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Trends in Sociodemographic and Drug Abuse Variables in Patients with Alcohol and Drug Use Disorders in a Nigerian Treatment Facility

Les tendances dans les Variables de Toxicomanie et de Sociodemographic dans les Patients avec les Désordres d'Utilisation de Médicament et d'Alcool dans une Facilité de Traitement nigériane

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ABSTRACT

BACKGROUND: **Globally, patterns of the use of psychoactive substances have been changing.**

OBJECTIVE: **To evaluate the trend in two five-year periods, 1992–1997 versus 2002 – 2007, of alcohol and substance use disorders and associated variables in patients admitted to a drug abuse treatment facility.**

METHODS: **This was a comparative cross-sectional study involving all patients admitted into Drug Abuse Treatment, Education, and Research (DATER), Unit of the Neuropsychiatric Hospital, Aro, Nigeria within the study period. All subjects had a structured psychiatric interview, a physical examination, laboratory investigations and "DATER" Questionnaire protocols that elicited socio-demographic, drug and family variables.**

RESULTS: **The patients in 2002–2007 versus those of 1992–1997 were younger (χ^2 13.29, p=0.01). More last borns were using drugs by 2002–2007 (χ^2 11.37, p=0.01). Cannabis was the most abused drug in 2002-2007 (53.5%) as compared to cocaine (44%) in 1992–1997 (χ^2 35.5, p<0.001). Polydrug abuse was high in the two periods but significantly the drug combination changed to cannabis in combination with alcohol in 2002–2007 as against cocaine in combination with opiates in 1992–1997 (χ^2 45.3, p<0.001). More patients had co-morbid psychiatric disorders in 2000-2007 [67.6% as against 38.5% in 1992–1999 χ^2 28.32, p<0.001]. In both periods, co-morbidity associated with cannabis use rather than any other drug of abuse as the odds ratio was greater than one.**

CONCLUSION: **The findings in the trend in the two five-year periods underscore the imperatives of continuous evaluation of the drug abuse patient population in treatment which may help drive changes in treatment inputs. WAJM 2010; 29(1): 12–18.**

Keywords: Drug, abuse, trends, Nigeria.

RÉSUMÉ

CONTEXTE : *À l'échelle mondiale, les dessins de l'utilisation de substances psychoactive ont changé.*

OBJECTIF : *Pour évaluer la tendance dans deux périodes de cinq ans, 1992–1997 contre 2002 – 2007, de l'alcool et de la substance utilise des désordres et des variables associées dans les patients admis à une facilité de traitement de toxicomanie.*

MÉTHODES : *c'était une étude trans-à éléments comparative impliquant tous les patients admis dans le Traitement de Toxicomanie, l'Éducation et la Recherche (DATER), l'Unité de l'Hôpital Neuropsychiatric, Aro, le Nigeria pendant la période d'étude. Tous les sujets avaient une interview psychiatrique structurée, un examen physique, des enquêtes de laboratoire et des protocoles de Questionnaire "DATER" qui ont obtenu socio-démographique, le médicament et les variables de famille.*

RÉSULTATS : *les patients dans 2002–2007 contre ceux de 1992-1997 étaient plus jeunes (c2 13.29, p=0.01). Plus de derniers borns utilisaient des médicaments par 2002–2007 (c2 11.37, p=0.01). Le cannabis était le médicament le plus abusé dans 2002-2007 (53.5 %) en comparaison de la cocaïne (44 %) dans 1992–1997 (c2 35.5, p <0.001). La polytoxicomanie était haute dans les deux périodes, mais de façon significative la combinaison de médicament changée au cannabis dans la combinaison avec l'alcool dans 2002–2007 comme contre la cocaïne dans la combinaison avec les narcotiques dans 1992–1997 (c2 45.3, p <0.001). Plus de patients avaient des désordres psychiatriques co-morbid dans 2000-2007 [67.6 % comme contre 38.5 % dans 1992–1999 c2 28.32, p <0.001]. Dans les deux périodes, le co-caractère-morbide a fréquenté l'utilisation de cannabis plutôt qu'autre médicament d'abus comme le rapport de cote était plus grand qu'un.*

CONCLUSION : *les conclusions dans la tendance dans les deux périodes de cinq ans soulignent les impératifs d'évaluation continue de la population de patient de toxicomanie dans le traitement qui peut aider à conduire des changements dans les contributions de traitement.* ***WAJM 2010; 29 (1) : 12–18.***

Mots clé : le Médicament, l'abus, les tendances, le Nigeria

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Abbreviations: DATER, Drug Abuse Treatment, Education, and Research.

