72.2)		

The mean BMI was 26.8kg/m^2. Although, ED was found to be more common among the overweight subjects 28% and obese subjects(27.8%) but there was no statistical significant association between BMI and ED (P =0.857)

.The relationship between cigarette smoking and ED was statistically significant: smokers had significantly higher prevalence of ED than non-smokers (p<0.001). However, there was no statistically significant association between alcohol consumption and ED (p=0.563).

There was statistical significance between ED and co-morbidities (p <0.001)

The prevalence of ED in this study using IIEF-5 was 66.4% while the self- reported ED puts the prevalence at 26.98%.

Table 4 shows the relationship between ED and drugs use

	Erectile Dysfunction			
	Yes	No		
	n=102	n=276		
			χ^2	P-value
Drug history				
anti-diabetics	19	14	17.174	<0.001
anti-hypertensive	18	13	16.557	<0.001
Nil	65	244	30.401	<0.001

A large proportion of the subjects 229(61%) were not aware of availability of ED treatment while 49(39%).

About two thirds of the subjects have sought for medical help for ED and 41(40%) had not sought for ED treatment.

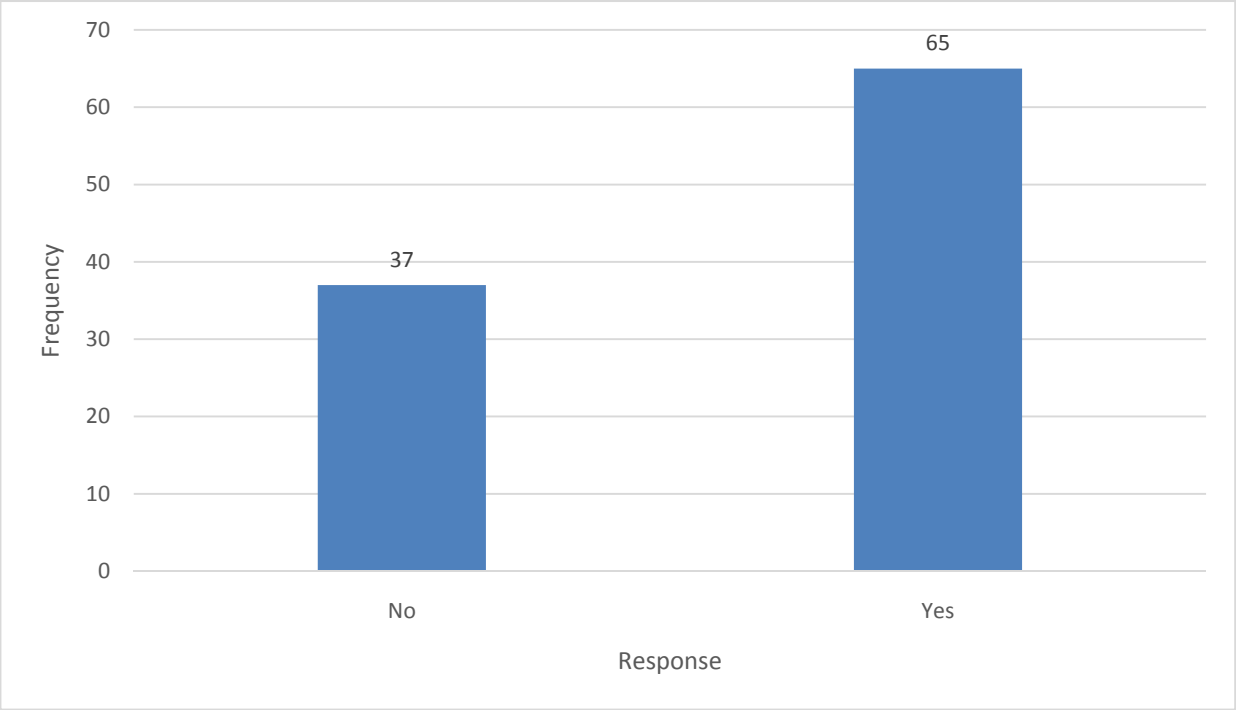

Figure 2: Proportion of participants who bought drugs over the counter to boost their erection

