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Prevalence and Correlates of Self-Reported Erectile Dysfunction among Adult Male Patients Receiving Cardiovascular Care in Southern Nigeria

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Abstract

Background: *The global incidence of erectile dysfunction (ED) is on the rise, with an estimated 152 million men currently affected. Cardiovascular risk factors are strongly linked to the occurrence of ED, particularly in men with cardiovascular disease (CVD). In countries like Nigeria, where it is not typically viewed as life-threatening, ED often receives less attention. Consequently, there is limited data on self-reported ED among patients seeking cardiovascular care in cardiac clinics. Therefore, this study aims to determine the prevalence of self-reported ED among adult patients with CVD visiting a cardiac center.*

Materials and Method: *A retrospective hospital-based study of self-reported ED patients carried out in a cardiac center among males (31-82 years) in Port Harcourt, Southern Nigeria, over a one-year period (October 2022 to January 2024). Participants' demographic data and medical history were retrieved and analyzed.*

Results: *The study had a total of 23 male subjects. Majority of the participants were between 50-69 years old (47.8%), 65.2% took alcohol and 21.7% smokes cigarette. 82.6% had a history of hypertension and (73.9%) were on antihypertensive, (34.8%) had diabetes mellitus, (17.4%) were on antidiabetic while (60.9%) were on other forms of medication. Overweight and obesity account for 34.8% and 52.2% of the subjects respectively. Beta-blocker (23.5%) was the frequently used medication and angiotensin-converting enzyme (ACE) inhibitors was the least accounting for (5.9%).*

Conclusions: *The increasing incidence of ED among patients with CVD risk factors and an aging population suggest that patients should be screened. ED may become a significant public health problem and closer attention needs to be paid to control these patients to reduce further complications.*

Keyword: *Erectile dysfunction, cardiovascular risk factor, cardiac Centre, self-reported, Good Heart medical consultants' Hospital.*

Introduction

Erectile dysfunction (ED) is a prevalent issue among men globally,[1] often overlooked in countries like Nigeria[2] where it is not considered life-threatening.[3] Discussion of sexual matters outside the privacy of the bedroom is generally regarded as a societal taboo. Due to the associated stigma, some men are unwilling to seek proper treatment for the condition, leading to underestimation and lack of assistance.[1] While some younger men believe ED will go away by itself, older men may see it as a natural process of aging.[4] Cultural, religious, and spiritual beliefs contribute to the silence surrounding sexual function and the persistence of sexual dysfunction. This stigma, sustains the misconception that men with ED are impotent.[5]

According to the National Institutes of Health Consensus Development Panel on Impotence, as reported by a study in 2018. ED was defined as the inability to achieve and maintain an erection sufficient to permit satisfactory sexual intercourse. It is classified into organic and psychogenic subtypes, of which the organic subdivision is often caused by a variety of factors including diabetes mellitus (DM), hypertension(HTN), cardiovascular diseases (CVD), and hyperlipidemia.[6] Erectile dysfunction was previously believed to be caused primarily by psychological factors, but recent research suggests that it is often influenced by cardiovascular risk factors.[7] Chronic medical conditions like hypertension and diabetes, along with the side effects of treatments for these conditions, are significant organic causes of ED.[3] Age is strongly associated with ED (8)due to the presence of cardiovascular risk factors that increases with age.[9,10] It is known that medical practitioners often do not inquire about it in patients in whom it may not be the complaint even though risk factors for it may be present; especially hypertension, use of anti-hypertensive drugs, diabetes mellitus, alcohol intake and smoking. This situation is surprising because ED has a major negative impact on quality of life and for this reason, it has been suggested that even if patients do not mention ED problems, physicians should not neglect to inquire about them.[7]