INTRODUCTION

Alcohol and drug use disorders have continued to be public health concerns globally especially among the adolescents and young adults. Cannabis has been found to be the most abused drug in many of the studies, with abuse more in the unemployed, the males than the females, although the gender differences have not been consistent.[1–2]

In Kenya and South Africa, the major drugs of abuse have been shown to be alcohol, cannabis, tranquilizers, and tobacco.[3-4] In Nigeria, sentinel studies have shown the prevalence of abuse of alcohol, cannabis and other substances among the population of students, prison and patients in psychiatric facilities among others.[5–7] In a comprehensive review of 28 psychiatric units in health facilities in Nigeria, Ohaeri and Odejide,[7] assessed a total of 10,396 patients and found that cannabis was the most prevalent drug of abuse (77%), followed by alcohol and amphetamines in the northern part of Nigeria, while in the south, cannabis (60.6%) was followed by heroin and cocaine. The prevalence of abuse was more in males than females and co-morbid schizophrenia-form symptoms were more in those combining cannabis with alcohol.

In another review of drug abuse patients admitted at Yaba Psychiatric Hospital, Lagos, Nigeria, Lawal et al found the mean age to be 29.15 ± SD 5.9 years.[8] They were mostly single, with formal education, heroin/cocaine were the most prevalent drugs of abuse (84%), followed by cannabis (76.3%), then alcohol (22.5%). Nearly half (43.5%) completed the mandatory one month treatment. Adelekan and Adeniran[9], in a rehabilitation follow up issues among 62 drug abusers at the Drug Abuse Unit of the Neuropsychiatric Hospital, Aro, Abeokuta reported that the patients were mostly single, males with formal education, with cannabis being the most commonly abused drug (53.5%), the mean length of stay was 44 days. Over half of the cohorts were below 30 years of age single drug abuse was the norm (72%), co-morbid psychiatric disorders occurred in (61.2%) of the patients, with the most prevalent diagnosis being schizophrenia, followed by paranoid psychosis.

Adamson and Akindele,[10] in a study on the treatment programme from this same centre at the Neuropsychiatric Hospital, Aro, Abeokuta reported that the patients were all males, single (69%), age ranged 20-29 years, most were polydrug abusers (85%) only (42%) completed the programme. The most prevalent drugs of abuse by the patients were alcohol, followed by cannabis and nicotine. The mean duration of stay was 128 days. Kessler, *et al* showed from the U.S. National Co-morbidity survey that cannabis was the most abused drug and that 45% alcohol abusers and 72% drug abusers had co-morbid psychiatry disorder and that substance abuse was more in the unemployed.[1]

Rachbeiset, *et al* have shown that 50% of substance abusers had co-morbid psychiatric disorders.[11] Chisolm and Kelleher[17] in a study of patients admitted for drug abuse treatment in the United States found the mean length of stay was about 8.9 days, which might have been informed by insurance policies, majority of the patients completed treatment (82%), while 6.8% were discharged against medical advise.

This study from the Drug Abuse Unit, Neuropsychiatric Hospital, Aro, Abeokuta, aimed to evaluate the trend in various parameters in the patients admitted over a two 5-year-span (1992–1997 vs. 2002–2007) with a view to providing the best practice care for these patients in line with evidence of any changes in the patients' socio-demography and particularly the drug abuse variables.

SUBJECTS, MATERIALS, AND METHODS

All patients who were admitted to the Drug Addiction Treatment, Education & Research Unit (DATER) at the Neuropsychiatric hospital, Aro, Abeokuta, in the periods 1992–1997 and 2002-2007 were included in the study. During this period, patients were admitted to the Unit after a psychiatric clinical interview, physical examination and diagnosis of drug abuse having been made using the Diagnostic and Statistical Manual (DSM-IV) criteria. They were also administered the DATER Questionnaire Protocol at the point of admission. The detailed admission procedures have earlier been described elsewhere.[10] Patients who were acutely psychotic were admitted in the main psychiatric wards before they were transferred to the DATER Unit, while patients who developed psychotic symptoms in the course of their treatment in the DATER Unit, were transferred to the psychiatric wards and returned after amelioration of their symptoms.

All the patients were assessed using the DATER questionnaire protocol containing socio-demographic variables that included gender, age, occupation, and education, family variables such as family drug use, family birth order and drug use variables such as type of drugs, onset and duration of use, presence and type of co-morbid psychiatric disorder among others. All the patients had laboratory investigations for HIV screening, allergen test for Tuberculosis (Mautoux test), Hepatitis screening, chest x-ray, haematocrit evaluation, liver function tests, electrolyte and urea.

