

Socio-demographic Factors Associated with Erectile Dysfunction among Men in Port-Harcourt, Southern Nigeria

Okey-Ewurum I.G.¹, Amadi A.N.¹, Nwoke E.A.¹, Amadi C.O.A.¹, Ibe S.N.O.¹, Iwuoha G.¹, Azuamah Y.C.²

¹Department of Public Health, Federal University of Technology, Owerri, Nigeria

²Department of Optometry, Federal University of Technology, Owerri, Nigeria

Corresponding Author: Okey-Ewurum, I.G

ABSTRACT

Erectile dysfunction is a health problem that involves the consistent inability to achieve or maintain an erection. The objective of this study was to investigate the socio-demographic factors associated with erectile dysfunction among men. This study was a cross-sectional descriptive study carried out in Port-Harcourt, Southern Nigeria. The multi stage sampling technique was used to select the respondents and an informed consent was obtained from all the participants. A well-structured questionnaire was given to each respondent to fill out. A total of 330 males with a mean age of 48 ± 2.3 participated in the study. Results showed that 210 (63.64%) respondents reported erectile dysfunction. The distribution of erectile dysfunction according to age was 21-30, 13 (3.94%); 31-40, 19 (5.76%); 41-50, 37 (11.20%); 51-60, 48 (14.55%); 61-70, 45 (13.64%); and above 70, 48 (14.55%). The employment status of the respondents was 9 (2.73%) respondents who were peasants; civil servants were 12 (3.64%); private sector, 44 (13.33%); self-employed, 106 (32.12%); others were 39 (11.82%). Data analysis with the Statistical Package of Social Sciences (SPSS) version 23 using the chi-square test at 0.05 level of significance showed that erectile dysfunction was significantly associated with age ($P < 0.05$), education level ($P < 0.05$), and employment status ($P < 0.05$). In conclusion, majority of the respondents reported that they have erectile dysfunction. Age, educational level and employment status were all found to have a significant association with erectile dysfunction. Health education and public enlightenment was

recommended to educate men on erectile dysfunction and its risk factors.

Keywords: Erectile Dysfunction, Impotence, Age, Education, Employment Status

INTRODUCTION

Erectile dysfunction (ED) or impotence is the consistent inability to achieve or maintain an erection for satisfactory sexual relationship. [1] A penile erection is the hydraulic effect of blood entering and being retained in sponge-like bodies within the penis. This is initiated when there is sexual arousal which transmits signals from the brain to the nerves in the penis. Erectile dysfunction is imminent when an erection is difficult to achieve. [2]

ED can be a sign of health problems. It could be an early manifestation of coronary artery and peripheral vascular disease. [3] Most men experience erectile dysfunction during their sexual lives. Professional help is needed when erectile dysfunction becomes a persistent problem. If a man cannot achieve an erection hard enough for penetration and satisfactory sexual intercourse three quarters or 75% of the time, the man is said to have the disease. As men age the prevalence of erectile dysfunction rises. Between 30-40 percent of men experience it between the ages of 30 and 40, compared with 70 percent in men of ages 65-70 years. [4] There are men of 65 and above who are still very much sexually

active and do not have erectile dysfunction (ED).

It is important to mention that erectile dysfunction is not the same as loss of libido which is a loss of interest in sexual activities or the urge to have one. [5] In erectile dysfunction, there is an interest and the urge to have sex but the penile erection is too soft or is totally lost after a short period. Erectile dysfunction is either primary or secondary in origin. Primary erectile dysfunction is rare. It signifies that a man has never been able to attain or sustain erections. Such cases are almost always due to psychological factors and only rarely due to biogenetic factors such as low testosterone levels and reflective disorders of the hypothalamus-pituitary-gonadal axis. [6] Secondary erectile dysfunction occurs when a man who could previously attain and sustain erections of good quality no longer can. More than 90% of secondary erectile dysfunction is physical in nature. [6] The major cause of secondary erectile dysfunction is vascular. Other pathogenic categories include hormonal disorder, side effects of medications, post-surgical trauma affecting the genito-urinary tract, and other neurological disorders. [7]

