Prevalence and Socio-Demographic Variables of Erectile Dysfunction among Men Using Alcohol in Plateau North Senatorial Zone

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ABSTRACT

Background
A satisfying sexual relation is the joy of every couple. However, sexual dysfunction has made many couples dissatisfied with their marriage.
Research objective
The study is aimed at determining the prevalence and socio-demographic variables of erectile dysfunction (ED) among men using alcohol in Plateau North Senatorial zone.
Method
Descriptive case study of selected alcohol related treatment facilities and selected communities across Plateau North Senatorial Zone were carried out.
Result
The total of 69(77.5%) of the participants had erectile dysfunction (ED), among which 30(33.7%) had severe ED, 16(18.0%) had mild to moderate ED, 13(14.6%) had mild ED and 10(11.2%) had moderate ED. Age had significant association with ED, χ^2=25.198, df=12, p=0.014 (p<.05). Also, duration of marriage have significant association with ED, χ^2=16.741, df=8, p=0.033 (p<.05). Furthermore, a significant association between religious affiliation and ED was found, χ^2=9.981, df=4, p=0.041 (p<.05). However, alcohol use did not have significant association with ED, χ^2=18.760, df=12, p=0.094 (p>.05). Finally, a significant association was found between participants status (being Clinical or non- clinical) and ED, χ^2=16.127, df=4, p=0.003 (p<.05).
Conclusion
There is need for professionals working with men using alcohol to deliberately explore their clients sexual functioning.

Keywords: *Alcohol, Erectile Dysfunction, Plateau North, Prevalence, Socio-demographic*

INTRODUCTION

A satisfying sex life is an important component of overall well-being (Thomas, & Thurston, 2016).Erectile dysfunction (ED) is defined as the inability to achieve and/or maintain erection of sufficient rigidity and duration for satisfactory sexual performance (Doughert, 2018). ED is an international problem (Nicolosi, Moreira, Shirai, Tambi, & Glasser, 2003). Diabetes, age, high blood pressure, high cholesterol, peripheral vascular disorder, lung disease, prostate disease, cardiac problems, rheumatism and allergy, were significantly associated with erectile dysfunction. Drug intake correlated strongly, as did tobacco use and alcohol consumption (Martin-Morales, Sanchez- Cruz, Tejada, Rodriguez-Vela, Jimenez-Cruz, Burgos-Rodrigues, 2001).Among males,

age was a significant factor for sexual dysfunction (Adegunloye, Makanjuola, & Adelekan, 2010). About a quarter of adult men living in Kinondoni district suffer from erectile dysfunction (Pallangyo, Nicholaus, Kisenge, Mayala, Swai, & Janabi, 2016). In a Boston community survey, alcohol consumption contributes to higher rates of erectile disorder (Kupelian, Araujo, Chiu, Rosen &Makinlay, 2010). Among hospitalized alcoholic men, Whalley (1978) discovered erectile impotence among 54% compared to only 24% of health controls having erectile impotence.

The rate of ED cases is on the increase. O'Farrell, Kleinke, and Cutter, (1998) discovered three times prevalence of erectile dysfunction among alcoholic men than among demographically similar non- alcoholic men. Among men in Pakistan, Egypt and Nigeria, Shaeer, Osegbe, Siddiqui, Razzaque, Glasser, and Jaguste, (2003) discovered that age-adjusted prevalence of ED was 57.4% in Nigeria, 63.6% in Egypt and 80.8% in Pakistan. Similarly, Nicolosi, et al (2003) discovered that age-adjusted prevalence of moderate or complete ED was 34% in Japan, 22% in Malaysia, 17% in Italy, and 15% in Brazil. The increased risk of ED was associated with diabetes, heart disease, lower urinary tract symptoms, heavy smoking, and depression. It was inversely associated with education, physical activity, and alcohol drinking.However, Okulate, Olayinka, and Dogunro, (2003) reported that alcohol abuse did not predict erectile dysfunction. In another study on prevalence of erectile dysfunction and associated factors, Oladiji, Kayode, and Parakoyi, (2013) revealed that 46.9% had mild erectile dysfunction, 9.8% had moderate and 2.8% had severe erectile dysfunction respectively. However, age at first marriage, religion and ethnicity, were not correlated with erectile dysfunction. Abadi, Abera, Gebru, Brhane and Medhin (2013) discovered that religion guiding sex is one of the significant predictors of sexual dysfunction. Van Vo, Hoang and Thanh Nguyen, (2017) reported that age, religion, alcohol consumption, body max index, disease history, quality of life, anxiety and consensual sex with their wives/partners were identified as the major factors that correlate with ED.

