

## Original Article

# Substance Use and Mental Illness among Women Admitted in a Rehabilitation Center in Jos, Nigeria: A 5-Year Profile

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## ABSTRACT

Substance use disorder are among the most common public health problems caused by using legal and/or illegal substances. Therefore, this study is aimed at reviewing a five-year profile of women admitted at a rehabilitation center in Jos, Nigeria for substance use and mental illness. This is a retrospective cross-sectional study carried out on 183 females admitted between 2012 and 2017 at a rehabilitation center in Jos, Nigeria. Data were analyzed using SPSS version 22. The mean age of the participants was 38.515.3 years. Almost half of the participants were within the age bracket of 20 – 29 years and married (45.9%). Depressive disorder (36.1%) was the commonest mental disorder in the studied participants. Among those abusing substances, multiple substance use (12.6%) was the most prevalent with alcohol use disorder (9.3%) the main diagnosis among those with substance use disorder. According to the result, almost half of the studied participants were young, married and educated females. Depression and multiple substance abuse with alcohol the main drug of abuse was a cause of concern in this population. This portrays significant health and economic consequences and the need for urgent action.

**Keywords:** Rehabilitation center; Substance Use Disorder; Mental Illness; Female.

## INTRODUCTION

Substance dependence in women is becoming increasingly prevalent. Generally, it is assumed that substance use in women often start in adolescence years like in the male counterparts.<sup>1,2</sup> The number of drug users

in Nigeria is estimated at 14.4 per cent or 14.3 million people aged between 15 and 64 years according to the results of the National Drug Use Survey.<sup>3</sup> The data suggested that the 2018 prevalence of past year drug use

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in Nigeria was more than twice the global average of 5.6 per cent. According to the survey, one in four of every drug user in Nigeria was a woman while one of five of high-risk drug users inject drugs. The report showed a gap in meeting the needs for treatment and care for people with drug use disorders even as close to 3 million Nigerians were living with some level of drug dependence. It highlighted extremely limited availability of drug counselling and treatment services in Nigeria.<sup>3</sup> Globally, UNODC estimates that between 155 and 250 million people, or 3.5% to 5.7% of the population aged 15-64, had used illicit substances at least once in the previous year. Cannabis users comprises the largest number of illicit drug users (129-190 million people). Amphetamine-type stimulants are the second most commonly used illicit drugs, followed by opiates and cocaine. However, in terms of harm associated with use, opiates would be ranked at the top.<sup>4</sup> A study in the United States of America has shown that 7.7% of males in comparison with 5% of females were drug abusers (the sex difference was lower than 3% documented previously).<sup>5</sup> Also, almost 4.5 million women drink alcohol, 3.5 million abuse prescription drugs, and more than 3 million abused illicit drugs.<sup>5</sup>

The pattern of substance use varies according to culture of people, psychosocial factors,<sup>2</sup> hence gender specific treatment are increasingly advocated.<sup>6</sup> Over 2.5 million women are currently addicted to drugs in the United States.<sup>7</sup> Worldwide, alcohol use in women has received the widest attention and problems related to illicit substance use and their treatment mirror the issues related to alcohol use in many ways, not minding that important differences may exist.<sup>8</sup> Studies have also shown that while males consume alcohol to enhance happiness, females consume the same to reduce stress and negativity.<sup>9,10</sup> Women naturally are more sensitive to pain and are likely to experience chronic pain and anxiety, making them more susceptible to abuse of prescribed drugs.<sup>11</sup> While drug abuse significantly decreased as boys grew older (year-over-year reduction), the same was not seen in girls.<sup>12</sup> Several reasons exist why women abuse