All patients admitted to the DATER unit who met the admission criteria and fulfilled DSM-IV diagnosis for drug abuse during the study period were included in the study.

Simple frequencies and percentages were calculated using Statistical Package for Social Science (SPSS) version 13. Chi-Square and t-test were used where appropriate to evaluate any statistical difference in variables between the two groups at 5% level of significance and 95% confidence interval. Binary regression analysis was used to determine association of main drugs of abuse and presence of psychiatric disorders.

RESULTS

Table 1 shows that most of the patients in the two periods (1992–1997 versus 2002–2007) were males (91.7%) and (90.5%) respectively, there were significantly more of the age range 30–39 years, in 1992–1997, but more of the 20–29 years old in 2002–2007. Hence age of abusing appears to be getting lower. Similarly, the older population aged 50–59 years were significantly abusing drugs

more in 2002–2007 as compared to 1992–1997. The mean age at admission for both groups was 31.96 ± SD 8.39 years, and there was no significant difference in the means for each of the two periods (t = –266, df =212, p = 0.82). There was no statistically significant difference in the two periods in terms of marital status, religion and tribal groups, although most of the patients were single, Christians and of the Yoruba tribe.

Table 1 further shows that all the patients in the two periods (1992–1997 versus 2002–2007) had one form of formal education with (27.5%) vs. (33.3%) completing secondary school education respectively, while, (26.6%) vs. (34.3%) completed tertiary education. The differences were not however, statistically significant. Most were unemployed, with students making up 45% vs. 63.9% of them respectively, in the two periods.

Many of the patients in the two periods had large sibship as shown in Table 2, of significance was the fact that the last born child significantly used drugs more in 2002–2007 (21%) compared to (5.5%) in 1992–1997. Significantly, the finding that both parents' use of drugs decreased considerably in 2002–2007 (9.6%), as compared to (16.5%) in 1992–1997, the decrease, however, was made up of the significant reduction in drug usage by the mother while in fact the fathers increased their drug usage.

Table 3 shows that more patients significantly abused cannabis in 2002–2007 (53.3%) vs. (26.6%) in 1992–1997 this was followed by the abuse of alcohol (21.0%) in (2002–2007) vs. (7.3%) in 1992–1997. So also has the abuse of cocaine and heroin significantly reduced by the period 2002–2007 as compared to 1992–1997. More patients who were poly-drug abusers were significantly combining cannabis with alcohol; in the same vein, they were significantly reducing cocaine combination with opiates. The mean age of drug use was 17.94 years ± SD 5.28 for 1992–1997 and 17.27 ±5.68 years in 2002–2007. The mean duration of use before admission was 13.90 ±SD 7.71 for 1992–1997 and 14.8 ±SD 9.15 for 2002-2007. The difference was not statistically significant (t = -0.8, df = 212, p = 0.42).

Table 1: Socio-Demographic Variables

	Number (%)				
	1992–97 (N = 109)	2002–07 (N=105)			
Variable	**N(%)**	**N(%)**	**χ^2**	**p**	**df**
Gender					
Male	100(91.7)	95(90.5)			
			0.106	0.74	1
Female	9(8.3)	10(9.5)			
Age					
10 – 19	3(2.8)	1(1.0)			
20 – 29	44(40.4)	52(49.5			
30 – 39	50(45.9)	29(27.6)	13.29	0.01	4
40 – 49	11(10.1)	15(14.3)			
50 – 59	1(0.9)	8(7.6)			
Marital status					
Single	77(70.6)	79(75.2)			
Married	23(21.1)	16(15.2)	1.26	0.53	2
Divorced/Separated	9(8.3)	10(9.5)			
Tribe					
Yoruba	61(56.0)	58(55.1)			
Ibo	24(22.0)	23(21.9)			
			159	0.98	3
Hausa/Fulani	5(4.6)	4(3.8)			
Others	19(17.4)	20(19.0)			
Religion					
Christianity	85(78.0)	85(81.0)			
			0.29	0.59	1
Islam	24(22.)	20(19.0)			
Education					
Secondary					
Uncompleted	17(5.6)	12(1.4)			
Completed	30(27.5)	35(33.3)			
Tertiary			4.27	0.25	3
Uncompleted	33(30.0	22(21.0)			
Completed	29(26.6)	36(34.3)			
Occupation					
Employed					
Skilled	13(11.9)	5(4.8)			
Semi-skilled	17(15.6)	14(13.3)			
Unskilled	5(4.6)	3(2.9)	7.99	0.09	4
Unemployed					
Students	49(45.0)	66(62.9)			
Non-Students	26(23.9)	17(16.2)			