Cardiovascular risk factors are known to be associated with the presence of erectile dysfunction (ED), and ED is more common in men with cardiovascular disease (CVD).(11) One of the most significant advances in the field of research for ED is the recent increasing awareness of its high prevalence among men with CVD.(12) ED and CVD like atherosclerosis and coronary artery disease (CAD) share similar risk factors, individuals with multiple cardiovascular risk factors often have a higher prevalence of ED, which can also serve as an early indicator of potential cardiovascular events.[13] Patients with single vessel ischaemic heart disease were observed to experience less difficulty achieving erections compared to those with two or three vessel ischemic heart disease.[14] The use of medication to address cardiovascular risk factors has been associated to the development of erectile dysfunction. Several antihypertensive medications, such as β-blockers and thiazide diuretics are known to frequently cause sexual dysfunction resulting in reduced treatment adherence.[14] However, statin therapy commonly prescribed for cardiovascular conditions has been linked to a decline in erectile function. An earlier study on the cause of impotence in men with hypertension revealed an association between angiotensin converting enzyme (ACE) inhibitors and erectile dysfunction (ED), with a prevalence of 26%. Among hypertensive individuals, 70% were using an ACE inhibitor and medication was identified as the underlying cause of their ED, with over 50% attributing the development of ED to ACE inhibitor therapy.[15]

ED is a common complaint in hypertensive men and can be caused by a systemic CVD, a side effect of antihypertensive medication or a frequent concern that may impair drug compliance.[16] Men with hypertension have a 15% likelihood of

developing severe ED and those who had cardiac disease had a probability of 39%. If they smoked, the likelihood increased to 20% and to 56% for cardiac patients who smoked.(13,15) ED as a diabetes-related difficulty is common among male patients.[17] Diabetes has been associated with an increased risk of ED. The prevalence is approximately 50%, with a range of 27.5–59% depending on age and disease severity.[15] A threefold increased risk of erectile dysfunction (ED) was documented in diabetic men compared with nondiabetic men.[16,17] Additionally, atherosclerosis is associated with almost 40% of cases of ED in men aged 50 years or more and men with heart disease, myocardial infarction or vascular surgery and incidences of ED ranging from 39–64% in each patient group was found.[15]

The estimated worldwide prevalence of erectile dysfunction (ED) is rising, with approximately 152 million men currently experiencing some form of ED. This number is projected to increase to 322 million by 2025.[20] According to studies, the burden of ED in Nigeria is significantly higher, with estimates ranging from 30% to 50%.(3) While the prevalence of ED tends to increase with age, it varies across different age groups, ranging from 1% to 10% in men under 40, 2% to 9% in men aged 40-49, and increasing to 20% to 40% in men aged 60-69. The highest rates of ED are seen in men over 70, with prevalence ranging from 50% to 100%.10:58 AM ED prevalence rates of 49.4%, 34%, 63.6%, and 80.8% have been observed in primary care settings in Canada, Australia, Egypt, and Pakistan respectively.[8,22,23] A multi-country national survey in Nigeria found an ED prevalence of 57.4% in primary care.[8] In Nigeria, ED prevalence varied across the six geopolitical zones, with rates ranging from 41.5% to 48.9% in Uyo and Rivers (South-south zone),[3,24], 46.9% in Ilorin (North-central zone)[25], 43.8 and 58.9% in Ogbomoso and Osogbo (South-west zone)[4,26], 52.3% in Kano (North-West zone)[27] and 86.6% in Umuahia, (South-east, zone),[28] in community-based and hospital-based studies have been reported. Similar studies in the North-east geopolitical zone of Nigeria are scarce.

Studies on erectile dysfunction (ED) in Nigeria have primarily focused on primary care settings in the southern regions, but to the best of our knowledge, there is limited information on the prevalence of self-reported ED among patients receiving cardiovascular care in cardiac clinic. To address this gap, the study was conducted with the aim of determining the prevalence of self-reported ED among adult cardiac patients presenting to a cardiac center.

Materials and Methods

This retrospective hospital-based study of self-reported ED carried out among male subjects aged 31-82 years in Port Harcourt, Southern Nigeria, over a one- year period (October 2022 to January 2024) who attended the general out-patient department (GOPD) of GoodHeart Medical Consultants Hospital. Participants' demographic data (age, marital status, etc.), cigarette smoking and alcohol intake were retrieved from the hospital Electronic Medical records (EMR). Information regarding hypertension, diabetes and medication administration, and other related comorbidities were retrieved.

The study included male subjects who self-reported experiencing difficulty in achieving or maintaining an erection in the past 6 months.

Participant's height was measured (in meters) using an improvised wooden stadiometer mounted on vertical wall, body weight (in kilograms) was measured to the nearest 0.5kg using a hanna-calibrated bathroom scale, model BR 9011, a mercury sphygmomanometer was used to measure blood pressure (in mmHg), an Accu-chek active glucometer was also used to measure the blood glucose level (in mmol/L).