drugs and develop addictions and these are not exclusive to women per se, but are much more prevalent in women than in men. They include self-image issues, sexual abuse and physical abuse.<sup>7</sup> Gender differences in substance use have been consistently observed in the west, among general population as well as in the treatment-seeking samples, with men exhibiting significantly higher rates of substance use, abuse, and dependence.<sup>13,14</sup> Women are less likely to seek treatment for drug addictions than men.<sup>7</sup> For many drugs, women are almost twice as likely to become addicted as men and 2 of 3 women's Acquired Immune Deficiency Syndrome (AIDS) cases in the United States involve drugs in some way.<sup>7</sup> According to National Institute on Drug Abuse (NIDA)<sup>15</sup> women often use substances differently than men, such as using smaller amounts of certain drugs for less time before they become addicted. Women can respond to substances differently. They may have more drug cravings and may be more likely to relapse after treatment. Also, sex hormones can make women more sensitive than men to the effects of some drugs. However, this gender differences tend to disappear after the age of 50 years.<sup>16</sup> In a study among female university students aged 18-25 years in India, Kaur et al<sup>17</sup> reported that participants used substances out of curiosity, for having fun, personal problems, easy availability, familial use, and health problems. According to an Indian national epidemiologic survey in 2001, 7.9% of women across cities used at least one type of substance.<sup>18</sup> In the study, heroin, alcohol, cannabis, and painkillers were the dominant substances of abuse. Another part of the survey focusing on women used snowballing sampling technique and reported high rates of opioid and alcohol use in female substance users with an alarming 40% women reporting lifetime history of Injection drug use.<sup>18</sup> Though it is hard for anyone to acknowledge the issues with their substance addiction, the stigma of substance addiction, being in denial and the false assumption that if they can still hold a job and take care of house chores, the addiction is under control tends to make women seek intervention late.<sup>7</sup>

The gap in prevalence rate of substance use is gradually

closing worldwide.<sup>19</sup> According to USA surveys, in the 1980s they reported 5:1 male/female ratio of alcohol-use disorders,<sup>20</sup> the ratio dropped to approximately 3:1 in a 2007 survey.<sup>21</sup> In a 2012 study amongst 41.5 million illicit drug users, more than 42% were women, suggesting a male/female ratio of 1.4:1.<sup>22</sup> In 2013, the rate of substance dependence among adolescent males was 5.3 percent and their female counterparts was 5.2 percent.<sup>23</sup> Data from the National Household Survey on Drug Abuse (NHSDA) in 2000 from USA showed that rates of substance use were almost similar between girls and boys in the age groups of 12–17 years (9.5% vs. 9.8%) and tobacco use was higher in these adolescent girls (14.1% vs. 12.8%, respectively).<sup>12</sup> A study on substance use in a Nigerian community found a similar incidence rates among males and females (49.1% and 49.2%) respectively.<sup>24</sup>

Comorbid psychological factors have been strongly implicated in women with substance use disorders irrespective of the type of substance used.<sup>25</sup> Having a comorbid psychiatric diagnosis also increases the chances of women developing a substance use disorder with substance serving as a coping strategy for the mental illness.<sup>26</sup> Indian studies on treatment-seeking women users have found comorbid depressive disorders in 12%, adjustment disorder in 5%, somatoform disorder in 3%, anxiety disorder in 2%, schizophrenia in 2%, obsessive compulsive disorder in 1% and bipolar affective disorder in 1%.<sup>8,27</sup> Similarly, from the Indian national Rapid Assessment Survey (RAS study), respondents reported several psychological problems like insomnia, depression, anxiety, suicidal attempts and guilt feelings.<sup>8,18</sup> The World Health Organization cites that women are two times more likely than men to develop certain mental health conditions like depression, eating disorders, and panic disorders.<sup>28,29</sup> These disorders, in which women predominate, affect approximately 1 in 3 people in the community and constitute a serious public health problem.<sup>29</sup> There are no marked gender differences in the rates of severe mental disorders like schizophrenia and bipolar disorder that affect less than 2% of the population.<sup>29</sup> Women have lower serotonin levels than

men and also process the chemical at slower rates, which can contribute to fluctuations in mood.<sup>28</sup> Gender differences exist in patterns of help seeking for psychological disorder. Women are more likely to seek help from and disclose mental health problems to their primary health care physician while men are more likely to seek specialist mental health care and are the principal users of inpatient care.<sup>29</sup> The research has given us a rather detailed overview of psychopathology among women from a generic lens. Also there seems to be a focus on the American and Indian populations. While this is a good first start to using the “funnel approach”, the article would read better if the literature was further streamlined to the Nigerian context. The research might uncover patterns and gaps in the literature which would provide better justification and significance to the study.