The erection of the penis involves an integration of complex physiological processes involving the central nervous system, the peripheral nervous system, hormonal factors and vascular factors. Any abnormality of these systems either by disease or medication has a remarkable impact on the ability to achieve and sustain an erection. Sometimes erectile dysfunction only occurs in certain situations. For example, a man may be able to get an erection during masturbation, or he may find that he sometimes wakes up with an erection but he is unable to get an erection with his sexual partner. If this is the case, it is likely the underlying cause of erectile dysfunction is psychological. [8] If he is unable to get an erection under any circumstances, it is likely that the underlying cause is physical. Erectile dysfunction can also be a side-effect of

using certain medicines. Medications causing ED include anti-depressants, NSAIDS, anticonvulsants, neuroleptics, oral hypoglycemics and antihypertensives. [9] It could also be due to a combination of these factors.

Broadly, erectile dysfunction could originate from physiological, psychological or environmental factors. Various conditions may contribute to ED including medication, hypertension, liver disease, diabetes mellitus, sleep apnea, tobacco smoking, alcohol consumption, zinc deficiency, changes in hormone levels; testosterone and elevated levels of prolactin. The process of achieving penile erection involves the integration of psychological, neurological, and vascular processes, which combine to initiate a physiologic response within the penile vasculature. Endothelial mediated dilation of arteriolar smooth muscle results in increased blood flow into the sinusoids of the corpora cavernosum and subsequent filling while simultaneously relaxing to increase compliance. [10] Erection involves a complex network of activities which involves the brain, hormones, emotions, nerves, muscles and blood vessels. [11] When there is a sexual stimulation, the waves hit the brain and travel via the spinal cord to the penis. This will bring about muscle relaxation and the inflow of blood into the blood vessels around the penis. Increasing knowledge on erectile function postulates that demographic, health and lifestyle factors could play important roles in causing severe ED in an individual. [12] Besides, the socioeconomic states such as occupation or employment status of an individual and academic qualification has been found to have indirect association with severity of ED. [13,14] This study was carried out in Port-Harcourt, Southern Nigeria to investigate the socio-demographic factors associated with erectile dysfunction among men.

MATERIALS AND METHODS

This study was a cross-sectional descriptive study carried out among men

above 20 years in Port-Harcourt, an urban city in Southern Nigeria. The multi stage sampling technique was used to select 330 men across the city. An informed consent was obtained from all participants who were given questionnaires to fill out. Data was uploaded into the Statistical Package for Social Sciences (SPSS) version 23, and descriptive statistics was used for presentation of data while the Chi square test was used to test the association of erectile dysfunction with demographic characteristics at 0.05 level of significance.

RESULTS

There were a total of 330 males that participated in the study with a mean age of 48 ± 2.3 . Table 1 presents the demographic characteristics of the participants. Those who were between the ages of 21 and 30 were 44 (13.3%). Those whose age fell within 41- 50 years were the largest group among the participants with a frequency of 62 (18.8%), and next to that was the 61 -70 at 57 (17.9%). The 61 -70 were closely followed by the 51-60 years and the above 70 at 57 (17.3%) each. There were 202 (61.2%) men who had tertiary education; 77 (23.3%) attended secondary education; 44 (13.3%) had primary education were and 7 (2.1%) did not have any formal education. Self-employed participants were 146 (44.2%); peasant workers, 10 (4.5%); civil servants, 27 (8.2%); private sector, 69 (20.9%), and others, 73 (22.1%). The table also showed that respondents with erectile dysfunction within the age group of 21-30 were 13 (3.9%); 31-40, 19 (5.7%); 41-50, 37 (11.2%); 51-60, 48 (14.5%); 61-70, 45 (13.6%); and above 70, 48 (14.5%). There were a total of 210 (63.64%) respondents who reported erectile dysfunction. The table also showed that 6 (1.8%) respondents with erectile dysfunction had no formal education; primary education was 32 (9.7%); secondary education was 63 (19.1%); tertiary education was 109