Normal weight was defined as BMI of 18.0- 24.9 kg/m2, overweight as BMI of 25.0 – 29.9kg/m2 while obesity was defined as BMI of > 30.0 kg/m2.[29] Hypertension was defined as having a

previous physician's diagnosis of hypertension or persistent elevation of systolic blood pressure of 140mmHg or greater, diastolic blood pressure of 90 mm Hg or greater.[30] Accu-chek active glucometer was used to measure the blood glucose level, with a fasting glucose range as Desirable <6.11, Borderline 6.11-6.94, High >6.94.[31]

Customary alcohol intake in drinks and cigar smoking were estimated from self-report.

Data were entered and analyzed using the Microsoft Excel sheet version 2019. Continuous variables were presented as means ±S.D. Categorical variables were expressed as frequencies and percentage.

Results

A record of twenty three 23(100%) subjects who had complained of ED were retrieved from the electronic medical records (EMR) of the hospital, with an age range of 31-82 years. Patients were grouped into three groups; 30-49 years (8, 34.8%), 50-69 years (11, 47.8%) and above 70 years (4, 17.4%). The mean (SD) for the twenty three patients was 55.83±12.19 years.

The socio-demographic characteristics of the study participants in (Table 1) shows that, most of the subjects 22(95.7%) were married and are business men 11(47.8%). Majority of the subjects takes alcohol 15(65.2%) and only a few were current smokers 5 (21.7%). However, 9(39.1%) had family history of only hypertension (HTN) while 8(34.8%) had a history of both hypertension and diabetes mellitus (HTN/DM).

Participants' clinical characteristics shows that; more participants were in obese group (obese class 1 to 3) 12(52.2%), blood pressure (BP) range showed that 15(65.2%) had hypertension and 14(60.9%) had normal fasting blood glucose. Table 2; figure 1

Table 3 shows the background medical history of the study participants. Most subjects 19(82.6%) had hypertension, 17(73.9%) were on antihypertensive medication; 8(34.8%) had diabetes mellitus, 4(17.4%) were on antidiabetic medication while 14(60.9%) were on other forms of medication such as (PUD, cholesterol lowering and anticoagulant medications). However, some have complication of cardiovascular conditions. 8(34.8%) had hypertensive heart disease (HHDx), 3(13.0%) had heart failure (HF), 2(8.7%) had stroke.

Category of hypertensive subjects on antihypertensive in (Table 4). Majority of the subject were on Beta-blocker accounting for 4(23.5%), follow by angiotensin receptor blockers (ARBs) accounting for 3(17.6%). Calcium channel blocker and diuretics account for 2(11.8%) respectively while the least subjects were on angiotensin-converting enzyme (ACE) inhibitors account for 1(5.9%). However, 5(29.4%) were on fixed dose combination.

Table 1: Socio-Demographic Characteristics of the participants and Erectile Dysfunction

Variables	Frequency(n=23)	Percent (100)
Prevalence of ED	23	**100**
Age group		
30-49	8	34.8
50-69	11	47.8
>70	4	17.4
Mean age (years)	55.83±12.19	
Marital status		
Married	22	95.7
Divorced	1	4.3
Occupation		
Business	11	47.8
Civil servant	7	30.4
Engineer/Doctor	4	17.4
Retired	1	4.3
Lifestyle practice		
Alcohol intake		
Yes	15	65.2
No	8	34.8
Cigarette smoking		
Yes	5	21.7
No	18	78.3
Family history		
Hypertension (HTN)	9	39.1
Diabetes mellitus (DM)	1	4.3
HTN/DM	8	34.8
Asthmatic	1	4.3

Table 2: Participants' clinical characteristics

Characteristics	Frequency	Percent
Body mass index (BMI)		
Normal	3	13.0
Overweight	8	34.8
Obese class 1	8	34.8
Obese class 2	1	4.3
Obese class 3	3	13.0
Blood pressure(mmHg)		
Normal	8	34.8
Elevated	15	65.2
Fasting blood glucose (mmol/L)		
Normal	14	60.9
Elevated	9	39.1

