NIGERIAN JOURNAL
JOURNAL OF PSYCHOLOGICAL
RESEARCH

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Prevalence and Socio-Demographic Factors of Relapse among Patients with Substance Use Disorder in Lagos, Southwest Nigeria.

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ARTICLE INFO

ABSTRACT

Substance abuse is one of the most worrisome behaviours worldwide with its associated psychosocial problems. Relapse after treatment has remained a major challenge in the treatment of addictive behaviour. The aim of this study is to examine the current prevalence of relapse among patients with substance use disorder in Lagos and to determine the socio-demographic variables (age, marital status, education, employment status and family history of substance use) associated with relapse. The study is a cross-sectional survey of 228 (mlaes-213, females-15) in-patients and out-patients sampled from the Federal Neuropsychiatric Hospital Yaba, Lagos. The socio-demographic questionnaire and medical records were used to collect data from the participants. The data were analyzed with descriptive statistics, independent t-test, and chi square. The mean age of the participants was 29.6 (SD=9.19). Most patients were inpatients (72%), males (93.4%), unemployed (65.6%), never married (54.8%) and had minimum of secondary school education (70.2%). The prevalence of relapse in this study was 51.3%. There was significant association between age, level of education and family of substance use and relapse. Participants who were younger were more likely to experience relapse. Addressing the psychological implications of the high prevalence of relapse and its related factors is critical. It is therefore appropriate for clinicians and educators to work together to develop more appropriate treatment and after-care programs that address the issue of substance use, relapse and prevention

Introduction

Substance abuse is one of the most worrisome behaviours across the globe (Tran et al., 2019) and represents one of the many inappropriate stress coping styles (Hassanbeigi, Askari, Hassanbeigi, & Pourmovahed, 2013). Goldstein and Volkow, (2011) defined it as a chronic, relapsing brain disease characterized by compulsive drug seeking and use despite adverse consequences. It is defined as such because it involves functional and structural changes to the brain circuits which may be irreversible even after the individual stops using the substance (National Institute on Drug Abuse [NIDA], 2018). Neurobiological studies (NIDA, 2018) demonstrate that habitual drug taking behaviour results to the development of strong positive expectancies about the drug. With repeated use, the reward system of the brain becomes dependent on drugs for activation and less sensitive to natural stimulants (Wise, 1998). It has been observed that majority of people who receive treatment for substance abuse start to use it again shortly after the treatment (Andersson Wenaasb, & Nordfjarna, 2019). More than 85% of people with addictions who stop using a drug begin using it again within a year (NIDA, 2018). The cost of unremitting

relapse to the individual and society could be overwhelming. Clinical studies have reported physical, psychological, social, and economic effects. Consequences such as low productivity, loss of resources, cost of treatment, burden on the family, loss of valuable relationships and opportunities, increase in crime among others have been identified as common occurrence among persons with persistent relapsing episodes (Laudet & White, 2004).

Relapse has been described as a setback which occurs in the process of behaviour change, such that progress toward the initiation or maintenance of a behaviour change goal (e.g., abstinence from drug use) is interrupted by a reversion to the target behaviour (Hendershot, Witkiewitz, George & Marlat, 2011). Relapse to substance abuse remains the greatest challenge in the treatment of addictive behaviours (White et al., 2014). This is because post treatment relapse rates are reported to be high in many studies. Reports on prevalence of relapse after treatment of substance abuse vary across the globe. Anderssona, et al. (2019) reported a relapse rate of 37% (after 3months) among individuals who

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received substance abuse treatment in Norway. In another study, Brandon, Vidrine, and Litvin (2007) reported twelve-month relapse rates following alcohol or tobacco cessation attempts in the range of 80-95%. In a prospective study among 109 opiate dependent patients in residential addiction treatment center in Dublin, Smyth, Barry, Keenan and Ducray (2010) found that 91% of the patients relapsed after treatment, and that 59% of the relapse occurred in the first week after discharge from a rehabilitation center following treatment for opiate use. Furthermore, Kassani, Niazi, Hassanzadeh, and Menati, (2015) reported 30.42% prevalence in Iran. In Malaysia, researchers have reported a consistent rate of 50% and above in the recent decades (Lian & Chu, 2013). In Nigeria, an earlier study reported 40-60% rates among heroin and cocaine users (Lawal, Adelekan, Ohaeri, & Orija, 1999). In a recent retrospective study of relapse among mentally ill clients in Southwest Nigeria, Oyediran et al., (2019) reported a prevalence of 67.1%.