(33.0%). The employment status of the respondents was 9 (2.7%) respondents who were peasants; civil servants, 12 (3.6%); private sector, 44 (13.3%); self-employed, 106 (32.1%); others were 39 (11.8%). Figure 1 shows the knowledge of erectile dysfunction among the participants. Majority 236 (71.5%) of the respondents were aware of ED, while 94 (28.5%) responded that they were not aware of the disease. Figure 2 show that 210 (64%) of respondents reported that they have ED, while the remaining 120 (36%) reported that they do not have it. Figure 3 compared the distribution of respondents with and without ED in different age groups. For age group 21-30, 29.5% had ED and 70.5% did not; for 31-40, 37.3% had ED and 62.7% did not; for 41-50, 59.7% had ED and 40.3% did not; for above 70, 84.2% had ED and 15.8% did not. Figure 4 compared the distribution of respondents with and without ED in different education level. For respondents with no formal education, 85.7% had ED and 14.3% did not; for primary education, 72.7% had ED and 27.3% did not; for secondary education, 81.8% had ED and 18.2% did not; for tertiary education, 54.0% had ED and 46.0% did not. Figure 5 compared the distribution of respondents with and without ED in different employment status. For respondents who are peasant workers, 60.0% had ED and 40.0% did not; for civil servants, 44.4% had ED and 55.6% did not; for private sector, 63.8% had ED and 36.2% did not; for self-employed, 72.6% had ED and 27.4% did not. Data analysis with the Statistical Package of Social Sciences (SPSS) version 23 using the chi-square test at 0.05 level of significance showed that erectile dysfunction was significantly associated with age [$P(0.0001) < 0.05$], education level [$P(0.0001) < 0.05$] and employment status [$P(0.013) < 0.05$].

Table 1: Demographic characteristics of Respondents

Age Class (Years)	No. without erectile Dysfunction (%)	No. with Erectile Dysfunction (%)	Total no. of Respondents (%)
21- 30	31(9.5)	13(3.9)	44(13.3)
31- 40	32(9.7)	19(5.7)	51(15.5)
41- 50	25(7.6)	37(11.2)	62(18.8)
51 – 60	9(2.7)	48(14.5)	57(17.3)
61 – 70	14(4.2)	45(13.6)	59(17.9)
Above 70	9(2.7)	48(14.5)	57(17.3)
Total	120(36.4)	210(63.6)	330(100.0)
Education Level			
No formal education	1(0.4)	6(1.8)	7(2.1)
Primary	12(3.6)	32(9.7)	44(13.3)
Secondary	14(4.2)	63(19.1)	77(23.3)
Tertiary	93(28.2)	109(33.0)	202(61.2)
Total	120(36.4)	210(63.6)	330(100.0)
Employment Status			
Peasant	6(1.8)	9(2.7)	10(4.5)
Civil Servants	15(4.5)	12(3.6)	27(8.2)
Private sector	25(7.6)	44(13.3)	69(20.9)
Self-employed	40(12.2)	106(32.1)	146(44.2)
Others	34(10.3)	39(11.8)	73(22.1)
Total	120(36.4)	210(63.6)	330(100.0)