Table 3: Participants' history of medical condition

Medical history	Frequency	Percent
Hypertension		
Yes	19	82.6
No	4	17.4
Antihypertensive use		
Yes	17	73.9
No	6	26.1
Diabetes mellitus		
Yes	8	34.8
No	15	65.2
Antidiabetic use		
Yes	4	17.4
No	19	82.6
Other medication use		
Yes	14	60.9
No	9	39.1
CVD complications		
HHDx	11	47.8
Stroke	2	8.7
Others	6	26.1

Key: HHDx=hypertensive heart disease, UTI= urinary tract infection

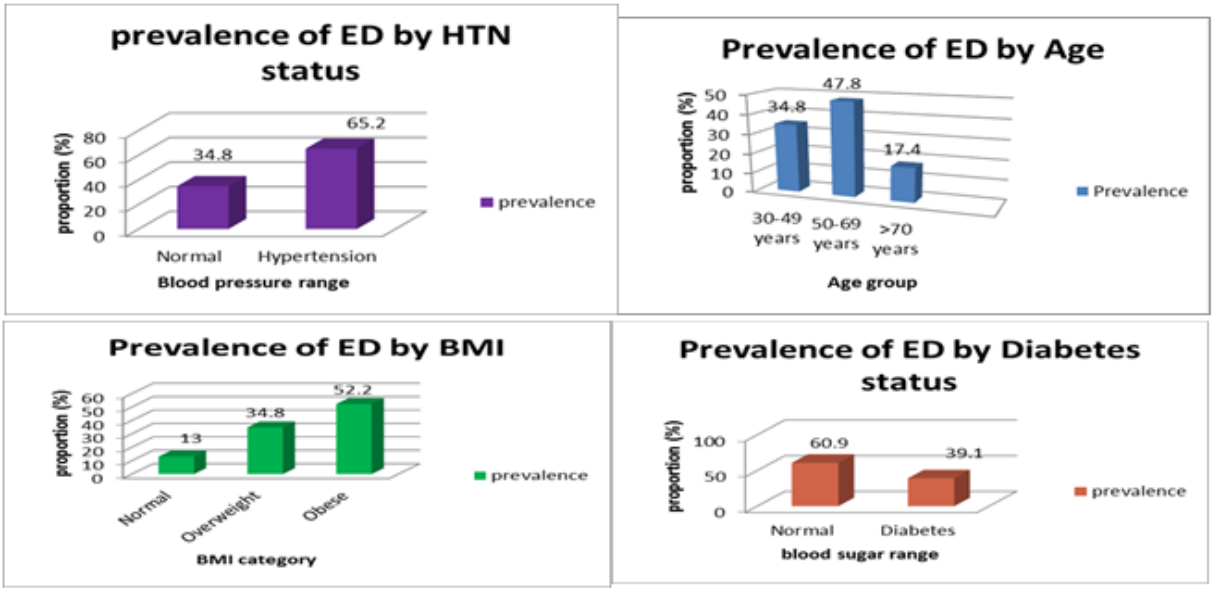

Figure 1 prevalence of ED by Age, BMI, hypertension and diabetes status

Table 4 Category of hypertensive subjects on antihypertensive medication

Antihypertensive	Frequency (n=17)	Percent
Calcium channel blocker	2	11.8
ACE inhibitors	1	5.9
ARBs blocker	3	17.6
Diuretics	2	11.8
Beta-blocker	4	23.5
Fixed-dose combination	5	29.4

Keys: ACE =angiotensin-converting enzyme inhibitors, ARBs= angiotensin receptor blockers

Discussion

The primary responsibility for addressing erectile dysfunction (ED) typically lies with urologists, psychologists, and family practitioners. However, due to the recognized association between ED and cardiovascular disease (CVD), the involvement of additional medical specialists like cardiologists has become necessary in its treatment. ED is widespread, particularly among men with underlying CVD conditions. The reluctance by men to discuss this sensitive issue can lead to a decreased quality of life and may also hinder the early detection of hidden cardiovascular conditions.