Also, factors such as young age at initiation, being male, unemployment, single marital status, peer group influence, family history of substance abuse, being connected with drug user friends, and poor family support, are associated with relapse (Mohammadpooras et al., 2012). Sharma, Upadhyaya, Bansal, Nijhawan and Sharma (2012) found, in India, that relapse was common among patients who were of lower education level and socio economic status, unemployed, and had positive family history of substance use, as well as poor family and social support. In addition, Anderssona, et al. (2019) found that younger age and having co-morbid psychiatric diagnosis were associated with an increased risk of relapse. Furthermore, Kassani, et al, (2014) found that individuals who were married and employed were less likely to relapse. In Nigeria, most of the studies done on relapse were largely among psychiatric patients. Oyediran, et al., (2019) found that factors such as age, level of education and marital status were associated with relapse. Similarly, Adebiyi, Mosaku, Irinoye and Oyelade (2018) reported that early age of onset, educational status, index employment status, social class, living arrangement and family background were associated with relapse.

Substance abuse being a chronic brain disease just like mental illness appears to have a higher rate of relapse. Knowing patient's characteristics that precipitate relapse could have positive clinical effects on the treatment outcomes of individuals with substance use disorder (SUD) in Nigeria. This would also enable addiction professionals to design more appropriate treatment and after care programs for patients, in order to sustain abstinence and significantly reduce incidences of relapse. The objectives of the study include: (1) To determine the current prevalence of relapse among patients with substance use disorder in Lagos. (2) To ascertain the socio-demographic variables (age, marital status, education level, job status, and family history of substance use) associated with relapse.

Hypotheses

i. There will be high prevalence of relapse among participants in this study

ii. Age, marital status, education level, job status, and family history of substance use will have significant influence on relapse among persons with SUD.

Method

Participants

The study comprised 228 patients (males = 213, Females =15) admitted in the drug rehabilitation unit and patients who attended substance abuse out-patient clinic between August and September, 2019 at the Federal Neuro Psychiatric Hospital, Yaba-Lagos, Nigeria. Participants were recruited using purposive sampling method. Participants were included in the study if they had a primary diagnosis of Mental and behavioural disorder, were or are on admission for substance use disorder, and were not psychotic at the time of study. Participants were excluded if their primary diagnosis was psychiatric illness and they have never being on admission for substance abuse problem. The participants included 164 (72%) in-patients and 64 (28%) out-patients. The age range was between 19 – 66 years with mean age of 29.59 (SD = 9.19). Majority of them were unemployed (63.6%), never married (54.8%), and had a minimum of secondary school education (70.2%). More than half (58.3%) of the participants had mental and behavioural disorders with psychotic symptoms (dual diagnosis) as part of their diagnosis. Full description of the demographic and clinical characteristics of study participants is shown in Table 1.

Instruments

A self-administered questionnaire was used for the study. The measures included information on the socio-demographic information of the participants such as age, gender, marital status, education level, job status, family history of substance use and substance(s) used. Medical records were used to collect information about diagnosis, co-morbidity, and treatment history.

Procedure

Participants were selected from the two wards in the drug rehabilitation unit and the drug patients who attended weekly out-patient clinic at the Federal Neuro Psychiatric Hospital Yaba, Lagos. The purpose of the study was explained to them in order to give them informed choice to participate. Confidentiality of their responses was assured, and verbal informed consent was obtained from each participant. The questionnaires were administered individually to them with the assistance of two trained research assistants who had a tertiary level of education. Instructions for completing the questionnaires were explained to them at the beginning and subsequently whenever the participants needed clarification. Information on diagnosis, co-morbidity, and treatment completion were obtained from the patients' files for accuracy.

Design and Statistics

This was a cross sectional survey study. Data were analyzed with Statistical Package for Social Sciences (SPSS) version 25. Descriptive and inferential statistics were computed. Independent sample t-test, and chi square were used to test the hypotheses.

Ethical Considerations

Ethical clearance was obtained from the Research and Ethical committee of Federal Neuropsychiatric Hospital, Yaba, Lagos.