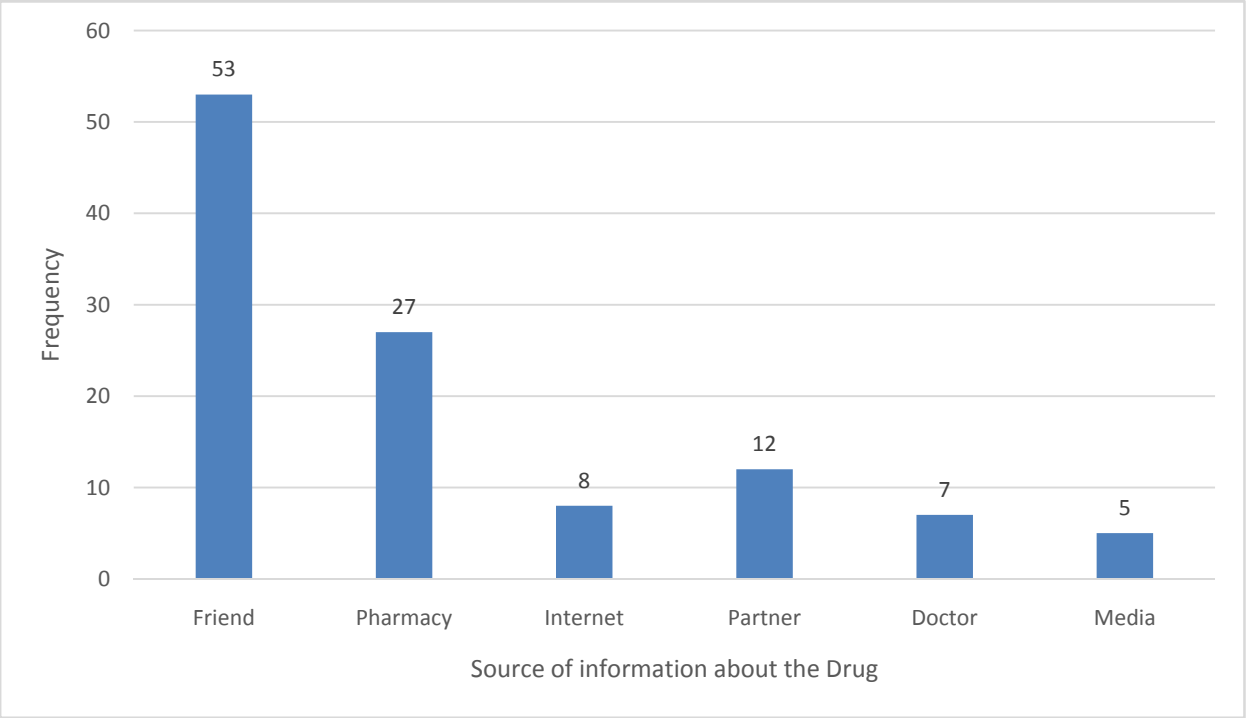

Figure 3: Source of information about the drugs by used participants

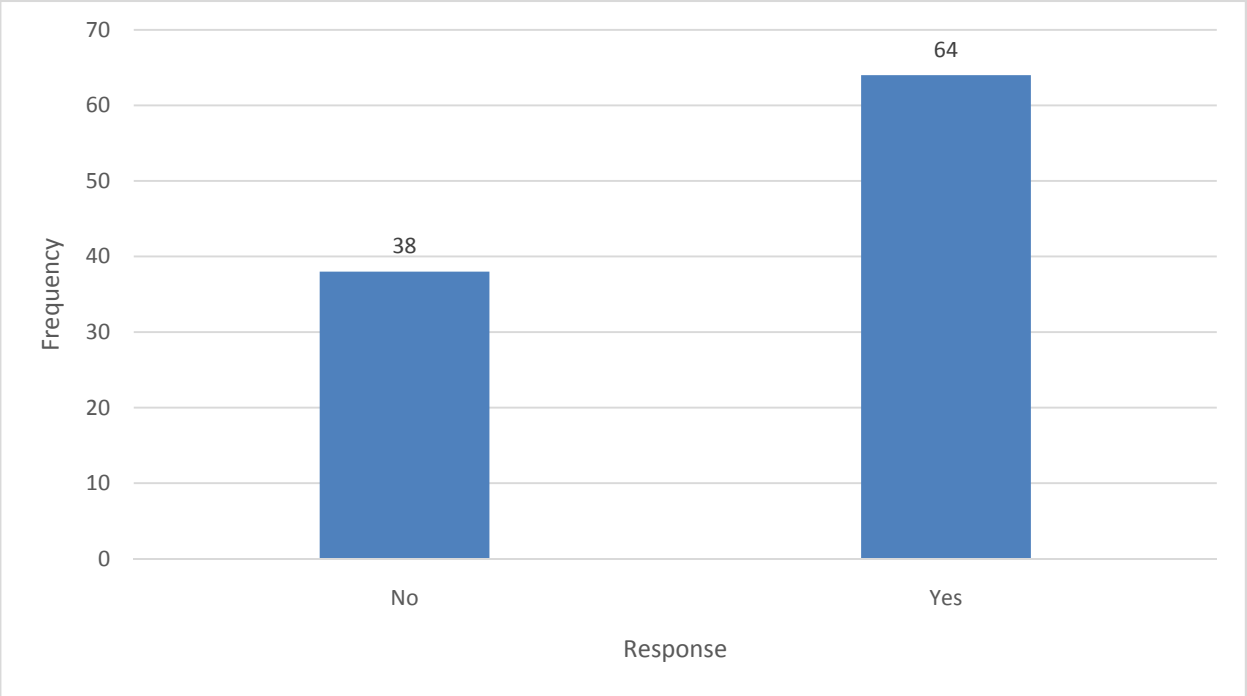

Figure 4: Herbal preparation use by participants to boost their ED

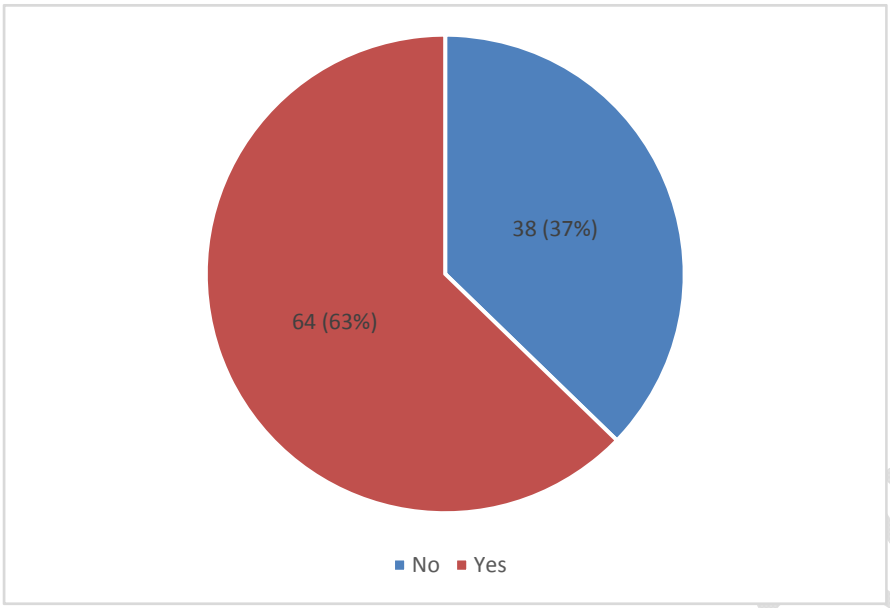

Figure 5: Proportion of subjects that had their sexual challenges discussed with the doctor

DISCUSSION

The findings of this study show that ED is common in our environment with a prevalence of 66.4% using IIEF-5 whereas the self-reported ED prevalence among men aged 18-76years is 26.98%.This high prevalence obtained using IIEF-5 are similar to reports in previous studies.[6,7,8]

The prevalence of ED may be different and this depends on the system used to perform the evaluation. It is clear that the IIEF-5 scale is more objective in determining the presence of ED as majority of the subjects who claimed not to have ED where detected to have some form of ED using the IIEF-5. In France the prevalence of ED have been reported as 12 to 25% on the basis of self-evaluation compared to 19 to31.6% according to International Index of Erectile Function criteria.[9,10]

The prevalence in the present study is higher than the one (58.9%) reported by Bolaji et al in a community study in South West Nigeria using IIEF-5even though, a similar prevalence of moderate ED 47.2% was reported. [11]They used the age range of 30-80 years which is different

from the age range we used in this study of 18-76 years. The inclusion of younger subjects in this study may account for the disparity.

In a similar hospital based study in UCH, Ibadan, the prevalence was 55.1% using age range 18-70years.[12]

The prevalence of ED obtained in The Massachusetts Male Aging Study (MMAS) study in men aged 40-70years (52%) was also lower than the prevalence in this study.[13]On the contrary, the prevalence of ED found in a study conducted in Turkey was 69.2% was similar to the prevalence in this study.[14]

A study in New York by Ridwan et al using the IIEF noted ED in 71% of men, of whom 54% had moderate or severe erectile dysfunction ,23% had mild-to-moderate erectile dysfunction and 23% had mild erectile dysfunction. The high prevalence of ED and higher percentages of ED in men is not unusual as this study was done in high risk subjects with co-morbidities.[13]

We observed that about half of those with ED in this study had the mild type of ED (42.9%). This observation is similar to the outcome of the Turkish study on the prevalence of ED [14]and it might partly explain why most ED sufferers do not seek medical attention.

