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RESEARCH ARTICLE

OPIOID USED DISORDER AMONG CLIENTS ADMITTED IN A REHABILITATION CENTRE IN JOS NIGERIA: A 5 YEAR RETROSPECTIVE STUDY

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ABSTRACT

Background: There has been growing concern both locally and internationally about the increasing abuse of opioids. Opioid use disorder (OUD) is an important contributor to the global burden of disease. **Aim :** To estimate the prevalence and annual prevalence of opioid use disorder from 2018 to 2022, and the pattern of opioid use disorder. **Method:** A retrospective cross-sectional study carried out on 482 clients admitted between 2018 to 2022 at a drug treatment center in Jos, Nigeria. Data was collected from the patient's information documented in their case notes. Data was analyzed using SPSS version 22. **Result:** The prevalence of opioid use disorder among 135 clients was 28%, while the annual prevalence of opioid use disorder from 2018 to 2022 were; 37.3% in 2018 and 35.4% in 2019. Between 2020 and 2021 it decreased further from 22% to 19.3%, but it increased in the year 2022 with 26.5%. OUD was more among young adults while, codein containing syrup was the most abuse opioid with 53 (15.3) clients and most of them were poly drug users 77(57%). **Conclusion:** In our study, there was an upsurge of prevalence of OUD in the year 2022 (26.5%). The number of individuals with OUD is likely increasing, particularly among young people.

INTRODUCTION

Opioid use disorder is a chronic disease of the brain—sometimes called an addiction—characterized by the persistent use of opioids despite harmful consequences caused by their use. The World Health Organization (WHO) classifies harmful opioid use, opioid dependence and other patterns or consequences of opioid use under the umbrella term opioid use disorder (OUD).¹ There has been growing concern both locally and in international policy circles in recent years about the abuse of opioids.² Some people use it to relieve pain while others use it for recreational purpose but later became dependent on it. It is not the medical use of opioids that has created most concern, however; commentators have lamented opioids widespread non-medical abuse by “addicted” urban youth, as well as its links to insecurity and Boko Haram’s terrorist activities in Nigeria.² In Nigeria, these concerns reached a climax in a media- and state-triggered moral panic about the abuse of tramadol and the related drug codeine in 2018. As a result, new restrictions were imposed and enforced by agencies such as the National Drug Law Enforcement Agency (NDLEA); however, they have not had their intended effects. Despite these policies and the wider moral concerns, the drug is still widely used and sold.²

According to UNODC world drug report 2018, Nigeria had 4.7 per cent of the adult population estimated to be past year users of opioids.³ this places Nigeria among the countries with high estimates of non-medical opioid use globally. The estimate of past year opioid use was driven predominantly by past year non-medical use of pharmaceutical opioids such as tramadol, codeine or morphine. Simone et al⁴ surveyed participants at the Federal Neuropsychiatric Hospital in Lagos, Nigeria for their pattern of drug use. A total of 88 responses were received with 62 respondents reporting use of opioid-containing products (70.5%). Of the 62 respondents, tramadol use was reported among 35 (56.5%) participants. Heroin use was reported among 5(5.7%) participants. 7 (11.3%) respondents also reported using pentazocine for recreational purposes, while 49 (79%) respondents reported using codeine-containing products. The use of opioids is increasing worldwide.⁵ In 2019, the estimated global prevalence of non-medical opioid use was 1.2% in adults aged 15-64 years.⁵ The annual prevalence of OUD in Massachusetts among people aged 11 years or older between 2011 to 2015 was 2.72% in 2011 and 2.87% in 2012. Between 2013 and 2015, the prevalence increased from 3.87% to 4.60%.^{6,7} Studies conducted by Beth et al⁸, revealed prevalence of 12.5% opioid misuse among adults, while opioid use disorder accounts for 16.7%.

Among adults in the US, roughly 1 in 3 is estimated to use prescription opioids, with 4.7%, or 11.5 million, misusing them.⁹ Opioid misuse in adults has been linked to several risk factors, including mood and anxiety disorders, male gender, educational attainment, and age at first misuse.¹⁰⁻¹² Among adolescents and young adults, data are sparser and less consistent, although prevalence of opioid use disorder appears to be steadily increasing.^{13,14} A recent meta-analysis examining past-year prevalence of prescription opioid misuse among adolescents and young adults reported estimates ranging from 0.7% to 16.3%. OUD is an important contributor to the global burden of disease, accounting for 70% of the burden from drug-related causes in 2019.⁵ Mortality rates among people with an OUD are higher than in the general population.¹⁵ Globally, overdose and infectious disease complications (mainly due to HIV and viral hepatitis C infection) are the most important causes of mortality in people with an OUD.⁸ OUDs commonly occur with other mental and substance use disorders, adding to potential harm and challenges in management.¹⁶