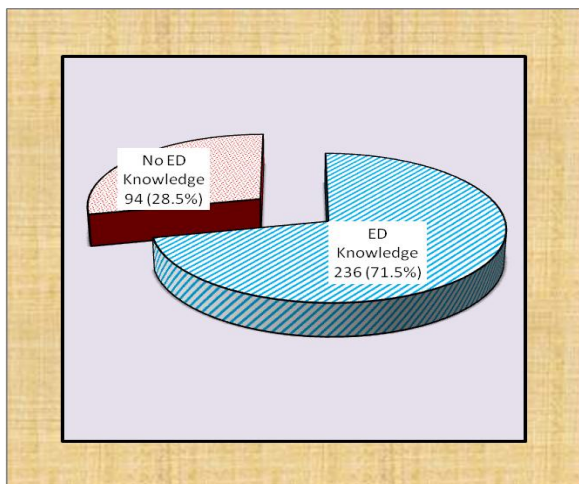


Figure 1: Knowledge of Erectile Dysfunction (ED) among the respondents

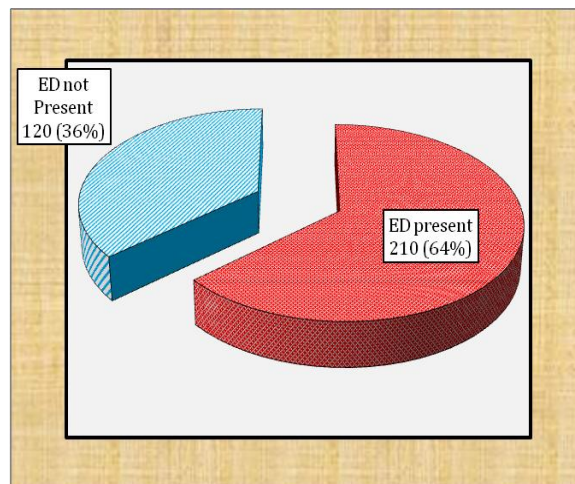


Figure 2: Distribution of erectile dysfunction among the respondents

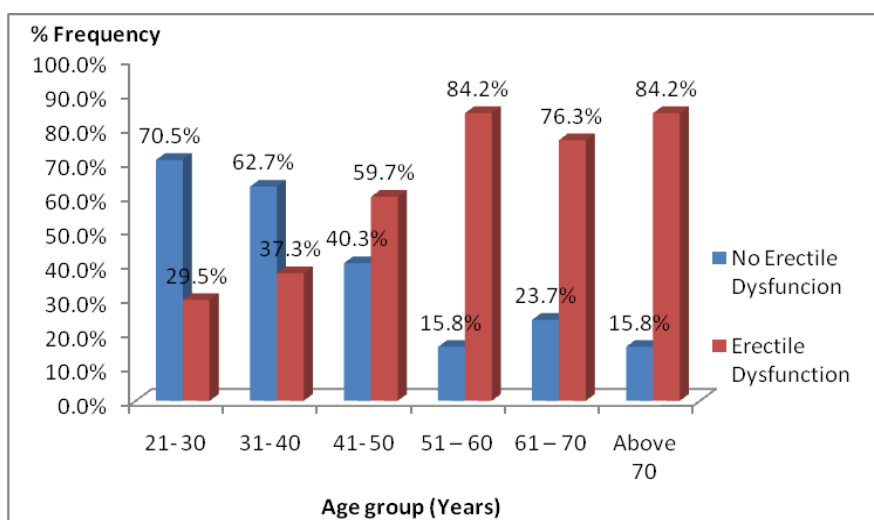


Figure 3: Comparison of respondents with and without erectile dysfunction according to age

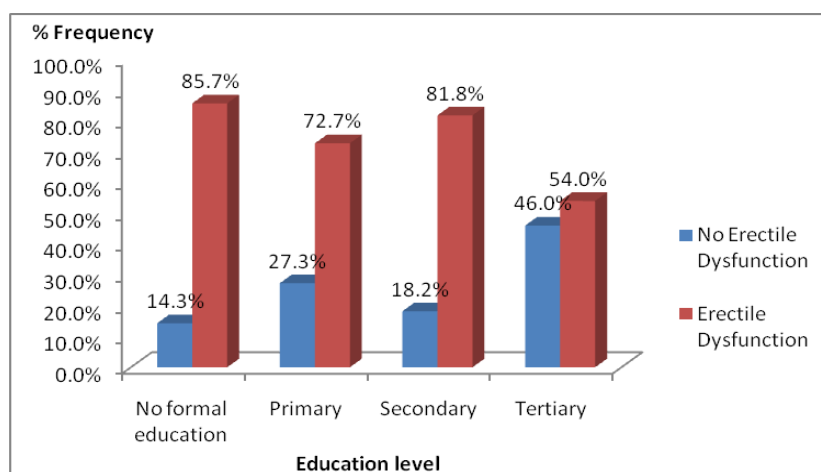


Figure 4: Comparison of respondents with and without erectile dysfunction according to education level