Patients often do not fully understand the seriousness of hypertension, focusing more on severe complications like heart failure than on the ongoing risks of systemic hypertension. This lack of awareness means that many individuals with hypertension may not realize the severity of their condition. Individuals with CVD conditions should be educated to avoid the use of performance enhancing medication that could further jeopardize their cardiac status. Healthcare providers should be more forward in asking this questions rather than presuming that due to the CVD issues surrounding these patients, they may not be interested in discussing these matters. Diagnosis and treatment of ED should be included in diabetes and hypertension clinics particularly in the developing world, It is important to increase awareness, provide counseling, and health programs should be designed in developing nations to educate and empower individuals on health seeking behavior.

Twenty-three men who presented to the facility with primary complain of ED was observed. Their socio-demographics findings show that the majority of the participants were between 50-69 years old (47.8%), married (95.7%), and were business men (47.8%). However, 65.2% took alcohol and (21.7%) smokes. It showed that approximately (65.2%) had hypertension (elevated BP), and (39.1%) had diabetes mellitus (elevated blood sugar range). Overweight and obesity account for 34.8% and 52.2% of the subjects respectively. The remaining (34.8%) and (60.9%) were either non-hypertensive or non-diabetic and had controlled blood pressure or blood sugar range respectively. This finding is similar to a study reported in Makurdi, North-central Nigeria.[32] Our study observed that HHDx account for (47.8%), Stroke (8.7%) and others complications (26.1%) of the study participants.

The mean age (SD) of our study was 55.83±12.19 years. This align with the mean age of 55±12 years reported in southern Nigeria among hypertensives patients at a primary care clinic.[33] The effect of age on ED is not surprising, as rising age has been shown in several studies to be the principal risk factor associated with ED10:58 AM; both in community studies as well as subpopulations with comorbidities.[9,26,34] This is probably attributable to the rising incidence of ailments such as hypertension, diabetes, general organ decline as well as andropause which all increase with advancing age.

In the study, the prevalence of self-reported ED was 23(100%), this prevalence ranged in ascending order from 4(17.4%) in age group above 70 years to 8(34.8%) in 30-49 years and to

11(47.8%) in 50-69 years. Our finding differ from the prevalence of 77.2% reported in another southern Nigeria study [33] were it was noted that the increase in prevalence rate could be attributed to the growing modernization and awareness regarding the accessibility of treatment options for ED. Consequently, more individuals are feeling empowered to overcome stigma and openly address their concerns with healthcare providers. In 2019, a study on the epidemiology update of ED reported that healthcare provider should focus on increasing ED diagnosis and treatment rates in the general adult male population, rather than focusing on only older age groups.[35] ED prevalence has been reported both in community and in hospital based-study in different geo-political zone in Nigeria ranging from 41.5% to 86.6%[3,24–28].

ED was observed by several of the established risk factors including smoking, alcohol intake, diabetes, hypertension, obesity, and overweight. Cigarette smoking account for 21.7% and alcohol intake account for 65.2% in our study. The prevalence of smokers and individuals consuming excessive alcohol, alongside factors like age and comorbidities, was notably high. These findings indicate the presence of multiple risk factors and the occurrence of erectile dysfunction (ED). Given these insights, it's advisable for physicians to regularly counsel their patients to reduce alcohol consumption and quit smoking, aiming to lower the likelihood of ED onset or progression to more severe forms, especially in those already diagnosed. This prevalence differs from the Massachusetts Male Aging Study (MMAS),[36] were they documented that the rate of current cigarette smoking to be higher in impotent patients than in the general population and that patients diagnosed with vasculogenic impotence were smokers. This difference may be attributed to the bias nature of our patients to admit their smoking status. Despite the varying prevalence, cigarette smoking remains a common health problem. In 2005, research conducted by the Italian Society of Andrology[37] revealed that men who stopped smoking face a higher risk of ED compared to those who never smoked, even in absence of other health conditions. The study suggested that while it may be tempting to view smoking as an independent risk factor for ED, it primarily affects erectile function indirectly by impairing endothelial function rather than directly influencing it.