The significant prevalence of opioid use disorder stresses the importance of clinicians understanding more about opioids and being able to refer patients to available treatment centers for substance use disorders, as well as be weaned from prescription opioids due to their addictive potential and significant adverse effect profile; and the need to adhere strictly to prescription guidelines. The study may uncover reasons for drastic decisions to be taken to ensure strict compliances with restrictions imposed on the sale of opioids by the federal government and enforced by agencies such as the National Drug Law Enforcement Agency (NDLEA) in Nigeria and other countries; where they should have their intended effects. There are inadequate recent data on the prevalence of opioids use disorder in Nigeria and African continent. Such data could inform efforts to reduce opioid use disorder and related morbidity and mortality

METHODOLOGY

LOCATION OF STUDY: The study was conducted at Quintessential Healthcare Center (QHC), Jos South Local government area of Plateau state, Nigeria, which has a population of 306,716 at the 2006 census. 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 the Bingham University Teaching Hospital for the study and permission by the QHC Management to access data from records of patient's document notes.

STUDY POPULATION: All consented patients with a diagnosis made according to the 10th edition of the International Classification of Diseases (ICD-10)¹⁷ criteria admitted into the center by the consultant psychiatrists between 2018 and 2022 formed the study population.

STUDY DESIGN: A retrospective cross-sectional data was collected from the patient's information documented in their case notes. Information gathered included age, sex, marital status, ethnicity, religion, occupation, educational level.

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 482 clients were admitted into the facility within the study period comprising 427(88.6%) Christians and 55(11.4%) Muslims. Their ages ranged between 9-83 years with a mean age of 30.65 years (SD=9.37). More than half, 310(64.3%) were within the ages of 18-32 years. More than three quarter were males 422(87.6%), while about three quarter were single 353(73.2) and had degree certificates (Table 1). In table 2 the prevalence of opioid use disorder among 135 clients was 28%, while the annual prevalence of opioid use disorder from 2018 to 2022 were; 37.3% in 2018 and 35.4% in 2019. Between 2020 and 2021 it decreased further from 22% to 19.3%, but it increased in the year 2022 with 26.5%. The pattern of opioid use disorder among the clients was thus: A total of 135 (28.0%) clients were diagnosed with opioid use disorder. Of the 135 respondents, codein containing syrup was the most abuse opioid with 53 (15.3) clients, tramadol use was reported among 49 (14.1%) clients. 28(8.1%) respondents were reported with pentazocine use. while 3 (0.9%) respondents were reported with the use of pethidine and 2 (0.6%) for heroin respectively. 58(43%) were single drug users, while 77(57%) were poly drug users.(table 3). In our study, Opioids use disorder was more prevalent among age group 18-32 92(29.7%), Females 21(35%), the married 36(28.3%), Islam religion 20(36.4%), Hausa ethnic group 14(38.9%) and students 59(32.4%).(table 4).

DISCUSSION

In our study, we found that opioid use disorder was highly prevalent among 482 clients admitted in a drug treatment center, with a prevalence of 28%, while the annual prevalence of opioid use disorder from 2018 to 2022 were; 37.3%, 35.4%, 22%, 19.3% and 26.5% respectively. The prevalence in our study is higher than most previous studies conducted across the world and statistically significant ($p=0.023$). It is higher compared to studies conducted by Beth et al⁸ and Allison et al¹⁸ with prevalence of 16.7% and 10% respectively. This could be due to the fact that our current study was among clients admitted in a drug treatment center while in their studies, participants were non institutionalized adults selected for national survey on drug use and health. The high prevalence could also be due to poor compliances to prescription guidelines and lack of adherence to restrictions imposed on the sale of opioids (e.g codein syrup) by the federal government of Nigeria. On the other hand, other countries might have good compliances to prescription guidelines and laws guiding the sale of opioids and other drugs. The annual prevalence was higher compared to studies done by Joshua et al⁶. Nonetheless their annual prevalence was seen to have increase from 2011 to 2015, with more increase between 2013 to 2015. In our study the annual prevalence was observed to decreased from 2018 to 2021, but increased in the year 2022. This might likely be due to some level of compliances to restrictions imposed on the sale of opioids (e.g codein syrup) by the federal government and enforced by agencies such as the National Drug Law Enforcement Agency (NDLEA), in 2018 in which there might

Table 1. Demographic variables of Clients

Demographic characteristics	Frequency	Percentage
Age group		
<18	5	1.0
18-32	310	64.3
33-47	137	28.4
48-62	16	3.3
63-77	10	2.1
>77	4	.8
Gender		
Male	422	87.6
Female	60	12.4
Marital status		
Single	353	73.2
Married	127	26.3
Separated	2	.4
Religion		
Christianity	427	88.6
Islam	55	11.4
Ethnicity		
Hausa	36	7.5
Yoruba	24	5.0
Igbo	44	9.1
Plateau state indigenes	165	34.2
Others	213	44.2
Occupation		
Civil servant	102	21.2
Student	182	37.8
Applicant/Unemployed	67	13.9
Farmer	15	3.1
Business/Self-employed	71	14.7
Artisan	14	2.9
Health workers	8	1.7
Clergy	4	.8
Retiree	5	1.0
Others	14	2.9
Educational level		
Secondary	48	10.0
OND	64	13.3
Degree	339	70.3
Postgraduate	14	2.9
Drop out	17	3.5
Period		
2022	117	24.3
2021	83	17.2
2020	100	20.7
2019	99	20.5
2018	83	17.2