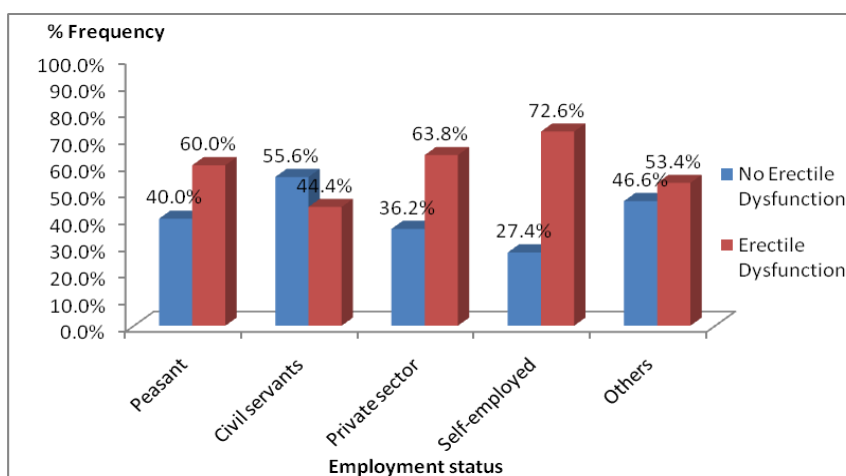


Figure 5: Comparison of respondents with and without erectile dysfunction according to employment status

DISCUSSION

The demographic distribution of the age of the respondents showed that ED increased with increase in age. It was observed that the older the respondent, the more the erectile dysfunction, which conformed to several other studies. [15,16] It is possible that the cause of ED in the lower age groups may be more psychological than physiological. [17] Mcculloch et al [18] observed that the higher the age, the more the likelihood of cardiovascular and metabolic diseases which increased the ED burden. It was observed that not only did ED frequency increase with age, but the severity also increased with increase in age. This could be due to the presence of chronic diseases and side effects of medications. [19] The type of ED in younger groups may be mostly psychogenic, due to performance anxiety. This observation is consistent with

other findings in ED studies in other geographical locations and cultures. [20,21]

Erectile dysfunction is one of the most common chronic diseases affecting men and its prevalence increases with aging. It is also the most frequently diagnosed sexual dysfunction in the older male population. [22] Though ED could have variable causes which include arterial, neurogenic, hormonal, cavernosal, iatrogenic, and psychogenic factors, it is now widely accepted that ED is predominantly due to underlying vascular causes, particularly atherosclerosis. [19] Data from the Massachusetts Male Aging Study [23] documented a tripling of the overall probability of complete ED from 5% in men aged 40 years to 15% in men aged 70 years. In the European Male Aging Study [24] performed in eight European centers for the investigation of ED in men aged 40–79 years old, the prevalence of ED was higher

in the old age groups, peaking in men 70 years old and older. Furthermore, elderly men are often affected with several diseases and take a lot of drugs, many of which are potentially worsening sexual function. Tirado et al [25] reported a direct relationship of an increased prevalence of erectile dysfunction and testosterone deficiency in old men. However, hormonal changes are not the main determining factor within the decline of sexual function, even in some circumstances there is no relationship at all. Some scholars [23,26] suggest that maybe testosterone enhances the process of erection by attenuation of the α -adrenergic activity in vascular smooth muscle (SM) of the corpus cavernosum.