Statement of the problem

Generally, a satisfying sexual relation is the joy of every couple. However, sexual dysfunction has made many couples dissatisfied with their marriage. Most men are concern about their inability to satisfy their wife sexually. Dinesh, Sudha, and Pandey (2018) discovered higher rate of sexual dysfunction in patient with alcohol dependence. Despite the higher rate reported, Lee, Ho, Yip, Fan and Lam (2010) reported that the relationship between alcohol and ED is not clear. Different factors have been identified as having significant relationship with ED. Increase rate of ED is a matter of concern; therefore, the problem identified in this study is to discover the current prevalence of erectile dysfunction and possible associated variables that would be associated with ED.

Significance of study

This study will contribute to knowledge in the area of erectile dysfunction and mental health in relation to the effect of alcohol on sexual functioning of men. Findings of this study will be useful to professionals in the area of mental health, marriage counsellors, couples, researchers, students and the general public.

Literature review

Men that drink alcohol frequently suffer from erectile dysfunction, intermittent delay in or absence of orgasm, and premature or delayed ejaculation (Olusola, Helen, Abiodun, & Udo, 2014).

Also, Saha (2015) reported that possibility of developing sexual dysfunction is high with increasing years of alcohol consumption. Prabhakaran, Nisha, and Varghese, (2018) discovered that sexual dysfunction is common in male patient with alcohol dependence, erectile dysfunction was commonly reported among (25%), followed by (20%) that reported dissatisfying orgasm and premature ejaculation (15.5%).Among adult men in a Nigerian community on the prevalence of ED and its risk factors Olugbenga-Bello, Adeoye, Adeomi, and Olajide, (2013) discover that factors such as increasing age, hypertension, diabetes mellitus, perineal surgery, alcohol consumption and smoking were significantly associated with developing ED. Nobre, Pinto-Gouveia, and Gomes, (2006)found a prevalence of 70% for ED as the most prevalent complaints with 22.4% for premature ejaculation. Among 152 men that engaged in sexual intercourse during the last 12 months, Abadi, et al (2013) discovered that 25.7% of the men were affected by at least one type of sexual dysfunction. Early ejaculation (11.8%), erectile difficulties (11.2%) and lack of sexual interest (9.9%) were the sexual problems most frequently reported. Increasing age, diagnoses of depression, diabetes, hypertension, heart disease, cigarette smoking, alcohol consumption and belief religion guiding sex were all significant predictors of sexual dysfunction.

The overall prevalence of ED was 76.5% and it increased with age and it is markedly higher after the age of 60 (Shiri, 2004). Dachille, Lamuraglia, Leone, Pagliarulo, Palasciano, Salerno, and Ludovico, (2008) found a significant association between erectile disorder and consumption of alcohol. Contrarily, Gumus, Yigitoglu, Lekili, Uyanik, Muezzinoglu, and Buyuksu (1998) did not find statistically significant different scores between alcoholic and non-alcoholic men. Out of 45 only 14 complained lost of erection.In another study, among married couples the higher rate of sexual dysfunction is comparable to prevalence rates in the general male and female population. Duration of marriage worsen possibility of sexual dysfunction, 13-18 years of marriage life poses about 10 times significant risk of developing sexual dysfunction compared to 1-6 years of married life among married women (Amidu, Owiredu, Gyasi-Sarpong, Woode, & Quaye, 2011). Age has implication of erectile dysfunction, Takure, Adebayo, Okeke, Olapade-Olaopa, and Shittu, (2016) reported that the peak age incidence at 30-44 years was 41.6% and reduced with increasing age after 65 years to 4.5%.

Aim of the study

This study is aimed at determining the prevalence and socio-demographic variables of erectile dysfunction among men using alcohol across Plateau North Senatorial zone. Thus, it is hypothesized that;

1. The prevalence of erectile dysfunction would likely be high among men using alcohol across Plateau North Senatorial zone
2. Age would have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial zone
3. Duration of marriage may have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial zone
4. Religious affiliation may have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial zone
5. Alcohol use may have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial zone
6. Participants status (being clinical or non-clinical) may significantly associate with erectile dysfunction among men using alcohol across Plateau North Senatorial zone

METHOD

Design/sampling technique

Descriptive case study of selected alcohol related treatment facilities and selected communities across Plateau North Senatorial Zone were carried out. Purposive sampling technique was utilized in selecting participants of interest that participated in this study.