The prevalence of ED is not the same among different countries, continents or ethnic groups. The prevalence rates for mild and severe ED has been reported as 35% in the United States, 26% in Finland, 21% in Italy, 12% in France, and 11% in Spain.[16,17,18]

The finding of ED being most prevalent among elderly men is similar to the findings by other studies. [19,20] This older subjects also had more severe ED and there was a significant positive correlation between ED and age in this study. This is in accordance with studies done by Adebusoye and colleagues in UCH Ibadan. Akkus et al. in Turkey also found a positive significant association between age and ED.[12,14]

Majority of the subjects in our study had tertiary education and there was a significant association between ED and educational level .Education is an important determinant of social class, and could influence the lifestyle of individuals. Although, the impact of socioeconomic factors on sexual function is controversial, individuals in a higher socio-economic class are more

prone to stress. [21] This is because of their status and lifestyles, which have the tendency to predispose them to cardiovascular risk factors. [21]In this study, however,more than half of the subjects had primary level of education

In this study, the proportion of smokers who had ED (47.3%) was more than the proportion of non-smokers who had ED (23.5%). It is clearly demonstrated in this study that there is statistically significant relationship between ED and smoking($p<0.001$).Similarly, a review of 18 studies by Dorey et al. concluded that tobacco smoking has adverse effects on erectile function, with smokers being approximately 1.5 times more likely to report ED compared with non-smokers.[22]

A cross-sectional study conducted in Italy among men who were 18 years and above to compare the risk of ED in non-smokers with current smokers and ex-smokers in 2010 yielded odds ratios of 1.7 and 1.6 respectively. The study also showed that the risk of developing ED is influenced by smoking and that the duration of the habit increases this risk.[23]In contrary, Bolaji et al. found no statistical significance between ED and smoking as well as the MMAS which did not show significant difference between current smokers and non-smokers.[13,23]

In this study, alcohol consumption was not found to be a significant risk of ED. The relationship between alcohol intake and its effect on ED is still debatable as some studies have argued that small amount can promote erection ,others found that large amount can further suppress erection and chronic alcoholism can cause irreversible neurological damage with consequent worsening of ED.[24,25,26].The reason why alcohol intake did not have a significant relationship with ED in our study cannot be explained clearly since we did not quantify the amount of alcohol taken by the subjects.

Hypertension was the most common co-morbidity associated with ED in this study and the association between ED and co-morbidities were statistically significant

The Massachusetts Male Aging Study (MMAS) found that ED correlated with heart disease, hypertension, diabetes, and low levels of high-density lipoprotein cholesterol, independent of age.[27]

A study by Olarinoye in Ilorin Nigeria, organic factors such as chronic medical conditions including hypertension, diabetes mellitus, as well as adverse effects of therapies used for these conditions are known to constitute major causes of ED.[27]Similar findings on adverse effect of antihypertensives on ED was reported by Garko et al.[28]

Shab Sigh reported that the most frequent co- morbidities in men with ED in the health care system were hypertension and hyperlipidemia and diabetes[13]

The low level of awareness of treatment of ED found in this study was similar to findings of a study done by Shirai et al.[29]It was a national study which assessed awareness of ED treatment among married couples in Japan. Only 4.8% of the study population had consulted a physician or sought treatment. This was attributable to cultural factors.

The finding of low level of awareness of treatment among the subjects (39.4%) and the small number of subjects (20.4%) who sought for help for treatment of ED may be further compounded by poor communication between the attending physicians and the patients as almost two fifth of the subjects reported that their ED challenges were not discussed with the doctor (37%). This is similar to the findings in a study by Ariba and colleagues on perception and practice in the management of ED by primary health physicians. 76% of the respondents (primary health physicians) reported that ED was common in their practice but only 18% of them have ever prescribed medications for affected patients and that most of the physicians (62%) would not take sexual history, unless it is brought up by the patients.[4]

More than half of subjects who had taken drugs to boost their erection knew about it through their friends and about half of them obtained the drugs over the counter.

The use of herbal preparations to treat ED in our environment may not be unconnected with the social stigma, cultural perception on its cause and the perceived response to indigenous herbs.

The trend of ED is changing from the findings in this study. ED was more prevalent in men in their forties compared to previous studies, although the most severe forms were seen in the elderly.

CONCLUSION

The prevalence of ED was high in our environment with low awareness and poor treatment seeking behavior.

RECOMMENDATIONS

ED is now a public health problem and as such health education on lifestyle modification isimportant in curbing this increasing alarming trend. Public health enlightenment will help to increase the awareness of treatment of ED and discourage patronage of traditional medicine in our environment.

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LEGEND TO FIGURES

Figure 1: shows the distribution of ED and severity of ED among the different age groups

Figure 2: shows the proportion of participants who bought drugs over the counter to boost their erection

Figure 3: shows the source of information about the drugs by used participants

Figure 4: shows herbal preparation use by participants to boost their ED

Figure 5:shows the proportion of subjects that had their sexual challenges discussed with the doctors

LEGENDS TO TABLES

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Table 2: shows the correlation between ED and age

Table 3: shows the IIEF-5 scores, the relationship between ED and co-morbidities, lifestyle, BMI

Table 4: shows the relationship between ED and drugs use