The prevalence of ED among hypertensive subjects was (82.6%). Hypertension (HTN) is strongly associated with ED since arteriolar smooth muscle cells of the cavernous bodies are related to blood flow. ED should be considered an early sign of vascular disease and ought to be the subject of extensive inquiry in all patients with hypertension. Hypertension has been found to be the greatest risk factor for ED in some studies, and ED has been shown to be associated with an increased risk of cardiovascular disease, making hypertension a common and dangerous cardiovascular disease worldwide.[38,39] Our finding is similar to 81.7% reported in River state, South-south Nigeria[16] but higher than 68.3% reported in North-west[27] and (33%) reported in a Massachusetts Male Aging Study (MMAS).[40] A Study of Prevalence and Relationships between ED and hypertension in Umudike.[28] reported correlation, such that there were more cases of ED among hypertensives. It was noted that ED being an essential vascular condition may explain the finding of higher prevalence of ED in men with vascular disorders such as HTN. ED is common in patients with systemic hypertension and may result from the natural progression of the disease or side effects of antihypertensive medication.[38]

The use of antihypertensive medication account for 17(73.9%) of our study. This align with 70.9% reported in another study.[27] ED is prevalent among individuals with hypertension, and its emergence could be linked to the usage of antihypertensive medications alongside other contributing factors. Compared to untreated individuals, those receiving treatment for

hypertension are at a higher risk of experiencing ED, indicating a potential adverse impact of antihypertensive therapy on erectile function.[38]

The objective of treating hypertension with antihypertensive was to reduce the likelihood of cardiovascular incidents by lowering the blood pressure. Certain cardiovascular medications frequently prescribed are beta-blockers, diuretics, angiotensin-converting enzyme inhibitors and more.[41] In our study, the antihypertensive medication used includes, angiotensin-converting enzyme (ACE) inhibitors (Lisipriopril) account for (5.9%), Calcium blockers (Amlodipine and Nifedipine) account for (11.8%), Diuretics (Aldactone,Torsinex) account for (11.8%), angiotensin receptor blockers (ARBs) (losartan, Diovan, Atacand) account for (17.6%), β blockers (Nebilong, Metoprolol, Concor) account for (23.5%), and fixed-dose formulation (Exforge, co-aprovel with other combination of more than one category of the antihypertensive) account for (29.4%). A study on the effect of antihypertensive drugs on Erectile Function; reported that antihypertensive medications like β blockers and diuretics are historically linked to ED. Newer medications such as calcium antagonists, ACE inhibitors, and ARBs are generally believed to have neutral effects or may even be beneficial with respect to sexual function.[42,43] It is important to consider the effects of different categories of antihypertensive drugs on sexual function when treating ED in hypertensive patients.

Thiazide diuretics are frequently utilized alongside loop diuretics to relieve fluid overload in patients with heart failure, particularly when loop diuretics alone prove insufficient. They are frequently recommended as initial treatment for uncomplicated hypertension in hypertensive patients and has been linked to ED.[44] There are several factors that play a role in the development and advancement of ED, with many being particularly prevalent in patients with heart failure. Additionally, these factors are closely intertwined and often occur simultaneously, amplifying their negative effects on sexual function. Contributing causes of ED in individuals with heart failure include issues such as endothelial dysfunction, atherosclerosis, decreased exercise tolerance, medications used to treat heart conditions, psychological factors, and low testosterone levels associated with heart failure.[44]

The various cardiovascular medications available can have adverse effects on erectile function, as they often impact vascular health, metabolism, and neuro-hormonal processes. Some study suggests that certain types of antihypertensive medications could potentially worsen sexual dysfunction, especially erectile dysfunction, more than others. Side effects related to sexual function from taking these drugs may impact the quality of life for both the patient and their partner. These side effects could lead to discontinuation of treatment or inadequate adherence, ultimately resulting in abnormal blood pressure levels and related health issues.[45]

According to the guidelines from the American Heart Association as reported in Markos Karavitakis study,[45] sexual dysfunction has not been linked to the use of ACE inhibitors, ARBs, and calcium channel blockers. In contrast, the guidelines from the Saudi Hypertension Management Group advise against the use of thiazide diuretics in sexually active men.[45]

Medications that may be linked to sexual side effects include thiazide diuretics clorthalidone, centrally acting alpha agonists and beta blockers .[46,47] The guideline from the Japanese Society of Hypertension[48] mentions that sexual dysfunction could be a potential side effect of antihypertensive drugs, although it does not specify any details regarding individual drugs.