Participants

The total of 89 (mean age 33.74) men using alcohol across Plateau North Senatorial zone participated in this study. Majority 38(42.7%) of the participants were between 18 – 30 years, 35(39.3%) were between 31 – 40 years, 9(10.1%) were between 41 – 50 years and only 7(7.9%) were 51 years and above. Majority 46(51.7%) of the participants were clinical while 43(48.3%) were non-clinical. In terms of religion, Christians 76(85.4%) had the highest number of participants compared to Muslims 12(13.5%) and others 1(1.1%). In relation to duration of marriage, majority 71(79.8%) were married between 1 – 10 years, 11(12.4%) were married between 11 – 20 years and 7(7.9%) were married 21 years and above.

INSTRUMENT

Alcohol Use Disorders Identification Test (AUDIT)

Alcohol Use Disorders Identification Test (AUDIT), a 10- item questionnaire developed by Saunders, Aasland, Babor, De La Fuente, and Grant, (1993) was used in determining level of alcohol use. Saunders, et al (1993) reported high alpha coefficients intrascale reliability, with mean values of 0.93 and 0.81 respectively. The values for the two domains 'alcohol problems in the last year' and 'alcohol problems ever' were lower at 0.69 and 0.65 respectively and varied significantly among the six samples (from approximately 0.35 to 0.83).

Religious Affiliation Scale (RAS)

The Religious Affiliation Scale (RAS) is a 21 items scale developed to measure religious devotion (Omoluabi, 1995). Okunola, (1995) provided the mean scores of 26.7 and 35.04 for males and females respectively. Omoluabi (1995) reported a test-rest reliability coefficient of .97 in an interval of three weeks. Erinoso (1996) correlated RAS with Life Satisfaction Index-z by Neugarten, Havinghurst, and Tobin (1961) and obtained a divergent validity coefficient of -.26.

International Index of Erectile Function (IIEF)

The International Index of Erectile Function (IIEF) was developed by Rosen, Riley, Wagner, Osterloh, Kirkpatrick and Mishra, (1997). The domains of the IIEF include erectile and orgasmic function, sexual desire, intercourse satisfaction, and overall satisfaction (Rosen, et al 1997). In this study, only erectile function sub scale comprising of 6 items was used considering that the male sexual dysfunction of interest in this study is erectile dysfunction. Rosen et al (1997) reported an eigen values greater than 1.0 and a high internal consistency were reported for the five domains and the total scale atα = 0.73 and 0.91 respectively. A higher test-retest reliability (r = 0.84) for erectile function and (r = 0.81) for intercourse satisfaction were found as well as (r = 0.82) for the total scale. Moderately high correlations (r – values of 0.64 to 0.77) were observed for the other domains.

Procedure

With the assistance of three research assistants data were collected from 3 three alcohol related treatment facilities (clinical sample) and 3 communities (non- clinical samples across Plateau North Senatorial zone. Instrument of data collection was administered to each participants individually, consent to participate in the study was sought individually from each participant, only those that consent to participate were included in the study. Clinical sample were drawn from both in- and out- patients of the treatment facilities, in- patients were administered instrument of data collection in their respective wards, while out- patients were administered instrument of data collection at the General Outpatient Department (GOPD) were patients wait to see their respective doctors. Data for non-clinical participants was collected from different alcohol joints and bars across the selected communities. Consent of the joint/bar owners was sought and participants that participate individually consented to, they were administered the instrument of data collection before they start drinking.

Data analysis

Descriptive and inferential statistics were used in analyzing data in this study. Chi- square was used in analyzing data at p = 0.05 significant level. Statistical Package for Social Sciences (SPSS) version 21 was used in analyzing all data in this study.

RESULT

Table 1: frequency table showing prevalence of erectile dysfunction

	Frequency	Percent (%)
Erectile Dysfunction	69	77.5
Severe Erectile Dysfunction	30	33.7
Moderate Erectile Dysfunction	10	11.2
Mild to Moderate Erectile Dysfunction	16	18.0
Mild Erectile Dysfunction	13	14.6
Normal Erectile Function	20	22.5

Result of table 1 showed high prevalence of erectile dysfunction, out of the 89 participants that participated in this study 69(77.5%) had erectile dysfunction among which 30(33.7%) had severe erectile dysfunction, 16(18.0%) had mild to moderate erectile dysfunction, 13(14.6%) had mild erectile dysfunction and 10(11.2%) had moderate erectile dysfunction. Only 20(22.5%) had normal erectile function.