In recent years, a stronger focus has been placed on socioeconomic status (SES) as a risk factor for cardiovascular disease. Tang et al [27] empirically obtained proof to support the hypothesis that a lower economic status is linked to a higher probability of many risk factors negatively influencing sexual health. Job insecurity and unemployment can also impose considerable stress that can affect sexual health. [28] In recent years, researchers have paid increasing attention to psychosocial job stressors determining several negative consequences among employees, such as reduced concentration, efficiency and performance, sleep disturbances, increased risk of cardiovascular diseases, musculoskeletal and digestive problems, occupational errors and accidents, increased work absences and burnout, decreased job satisfaction, increased physical and mental fatigue and increased turn over. [29,30] Moreover, due to the economic problems, most employees are faced with the risk of job insecurity and unemployment, which can impose considerable stress. Job stressors have been associated with lower marital satisfaction. Erectile dysfunction is associated with poor quality of life which could result from employment status. [31] In Nigeria, due to the economic problems facing the entire country, there is high level of unemployment. Many men are now self-

employed, working longer hours under very stressful condition with very low profitability. This can have negative impact on health seeking ability of an individual due to lack of financial back up to support the out of pocket health system available in Nigeria. All these factors have been found in this study to relate with erectile dysfunction.

In conclusion, over 60% of the male subjects in this study reported erectile dysfunction. Majority of them were above 50 years. Age, educational level and employment status were all found to have a significant association with erectile dysfunction. Health education and public enlightenment is needed to educate men on erectile dysfunction and the risk factors.

REFERENCES

1. Olugbenga-Bello AI, Adeoye OA, Adeomi AA, Olajide AO. Prevalence of Erectile Dysfunction and Its Risk Factors among Adult Men in a Nigerian Community; Niger. Postgrad Med J. 2013; 20 (2):130-135.
2. Milton L, Hadley W. Erectile dysfunction; Cleveland Med Ed. 2013; 45(12): 472-480.
3. Hatzimouratidis I, Eardley F, Giuliano K. Guidelines on Male sexual dysfunction erectile Dysfunction and Premature Ejaculation. European Association of Urology. 2014; 6(11): 34-39.
4. Akingbade F. What Scientists say about Sexuality (2) Punch, Ganster D.C., Rosen C.C. Work Stress and Employee Health a Multidisciplinary Review. J Man. 2012; 39(5): 1085-1122.
5. Lee AC, Ho LM, Yip AW, Fan S, Lam TH. The effect of alcohol drinking on erectile dysfunction in Chinese men. Int J Impot Res. 2010; 22:272-8.
6. Feintuch S, Cafasso J. Low Sex Drive: Common Causes and Treatment; Health Line. Am J Pub Health. 2018; 30(10): 78-82.
7. Joel J, Ann Harbor H. Management of Erectile Dysfunction. Am Fam Physician. 2010; 81(3):305-312.
8. Murrell D. Overcoming Sexual Performance Anxiety; Medical News Today. 2018; 90-97.
9. Ludwig W, Philips M. Organic Causes of Erectile Dysfunction in Men Under-40. Urol Int J. 2014; 92:1-6.
10. Lasker JH, Maley J. Advances in Pharmacological Sciences. Int J Health. 2010; 10: 234-238.