Table 4 shows that there was an increase in the number of days spent in treatment with significantly more patients spending more than 90 days in 2002–2007 (75.2%) vs. (53.2%) in 1992–1997. The mean length of stay in 1992–1997 was 134 ±SD 112.9 days, while it was and 180.9 ±SD 130.9 days for 2002–2007. This difference was statistically significant p<0.006. The high standard deviation arose from the great skewness in length of stay, with some patients (absconders)

Table 2: Distribution of Study Subjects by Family Variables

	Number (%)				
	1992–97 (N = 109)	2002–07 (N=105)			
Variable	**N(%)**	**N(%)**	**χ^2**	**p**	**df**
No. of Siblings					
1 – 4	34(31.2)	36(34.3)			
5 – 8	60(55.0)	61(58.1)	2.12	0.35	2
≥ 9	15(13.8)	8(7.6)			
Birth Position					
First	36(33.0)	28(26.7)			
Middle	57(52.3)	48(45.7)			
			11.37	0.01	3
Last	6(5.5)	22(21.0)			
Only Child	10(9.2)	7(6.7)			
Type of family					
Monogamous	55(50.5)	59(56.2)			
Polygamous	54(49.5)	43(40.9)	4.315	0.12	2
Single Parenthood	0	0.0	3	2.9	
Parents					
Alive	66(60.5)	63(60.0)			
Dead					
Mother	20(18.3)	21(20.0)	0.16	0.77	1
Father	36(33.0)	32(30.5)	0.94	0.86	1
Both	13(11.9)	11(10.5)			
Family Drug Use					
No	59(54.1)	63(60.0)			
			5.81	0.02	1
Yes	50(45.9)	42(40.0)			
Parents					
Mother	22(20.2)	11(10.0)			
Father	25(22.9)	40(38.0)			
Both	18(16.5)	10(9.6)			
Siblings	31(28.4)	37(35.0)			

Table 3: Comparison of Drug Variables in Patients in the Two Study Periods

	Number (%)				
	1992–97 (N = 109)	2002–07 (N=105)			
Variable	**N(%)**	**N(%)**	**χ^2**	**p**	**df**
Main Drugs of Abuse					
Cannabis	29(26.6)	56(53.3)			
Alcohol	8(7.3)	22(21.0)			
			35.50	<0.001	3
Cocaine	48(44.0)	18(17.1)			
Heroin/Opiates	24(22.0)	9(8.6)			
Drug Option					
Single drug use	25(22.9)	14(13.0)			
Polydrug Use					
Cannabis/Alcohol	16(14.7)	42(40.0)			
Cocaine/Opiates	42(38.5)	9(8.6)	45.30	<0.001	4
Tobacco/Cannabis	20(18.3)	18(17.1)			
Other combinations	6(5.5)	22(21.0)			
Onset of Drug Use					
Early Adolescence (10–14 yrs)	21(19.3)	34(32.4)			
Late Adolescence (15–19 yrs)	64(58.7)	45(42.9)			
			7.03	0.07	3
Young Adulthood (20–24 yrs)	14(12.8)	8(17.1)			
≥ 25 yrs	10(9.2)	8(7.6)			

spending three days and some spending over one year due to delayed rehabilitation plans by relatives.

Also as shown in Table 4, significantly more patients had co-morbid psychiatric illness in 2002–2007, (67%) vs. (38.5%) in 1992–1997 (χ^2 = 28.32 p<0.001). They had significantly more diagnosis of schizophrenia 40% vs. 28.4% and mania/hypomania 15.2% vs. 1.8% respectively in the two periods. The HIV sero-positve prevalence rates in the patients for the two periods were not significantly different, although there was a decrease.

Table 5 shows the results of regression analysis of the presence of psychosis against main drug of abuse using cannabis versus cocaine, cannabis versus opiates and cannabis versus alcohol. The estimated regression coefficient (B) for presenting with psychosis when cannabis is the main drug of abuse as against cocaine is 5.44 (Wald = 58.557, df = 1, p <0.001), showing a significant positive association of cannabis with development of psychosis. The odds ratio is significantly greater than one (CI 57.194 – 927.982). Similar results were obtained when the regression is done with cannabis against alcohol and Cannabis against opiates.