Table 2: Chi-square analysis for association between age and erectile dysfunction

Erectile Dysfunction	Age					Chi-square ($\chi 2$)	df	p-value
	18 - 30 Years	31 - 40 Years	41 - 50 Years	51 Years and above	Total			
Severe Erectile Dysfunction	14	13	2	1	30			
Moderate Erectile Dysfunction	2	3	1	4	10			
Mild to Moderate Erectile Dysfunction	9	7	0	0	16	25.198	12	.014
Mild Erectile Dysfunction	4	7	2	0	13			
Normal Erectile Function	9	5	4	2	20			
Total	38	35	9	7	89			

Result of table 2 showed that age had significant association with erectile dysfunction. The hypothesis that age would have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial zone was supported. Majority of the participants between ages 18 – 30 and 31 – 40 had severe erectile dysfunction compared to those that had moderate, mild to moderate and mild erectile dysfunction.

Table 3: Chi – square analysis for association between duration of marriage and erectile dysfunction

Erectile Dysfunction	Duration of Marriage				Chi-square ($\chi 2$)	df	p-value
	1 - 10 Years	11 - 20 Years	21 Years and above	Total			
Severe Erectile Dysfunction	27	1	2	30			
Moderate Erectile Dysfunction	4	3	3	10			
Mild to Moderate Erectile Dysfunction	13	3	0	16	16.741	8	.033
Mild Erectile Dysfunction	12	1	0	13			
Normal Erectile Function	15	3	2	20			
Total	71	11	7	89			

Findings of table 3 revealed that duration of marriage have significant association with erectile dysfunction. The hypothesis that duration of marriage may have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial Zone was supported. Majority (27) of those married between 1 – 10 years had severe erectile dysfunction compared to those married between 11 – 20 years and compared to those married 21 years and above. Similarly majority of those married between 1- 10 years had mild to moderate and mild erectile dysfunctions respectively compared to those married between 11- 20 years and those married 21 years and above (table 3).

Table 4: Chi- square analysis of association between religious affiliation and erectile dysfunction

Erectile Dysfunction	Religious affiliation			Chi-square ($\chi 2$)	Df	p-value
	Low Religious Affiliation	High Religious Affiliation	Total			
Severe Erectile Dysfunction	11	19	30			
Moderate Erectile Dysfunction	8	2	10			
Mild to Moderate Erectile Dysfunction	12	4	16	9.981	4	.041
Mild Erectile Dysfunction	8	5	13			
Normal Erectile Function	13	7	20			
Total	52	37	89			

Result of table 4 revealed that religious affiliation had significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial Zone. The hypothesis that religious affiliation may have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial Zone was supported. Those with high religious affiliation had severe erectile dysfunction compared to those with low religious affiliation. However, more of those with low religious affiliation had mild to moderate erectile dysfunction compared to those with high religious affiliation.

Table 5: Chi-square analysis of association between alcohol use and erectile dysfunction

Erectile Dysfunction	Alcohol Use					Chi-square ($\chi 2$)	Df	p-value
	Low Alcohol Use	Hazardous Alcohol Use	Harmful Alcohol Use	Alcohol Dependence	Total			
Severe Erectile Dysfunction	22	3	4	1	30			

Moderate Erectile Dysfunction	3	4	0	3	10			
Mild to Moderate Erectile Dysfunction	9	3	2	2	16	18.760	12	.094
Mild Erectile Dysfunction	6	2	0	5	13			
Normal Erectile Function	12	3	1	4	20			
Total	52	15	7	15	89			

Result of table 5 showed that alcohol use did not have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial Zone. The hypothesis that alcohol use may have significant association with erectile dysfunction among men using alcohol across Plateau North Senatorial zone was not supported. However, result of table 5 showed that majority (22) of those with severe erectile dysfunction had low alcohol use.

Table 6: Chi-square analysis of association between participants status (being clinical and non-clinical) and erectile dysfunction

Erectile dysfunction	Participants status (Clinical and Non- Clinical)			Chi-square ($\chi 2$)	df	p-value
	Clinical	Non-Clinical	Total			
Severe Erectile Dysfunction	23	7	30			
Moderate Erectile Dysfunction	6	4	10			
Mild to Moderate Erectile Dysfunction	4	12	16	16.127	4	.003
Mild Erectile Dysfunction	7	6	13			
Normal Erectile Function	6	14	20			
Total	46	43	89			

Result of table 6 revealed a significant association between participant's status (clinical and non- clinical) and erectile dysfunction. The hypothesis that participant's status (being clinical or non-clinical) may significantly associate with erectile dysfunction among men using alcohol across Plateau North Senatorial zone was supported. Majority (23) of the clinical participants had severe erectile dysfunction compared to the non- clinical participants.