Table 2. Annual Prevalence of Opioid use disorder among clients and a five year prevalence

Period	Opioid use disorder			χ^2	p-value
	Yes	No	Total		
2022	31(26.5)	86(73.5)	117(100.0)	11.302	0.023
2021	16(19.3)	67(80.7)	83(100.0)		
2020	22(22.0)	78(78.0)	100(100.0)		
2019	35(35.4)	64(64.6)	99(100.0)		
2018	31(37.3)	52(62.7)	83(100.0)		
Total	135(28.0)	347(72.0)	482(100.0)		

Table 3. Pattern of Opioid use disorder among clients

Opioid	Frequency/percentage (n=482)	Users	
		Single drug Users (43%)	Poly drug Users(57%)
Codein syrup	53(15.3)	16	37
Tramadol	49(14.1)	20	29
Pentazocine	28(8.1)	19	9
Pethidine	3(0.9)	1	2
Heroine	2(0.6)	2	0
Nil/other drugs	347(100)	-	-

Table 4. Association between demographic variables and opioid use disorder among clients

Demographic characteristics	Opioid use disorder		χ^2	p-value
	Yes	No		
Age group				
<18	2(40.0)	3(60.0)	1.433	0.231
18-32	92(29.7)	218(70.3)		
33-47	34(24.8)	103(75.2)		
48-62	3(18.8)	13(81.3)		
63-77	4(40.0)	6(60.0)		
>77	0(0.0)	4(100.0)		
Gender				
Male	114(27.0)	308(73.0)	1.661	0.197
Female	21(35.0)	39(65.0)		
Marital status				
Single	98(27.8)	255(72.2)	0.448	0.780
Married	36(28.3)	91(71.7)		
Separated	1(50.0)	1(50.0)		
Religion				
Christianity	115(26.9)	312(73.1)	2.150	0.143
Islam	20(36.4)	35(63.6)		
Ethnicity				
Hausa	14(38.9)	22(61.1)	3.504	0.477
Yoruba	6(25.0)	18(75.0)		
Igbo	15(34.1)	29(65.9)		
Plateau indigene	43(26.1)	122(73.9)		
Others	57(26.8)	156(73.2)		
Occupation				
Civil servant	25(24.5)	77(75.5)	9.941	0.355
Student	59(32.4)	123(67.6)		
Applicant/Unemployed	19(28.4)	48(71.6)		
Farmer	4(26.7)	11(73.3)		
Business/Self-employed	19(26.8)	52(73.2)		
Artisan	4(28.6)	10(71.4)		
Health worker	3(37.5)	5(62.5)		
Clergy	1(25.0)	3(75.0)		
Retiree	0(0.0)	5(100.0)		
Others	1(7.1)	13(92.9)		
Educational level				
Secondary	12(25.0)	36(75.0)	2.627	0.622
OND	15(23.4)	49(76.6)		
Degree	98(28.9)	241(71.1)		
Postgraduate	6(42.9)	8(57.1)		
Drop out	4(23.5)	13(76.5)		

have been reduce accessibility. The upsurge in 2022 could be due to the fact that the agencies involved in enforcing the restriction might have become less proactive in the discharge of their duties, giving room to smuggling and diversion of prescription opioids with easy accessibility. The pattern of opioid use disorder is almost similar to studies done by simone et al⁴. However their study was on opioid misuse while our study was on opioid use disorder. Codeine syrup was the most used drug among the clients. This could be due to easy accessibility and poor adherence to prescription guidelines, where they are commonly dispensed without prescription and in amounts not fully consumed by the patients to whom they are prescribed. Pentazocine was used as a single drug than in poly drug use. This might be due to the large number of sicklers in our study abusing or dependent on pentazocine alone.

In our study, we found age bracket 18-32, female sex, married; Islam religion, Hausa ethnic group and students had a higher prevalence of opioid use disorder. Even though none of these variables was statistically significant. This was in contrast to findings by martins et al¹⁰ who found that OUD were most commonly reported in male gender, educational attainment, respondents with mood and anxiety disorders, and age at first misuse. It was also in contrast with study done by Allison et al¹⁸ who revealed that OUD was more prevalent among male sex and white race. Our study has some limitations.

This is a single center base study, our findings may not be a true reflection of what is obtain in the country. Secondly, because of the cross-sectional nature of the study, it could not establish temporal or causal relationships.

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Conflict of interests

The authors have declared that no competing interests exist

Key points

Our findings suggest high prevalence of opioid use disorder, particularly among young adults. The results highlight the need for clinicians understanding more about opioids, as well as be weaned clients from prescription opioids due to their addictive potential and significant adverse effect profile; and the need to adhere strictly to restriction laws on opioids and prescription guidelines.

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