Quintessential healthcare center, Jos has been attending to clients with general mental illness and substance use disorder both on in-patient and out-patient basis since its inception in 2012. In this retrospective study, we report a five-year profile, drug use and mental illness of women who were admitted into rehabilitation between 2012 and 2017. The review attempts to highlight issues unique to women attending a rehabilitation center. Such knowledge is necessary for developing appropriate services and designing effective treatment.<sup>30</sup>

## MATERIALS AND METHODS

### Study location

The study was conducted at Quintessential Healthcare Center (QHC), Jos South Local government area of Plateau state, Nigeria. The center was established in 2012 with a vision of providing mental health promotion, treatment and rehabilitation for general mental illnesses and substance abuse as well as training and research. QHC offers residential treatment based on therapeutic community model as well as out-patient treatment. Ethical clearance was obtained from the Ethical Committee of Plateau Specialist Hospital for the study and permission by the QHC Management to access data

from patient's records.

### Study population

All consented female clients with a diagnosis made according to the 10<sup>th</sup> edition of the International Classification of Diseases (ICD-10)<sup>31</sup> criteria admitted into the center by the consultant psychiatrists between 2012 and 2017 formed the study population.

### Study design

A retrospective cross-sectional data was collected from the clients' information documented in their case notes.

Information gathered included age, marital status, occupation, educational level, religion, diagnosis, substances used among others. Data was analyzed using SPSS version 22. Descriptive analysis was carried out and chi-square test of significance was used to ascertain relationship between variables. Statistical level of significance was set at  $p < 0.05$ .

## RESULTS

A total of 183 females were admitted into the facility within the study period comprising 161(88.0%) Christians and 22(12.0%) Muslims. Their ages ranged

**Table 1 : Sociodemographic Variables**

variable	Groups	Mean	Frequency	%
<b>Age group</b> (years)	10-19		58	31.7
	20-29	38.5(SD=15.3)	84	45.9
	30-39		35	19.5
	40 and above		6	3.3
	<b>Total</b>		<b>183</b>	<b>100.0</b>
<b>Religion</b>	Christianity		161	85.0
	Islam		22	12.0
<b>Marital status</b>	Single		78	42.6
	Married		84	45.9
	Divorced		4	2.2
	Separated		1	0.5
	Widowed		16	8.7
<b>Occupation</b>	unemployed		27	14.8
	Students		38	20.8
	House wife		27	14.8
	Traders		20	10.9
	Nurses		10	5.5
	Civil servants		55	30.1
	Nil		24	13.1
<b>Educational level</b>	Primary		19	10.4
	Secondary		26	14.2
	NCE		9	4.9
	OND		54	29.5
	HND		6	3.3
	Degree		45	24.6
	Year of admission			
	2012		17	9.3
	2013		29	15.8
	2014		36	19.7
	2015		44	24.0
	2016		25	13.7
	2017		32	17.5

between 12-83 years with a mean age of 38.5 years (SD=15.3). Almost half, 84(45.9%) were within the ages of 20-29 years. Nearly half were married 84(45.9%), educated and employed. (Table 1)

The major diagnosis recorded were depression 66(36.1%), schizophrenia 58(31.7%), substance use disorder 31(16.9%) and bipolar affective disorder 13(17.1%). Only 27(14.8%) had a diagnosis of mental illness and substance use disorder (comorbidity) at time of admission. The prevalence of substance use was 50(27.4%). More than half, 27(14.8%) of those

using/abusing substances used more than one type of substance 23(12.6%). The major substances abused were alcohol 17(9.3%), pentazocine 11(6.0%), cannabis 5(2.7%), cigarette 5(2.7%) and benzodiazepines 4(2.2%). A good number 19(10.4%) of the studied participants abusing substances were between 20 – 29 years. Majority reported commencing substance use within this age bracket. Tramadol and codeine use was relatively low among the study subjects. (Table 2)