DISCUSSION

Findings of this study revealed 77.5% prevalence of erectile dysfunction among men using alcohol across Plateau North Senatorial zone, among which 33.7%had severe ED, 18.0% had mild to moderate ED, 14.6% had mild ED and 11.2% had moderate erectile dysfunction. Nobre, et al (2006) reported a prevalence of 70% for ED.Similarly Shaeer et al (2003) discovered that age-adjusted prevalence of ED was 57.4% in Nigeria, 63.6% in Egypt and 80.8% in Pakistan.Result of the second hypothesis showed that age had significant association with ED, Majority of the participants between ages 18 – 30 and 31 – 40 had severe ED compared to those that had moderate, mild to moderate and mild ED. Similarly, Takure et al (2016) identified age a factor of erectile dysfunction among men, 30-44 years was the peak age incidence at 41.6% and reduced with increasing age. Contrarily, Shiri (2004) reported that ED increased with age which is markedly higher after the age of 60. Also, Olugbenga-Bello, et al (2013) discovers increase age among other factors to be significantly associated with erectile dysfunction.

Findings of the third hypothesis showed that duration of marriage has significant association with ED; Majority (27) of those married between 1 – 10 years had severe erectile dysfunction compared to those married between 11 – 20 years and 21 years and above. Similarly majority of those married between 1- 10 years had mild to moderate and mild erectile dysfunctions respectively. Similarly, Amidu, et al (2011) discovered that sexual dysfunction worsen by duration of marriage, 13-18 years of marriage life posses about 10 times significant risk of developing sexual dysfunction. Furthermore, result of the fourth hypothesis revealed that religious affiliation has significant association with ED. Those with high religious affiliation had severe erectile dysfunction more than those with low religious affiliation. However, more of those with low religious affiliation had mild to moderate erectile dysfunction compared to those with high religious affiliation. Abadi, et al (2013) discovered that religion guiding sex is one of the significant predictors of sexual dysfunction. Contrarily, Oladiji, et al (2013) discovered that religion and age at first marriage were not correlated with erectile dysfunction. Religion and alcohol consumption were related with erectile dysfunction (Van-Vo, et al 2017).

Alcohol use did not have significant association with ED based on result of the fifth hypothesis. However, majority (22) of those with severe erectile dysfunction had low alcohol use. Similarly, Gumus, et al (1998) did not find statistically significant different scores between alcoholic and non-alcoholic men, only 14 complained lost of erection. Also, Okulate et al (2003) reported that alcohol abuse did not predict erectile dysfunction. Contrarily, Dachille et al (2008) found a significant association between erectile disorder and consumption of alcohol. Lee, et al (2010) reported that the relationship between drinking alcohol and ED is not clear. Finally, result of the last hypothesis revealed a significant association between participants status (being clinical or non- clinical) and ED. Majority of the clinical participants had severe ED compared to the non-clinical participants. Among men in a tertiary care hospital in Puducherry, Dinesh, et al (2018) discovered that sexual dysfunction is highly prevalent in patient with alcohol dependence. Among Hospitalized alcoholic men, Whalley, (1978) discovered erectile impotence among 54%. Similarly, in Boston area community survey, alcohol consumption contributes to higher rate of erectile disorder (Kupelian, et al 2010). Erectile dysfunction affects about a quarter of adult men living in Kinondoni district (Pallangyo, et al 2016).

Conclusion

High prevalence of ED was found among the study population of this study. Socio-demographic variables such as age, duration of marriage, religious affiliation, and participant's status being clinical or non- clinical had significant association with ED. Significant association was not found between alcohol use and ED. Limited number of participants may affect generalizing findings of this study. However, it is an indication for further study among large sample size of men using alcohol in relation to erectile dysfunction. However, mental health practitioners such as clinical psychologist, psychiatrist, and medical social workers should deliberately explore the area of sexual functioning of their client presenting for alcohol related problems. Findings of this study also have implications for marriage counsellors, most especially when working with couples that use alcohol. Thus, there is need for professionals working with men using alcohol to deliberately explore their clients sexual functioning.

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