Results

Table 1: *Demographic and Clinical Characteristics of Study Participants*

Characteristics	N	%	Mean	SD
Age	19-66		29.59	9.19
Age at First Use	4-38		19.20	5.42
Age at Treatment Entry	17-55		26.11	7.38
Gender				
Male	213	93.4%		
Female	15	6.6%		
Marital Status				
Single	125	54.8%		
Married	71	31.1%		
Separated/Divorced	32	14.0%		
Education				
Primary	86	29.8%		
Secondary	82	36%		
Tertiary	78	34.2%		
Employment Status				
Employed	83	36.4%		
Unemployed	145	63.6%		
Family Structure				
Single mother	64	28.1%		
Monogamy	100	43.9%		
Polygamy	64	28.1%		
Family History of Substance abuse				
No	136	59.6%		
Yes	92	40.4%		
Diagnosis				
MBD due to MSU with Psychosis	133	58.3%		
MBD due to Substance use without Psychosis	95	41.7%		

Note: *SD* = Standard deviation, *N* = Number, MBD = Mental and behavioural disorders, MSU = Multiple substance use

Table 2: Prevalence and pattern of drug use

Variables	N	%
Relapse		
No	111	48.7%
Yes	117	51.3%
Substance Used		
Cannabis	59	25.9%
Alcohol	34	14.9%
Cocaine	6	2.6%
Prescription drugs	8	3.5%
Multiple drug use (MSU)	121	53.2%

Note: N= Number, %= Percentage

The result in Table 2 showed that the prevalence of relapse among persons with SUD receiving treatment at Federal Neuro-Psychiatric hospital, Yaba was 51.3%. The pattern of substance use in this study showed that majority (53.2%) of the participants were multiple substance users and the highest single substances used were cannabis (25.9%) and alcohol (14.8). See table 1.

Table 3: Independent Sampled T -test for age and relapse

Variables	Mean Age	SD	F	t	df	p
Relapse						
Yes (*n* = 111)	27.06	7.35	9.16	-4.96	226	.000
No (*n* = 117)	31.98	10.11				

Note: SD= Standard deviation

The result in table 3 showed that age is a factor in relapse (*t* (226) = 9.16, *p* = .000). Participants without relapse history had significantly higher mean age (*M* = 31.98, *SD* = 10.11, *n* = 117) than those with history of relapse (*M* = 27.06, *SD* = 7.35, *n* = 111).

Table 4: *Chi Square Showing the Association between Socio-demographic Variables and Relapse*

Variables	Relapse		X²	df	p	Φ
	No: *N (%)*	**Yes: N (%)**				
Marital Status			3.64	2	.16	.12
Single	57 (51.4)	68 (58.1)				
Married	41 (36.9)	30 (25.6)				
Separated/divorced	13 (11.7)	19 (16.2)				
Education			44.59	2	.000	.44
Primary	20 (18.0)	48 (41.0)				
Secondary	64 (57.7)	18 (15.4)				
Tertiary	27 (24.3)	51(43.6)				
Job Status			1.47	1	.27	-.08
Employed	36 (32.4)	47 (40.2)				
Unemployed	75 (67.6)	70 (59.8)				
Family History of SA			6.99	1	.008	-.18
Yes	35 (31.5)	57(48.7)				
No	76 (68.5)	60 (51.3)				

Note: Marital status (coding, 1= single, 2=married, 3= divorced/separated), Education code (1=primary, 2=secondary, 3=tertiary), Employment status (1=employed, 2=unemployed), Family history of substance abuse (1=yes, 2= No) X2 = Chi square, SA=Substance abuse, Φ = Effect size.

The result in table 3 showed that education was significantly associated with relapse, (X² = 44.56, *p* = .000, φ= .44). Of the participants who had relapse, approximately 44% of them completed tertiary education, 41% had primary education while approximately 15% completed secondary education. The result also showed that family history of substance abuse was significantly associated with relapse (X² = 6.99, *p* = .008, φ= -.18). Of the participants who had relapse history, approximately 49% had family history of substance abuse while 51% had no family history of drug abuse. Of the participants without relapse, approximately 69% of the participants had no family history of substance abuse while 32% participants had family history of abuse. On the other hand, marital status (X² = 3.64, *p* = .16, φ= .12) and employment status (X² = 1.47, *p* = .27, φ= -.08) had no significant relationship with relapse.