**Table 2: Diagnosis and Pattern of Substance Use**

Variable	Groups	Frequency	%
<b>Diagnosis</b>	schizophrenia	58	31.7
	B.A.D*	13	17.1
	Depression	66	36.1
	SUD**	31	16.9
	P. D***	2	1.1
	Hyperkinetic disorder	1	0.5
	Autism	2	1.1
	Seizure disorder	7	3.8
	Dementia	3	1.6
	Total	183	100.0
<b>Comorbidity</b>	Yes	27	14.8
	No	156	85.2
	Total	183	100.0
<b>Pattern of substance use</b>	Single substance	23	12.6
	Multiple substances	27	14.8
	Nil	133	72.7
<b>Main substance of abuse</b>	Alcohol	17	9.3
	Pentazocine	11	6.0
	Cigarette	5	2.7
	Benzodiazepines	4	2.2
	Cannabis	5	2.7
	Tramadol	3	1.6
	Cocaine	2	1.1
	Codeine	3	1.6
	Total	50	27.4
<b>Age at first use</b>	10 – 19 years	11	6.0
	20 – 29 years	19	10.4
	30 – 39 years	8	4.4
	40 years and above	0	0.0
	Total	38	20.8

\*Bipolar Affective Disorder

\*\*Substance Use Disorder

\*\*\*Personality Disorder

Majority of those using substances were between the age bracket of 10 – 19 years 27(46.6%). Substance use was absent among the clients aged 40 years and above. A significant association is found between younger age and substance use among the clients studied. (Table 3)

**Table 3: Relationship between age and types of substance used by clients using chi-square**

Age in years	Pattern of substances used		NIL	Total	df	P value
	Single	Multiple	Substance			
10 - 19	11(19.0%)	16(27.6%)	31(53.4%)	58(100.0%)	6	<b>0.003</b>
20 - 29	7(8.3%)	10(11.9%)	67(79.8%)	84(100.0%)		
30 - 39	5(14.3%)	1(2.9%)	29(82.9%)	35(100.0%)		
40 and above	0(0.0%)	0(0.0%)	6(100.0%)	6(100.0%)		

## DISCUSSION

A good number of female clients were admitted into the center within the study period. The number admitted per year was relatively stable implying that the turn-up was not subject to variables such as political environment and socioeconomic factors. The center operates a therapeutic community based on Christian doctrine and this can explain the fewer number of Muslim clients compared to the Christian clients. Most of the clients were educated and would likely have given reliable information. Also, all information obtained were corroborated with the family members at admission making the data gathered reliable. From the reported data, a vast majority of the clients were less than thirty years. These represent the productive age range of the society implying a high rate of economic loss due to mental health conditions.

More subjects were admitted for other mental disorders than for substance use disorder. Depression was the leading diagnosis followed closely by schizophrenia and bipolar disorders in that order. This is similar with other studies<sup>28,32</sup> that recorded depression as the commonest diagnosable mental disorder among females and as a silent cause of mortality and morbidity among women. Few women actually presented with comorbid mental

illness and substance use disorder 27(14.8%) suggesting that primary mental illness may not be a significant cause of substance use among females.

Alcohol was the most used substance among the participants. This is in agreement with other hospital-based studies<sup>33</sup> but differed from results of surveys that reported cannabis as the most abused substance.<sup>3,4</sup> Within Nigeria, alcohol is legal and it is culturally accepted and readily available within the environment of the study in various forms. This could explain the higher rate of alcohol abuse relative to other substances in the study. Pentazocine use was equally high among the studied participants. However, tramadol and codeine which are illicit substances were not highly abused among the participants. Difficulty in accessing these substances could be responsible for the low prevalence.

## CONCLUSION

This enquiry into the issues unique to women attending a rehabilitation center in Nigeria found that among females, substance use is a younger age affair. More females enter rehabilitation for severe mental illness than for substance



use disorder. The study also found that females abuse multiple substances and this portrays significant health and economic consequences to the female gender.

### Recommendation

We recommend a prospective study to evaluate factors associated with use of substances among females entering rehabilitation.

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