Two of the 12 identified guidelines offer specific recommendations for managing sexual dysfunction caused by antihypertensive medication. One recommendation suggests that if erectile dysfunction occurs following the start of antihypertensive treatment, the problematic drug

should be replaced with an alternative medication, and/or a phosphodiesterase type 5 enzyme inhibitor (PDE5i) can be added, as long as nitrates are avoided.[46,48]

Patients undergoing treatment with first-generation non-selective beta-blockers, like propranolol, experienced a higher incidence of erectile dysfunction (ED) compared to those receiving a placebo. Similarly, second-generation cardioselective beta-blockers (e.g., atenolol, metoprolol, bisoprolol, etc.) can also lead to ED. A prospective study involving hypertensive men treated with atenolol, metoprolol, and bisoprolol for a minimum of 6 months revealed a significant prevalence of ED, nearing 66%, among these individuals. Third-generation cardioselective beta-blockers such as carvedilol and nebivolol has shown that Nebivolol, in particular, appears to offer an advantage over other beta-blockers in the treatment of hypertension and ED.[45,49,50]

The prevalence of ED among men with diabetes was 8(34.8%). The factors significantly associated with the presence of erectile dysfunction among men with diabetes are longer duration of diabetes, poor glycaemic control, older age, peripheral arterial disease, autonomic neuropathy and obesity. Our finding was lower than the 44.6% reported in Rivers state[16] The variation might be due to differences in sample size, health-seeking behavior between the populations, since our study was of cardiac setting. In 2020, a meta-analysis of prevalence of ED among DM patients[50] reported that the prevalence of ED remains high in DM patients in Africa at 71.45%, and the high prevalence was predominant in Nigeria at 84.92%. Overweight and obesity was associated with ED accounting for (34.8 and 52.2%) respectively. It has been reported by previous studies that patients who are overweight and obese have 81% likelihood of having ED.[23,51]

The Princeton guidelines, originating as the earliest study, address the management of erectile dysfunction in men with established cardiovascular disease. These guidelines offer practical strategies for assessing cardiac risks related to sexual activity and managing sexual dysfunction in patients with underlying cardiovascular risk factors or conditions. It is widely implemented in clinical practice and prove highly effective in managing erectile dysfunction in individuals with cardiac concerns.[14] The recognition of ED as a warning sign of silent vascular disease has led to the concept that a man with ED and no cardiac symptoms is a cardiac (or vascular) patient until proved otherwise.[52,53]

Recognizing the significance of sexual function for both individuals and their partners, it's essential to prioritize hypertension treatments that pose minimal risk of causing sexual dysfunction. This balance between effective care and quality of life is vital for ensuring patient adherence to treatment plans[45]. Additionally, certain cardiovascular medications may hinder erectile function, particularly in stable heart failure (HF) patients. Encouraging sexual activity as a moderate-intensity physical activity in these cases is advisable. Managing erectile dysfunction (ED) in HF patients requires addressing reversible risk factors and selecting medications with minimal impact on sexual function. Physicians must understand the link between HF and ED, considering its clinical implications to improve patient outcomes and quality of life.[44]

Conclusion and Recommendation

The high rates of ED among hypertensive, obesity and diabetic patients suggest that patients with such comorbidities should be screened for ED, with the increasing incidence of obesity, hypertension, diabetes and an aging population, ED may become a significant public health problem.

Certain cardiovascular medications may impede erectile function, particularly in stable heart failure (HF) patients. Encouraging sexual activity as a moderate-intensity physical activity in these cases is advisable. Managing erectile dysfunction (ED) in HF patients requires addressing reversible

risk factors and selecting medications with minimal impact on sexual function with closer attention paid to control these patients to reduce further complications.

Diagnosis and treatment of ED should be included in diabetes and hypertension clinics particularly in the developing world, and health programs should be designed in developing nations to educate and empower individuals on health seeking behavior.

Limitation of the Study

This study did not compare outcomes between patients with ED and without ED, unlike previous research. Instead the study treated the ED cases as self-reported.

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Statement Of Ethical Approval

Ethical approval of this study was obtained from the University of Port Harcourt teaching Hospital ethical committee.

Conflicts of Interest

Authors declared they have no conflicts of interest

Authors' Contributions

C.E.N performed the clinical examination of the patients, and C.E.N and J.A was a major contributor in writing the manuscript. J.A collected, analyzed and interpreted the patients' data. All authors read and approved the final manuscript.

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