Discussion

We investigated the prevalence and socio-demographic factors of relapse among patients with substance use disorder in Southwest, Nigeria. We found that the prevalence of relapse was 51.3%. In line with the first hypothesis, the findings revealed that relapse rate after substance abuse treatment is high in Lagos, Nigeria. This figure is similar to the findings of earlier studies (Lawal et al., 1999; Smyth et al., 2010; Lian & Chu, 2013). The possible explanation for this may be the inadequate follow up program of the treatment facility for patients after their discharge. Most times these patients do not visit the outpatient clinic for their programs partly due to poor social and financial support from their significant others or even change in their level of motivation to remain abstinent. It is also possible that the individuals have developed positive expectances from the substances and may use it as coping mechanism (NIDA, 2018).

Hypothesis 2 which stated that age, marital status, education level, job status, and family history of substance use will have significant influence on relapse among persons with SUD was accepted for age, education level, and positive history of substance use in the family, but rejected for marital status and job status. This study found that age is a factor in relapse. Participants with history of relapse were significantly younger than those without relapse history. This result is in agreement with some of the previous findings which reported that younger age was associated with relapse (Sharma et al., 2012; Anderson et al., 2019). This could be explained with the fact that young people like to experiment, to feel high or elated and to feel accepted among their peers who may be using substances.

This study showed that education was significantly associated with relapse. Participants with higher level of education were more likely to relapse compared to those with low level of education. This is in contrast with the findings of earlier studies which reported significant association between lower level of education and relapse (Sharma et al., 2012; Sau et al., 2013). The difference in findings may be attributed to the peculiar problem of unemployment among people with high level of education in Nigeria. More so being educated provides the opportunity for more exposure beyond the immediate environment, for instance having access to social media may expose people to cues that may trigger relapse.

This study found that participants with a family history of substance use have significantly higher chances of relapse than those without history of substance abuse. In line with the observational learning theory, having a positive history of substance use in a family member influences the development of such behaviour in other members in the family. The finding of this study is in agreement with Mohammadpoorasl et al. (2012) and Sharma et al., (2012) who reported that having a drug user in the family, being unemployed and staying connected with drug user friends after quitting were major factors in relapse. In this study it was found that employment status had no significant association with relapse. This is in contrast with Kassani et al. (2014) and Sharma et al. (2012) who found that unemployment was significantly associated with relapse. This implies that both the employed and unemployed experienced relapse. The reason for this could be because while the employed participants had access to money which could be a trigger, the unemployed participants may use substances to cope with the frustration of not having a job. Similarly, the marital status of participants did not have significant influence on relapse.

Implications of the findings for Clinical Practice

The findings of this study have significant implications for substance abuse relapse prevention in Nigeria. There is need for treatment facilities to develop or improve after care/ follow up programs for patients, so that they can continue to access care as outpatients.
Addiction professionals need to continuously work on patients' motivation to enable them to sustain abstinence. They should also teach patients some coping skills such as assertiveness and problem-solving skills as potential alternatives to substance use when faced with challenges. In addition, there is need to psycho educate patients' relatives or significant others on the nature of addiction, and the importance of social support in relapse prevention. This study records that most of the participants who started to use substance at younger age had higher rate of relapse. It is therefore pertinent for clinicians and educators to collaborate in developing a curriculum that will address the issue of substance use and its prevention in school.

Limitations of the study and suggestions for future research

The sample size of this study was small. This does not allow for generalization of the findings to all substance users in Nigeria. Moreover, these samples were taken from one treatment facility. Patients in other facilities may have different characteristics and experiences. Relapse is a complex phenomenon which involves a dynamic interaction of many factors. There is need for further studies on clinical variables associated with relapse.

Conclusion

This study showed a high prevalence of relapse among people who were treated for substance use disorder. Factors such as age, education level, and family history of substance use were found to have significant influence on relapse. The most important finding was the influence of age on relapse. Identifying the treatment needs of younger patients with SUD during treatment and at follow up may contribute to the decrease of relapse rates. In addition, it is necessary for substance abuse prevention professionals to develop prevention programs that will target younger population.

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