11. Anastasiadis AG, Droggin D, Burchardt M, Shabsigh R. Physiology of Erection and Causes of Erectile Dysfunction. Humana Press, Totowa. 2004; 152-180.
 12. Raymond M, Hasniza ZH, Azad Hassan AR. Demographic, Clinical and Lifestyle Predictors for Severity of Erectile Dysfunction and Biomarkers Level in Malaysian Patients. Braz J Pharm Sci. 2018; 54(3): 554-560.
 13. Al Mogbel TA. Erectile Dysfunction and Other Sexual Activity. J End Health. 2014; 72-78.
 14. Momtaz YA, Hamid TA, Ibrahim R, Akahbar SAN. Racial and Socioeconomic Disparities in Sexual Activity among Older Married Malaysians. Arch Gerontol Geriatr. 2014; 58(1):51-5.
 15. Aina K, Oyekanmi AO, AdelufosiOA, Adebowale TO. Demographic and clinical correlates of sexual dysfunction among Nigerian male outpatients on conventional antipsychotic medications. J Pub Health. 2012; 350-354.
 16. Pedro P, Nicholas P, Kisenge P. A community-based study on prevalence and correlates of erectile dysfunction among Kinondoni District Residents, Dar Es Salaam, Tanzania. Reprod Health. 2016; 13: 140-144.
 17. Inelmen EM, Sergi G, Girardi A, Coin A, Toffanello ED, Cardin F, Manzato E. The Importance of Sexual Health in the Elderly: Breaking Down Barriers and Taboos. Aging Clin Exp Res. 2012; 3(8): 29-33.
 18. McCulloch DK, Campbell IW, Wu FC, Prescott RJ, Clarke BF. The prevalence of diabetic impotence. Diabetologia. 2010; 18: 279-83.
 19. Solomon JW, Man K, Jackson B. Erectile dysfunction and the cardiovascular patient: endothelial dysfunction is the common denominator. J Card Health. 2003; 89(3): 251-253.
 20. Chen J, Gefen A, Greenstein A, Matzkin H, Elad D. Predicting Penile Size During Erection; Int J Imp Res. 2010; 12: 328-333.
 21. Heidi G. Erectile Dysfunction in Young me: Causes and Treatment. Med J. 2014; 12(2): 67-72.
 22. Pietro G, Alberto C, Davide F, Gregorio C, Pasquale D. Erectile Dysfunction in the Elderly: An Old Widespread Issue with Novel Treatment Perspectives. Int J Endocrinol. 2014; 18(7): 768-770.
 23. Feldman HA, Goldstein I, Hatzichristou DG, Krane RJ. Impotence and its medical and psychosocial correlates: results of the Massachusetts male aging study. J Urol. 2014; 5: 67-76.
 24. Yovwin FA, Imarhiagbe EM, Obazee TC. Erectile Dysfunction in a Sub-Saharan African population: Profile and Correlates in a Tertiary Care Hospital. Sahel Med J. 2015; 25(11): 77-83.
 25. Laura C, Echeverri T, Julio E. Aging and Erectile Dysfunction. Sexual Med Rev. 3: 9-13.
 26. Mikhail N. Does Testosterone Have a Role in Erectile Function? Am J Med. 2006; 119: 373-378.
 27. Tang KL, Rashid R, Godley J, Ghali WA. Association between Subjective Social Status and Cardiovascular Disease and Cardiovascular Risk Factors; A Systematic Review and Meta-Analysis. BMJ Open. 2016; 6: 101-117.
 28. Hamidreza M, Stefano T, Tayebe R, Pordanjani E.T. Role of Psychosocial Job Stressors on Sexual Function of Male Nurses: The Mediator Role of Work Ability. Am J Mens Health. 2018; 12(6): 1908-1915.
 29. Gharibi V, Mokarami H, Taban A, Yazdani AM, Samimi K, Salesi M. Effects of work-related stress on work ability index among Iranian workers. Safety and Health. 2016; 7(1), 43-48.
 30. Choobineh A, Mokarami H, Mortazavi SB, Asgari A, Stallones L. Multiple dimensions of work-related risk factors and their relationship to work ability among industrial workers in Iran. Int J Occu Saf Ergon. 2017; 23(3): 374-379.
 31. Patricia A, Agaba A, Ocheke M, Akanbi, Z. Sexual Functioning and Health-Related Quality Of Life in Men. Brit J Pub Health. 2017; 58(3): 96-100.
- How to cite this article: Okey-Ewurum IG, Amadi AN, Nwoke EA et.al. Socio-demographic factors associated with erectile dysfunction among men in Port-Harcourt, Southern Nigeria. International Journal of Science & Healthcare Research. 2020; 5(3): 358-364.