DISCUSSION

The study reaffirms many of the general findings in earlier studies that found drug abuse to be predominantly a male affair, occurring more in adolescents and young adults with alcohol, cannabis and nicotine being the most commonly abused drugs.[2,3,8] It shows that significantly more adolescents were using drugs in 2002–2007 when compared to 1992–1997, also there were significantly more abusers in the older age group of 50–59 years in 2002–2007 as compared to 1992–1997. This may not necessarily reflect recent involvement of increased number of older age group in drug abuse; instead, it may imply that more patients in this age group are coming for treatment. The trend of more adolescents using drugs with the age of drug use getting younger has earlier been reported and this is worrisome as early

Table 4: Clinical Variables of the Patients

	Number (%)				
	1992–97 (N = 109)	2002–07 (N=105)			
Variable	**N(%)**	**N(%)**	**χ^2**	**p**	**df**
Length of Stay					
< 90 days	51(46.8)	26(24.8)			
3 – 6 months	17(15.6)	31(29.5)			
			13.25	0.004	3
7–12 months	35(32.1)	38(36.7			
> 12 months	6(5.5)	10(9.5)			
Mode of Leaving					
Completed Programme	79(72.5)	77(73.3)			
Uncompleted Programme					
Absconded	16(14.7)	10(9.5)	6.34	0.96	3
Advised to Leave	10(9.2)	6(5.7)			
Discharged Against Medical Advice	4(3.7)	12(11.4)			
Co-morbidity					
No	67(61.5)	34(32.4)			
Yes					
Schizophrenia	31(28.4)	42(40.0)			
			28.32	<.001	5
Schizo-Affective	0(0.0)	4(1.9)			
Mania//hypomania	2(1.8)	16(15.2)			
Depression	1(0.9)	0(0.0)			
Non-Specific Psychosis	8(7.3)	9(8.6)			
HIV Sero-Prevalence					
Male	3(2.7)	2(1.9)			
			0.36	0.551	
Female	1(0.9)	1(0.95)			
Total	4(3.6)	3(2.9)			

drug use/abuse has been associated with more severe addiction, delinquency, criminality, psychological and behavioural problems.[13] The more adolescents abusing drugs with more older patients being seen underscore the importance of tailoring of drug treatment to cater for the needs of these age groups of patients.

There has been a dearth of studies that focused on birth positions of the drug abusers. This study revealed that last born significantly abuse drugs more in the 2002–2007 as compared to 1992–1997. There is no doubt that over the years in Nigeria, both parents have had to work to increase the economic fortunes of the family. The aftermath of this, especially the mothers leaving the care of their children to surrogate carers, may invariably account for this finding as carers may be unable to maintain the parental discipline and adequately monitor the child, coupled with the possibility of over-indulgence of the last child by the parents. The present study found a significant reduction in drug use in parents in 2002–2007, but this reduction is accounted for by a significant reduction in drug use by the mothers, whereas the fathers in fact increased their drug use. The decreased drug use in mothers is encouraging while the increase in drug use by fathers is worrisome as some studies have shown a four times risk of alcoholism in the sons of alcoholic fathers. The significant increase in abuse of cannabis as well as alcohol with a reduction in the abuse of cocaine and heroin may be related to drug availability, drug preference or drug cost. Many of the studies in treatment facilities in Nigeria have observed cannabis to be the most prevalent drug of abuse.[7,10]

The study by Ohaeri and Odejide,[7] in which they found heroin abuse to be 40.3% and cocaine abuse to be 23.7% followed closely by cannabis is at variance with the findings in this study, a decade after their study, which showed a reduction in cocaine and heroin abuse in the Southern part of the country. If this is reflective of the trend in other health facilities in the south, then this is an encouraging development as it has important public health implications relating to intravenous drug use and Human Immuno-deficiency Virus (HIV) transmission. The shift in the poly drug combination from being more of cannabis with alcohol, rather than cocaine with opiates underscores the importance of care givers focusing on variables associated with cannabis and alcohol use and abuse. In fact there was a significant reduction in cocaine with opiate combination over the two five-year periods.

The patients over the years in the two-five-year periods significantly spent more time in treatment, with more spending more than 90 days. The mean length of stay is more than the 44 days earlier reported by Adelekan and Adeniran[9] and even the 128 days reported by Adamson and Akindele[10] among drug abuse patients in the same facility. The increase in co-morbid mental disorders in 2002–2007 may have partially driven the longer stay in treatment. Longer length of stay in treatment has been associated with better outcome, particularly stays of over 90 days.[14]

Many of the patients coming into treatment have significantly more co-morbid psychiatric disorders, the reason for this may reflect more at risk mentally ill taking to drug abuse, with drug use serving to ameliorate prodromal mental symptoms or that there is a unique linkage between drug use and psychiatric illness. The linkage between drug use and psychiatric illness may be genetic,

Table 5: Logistic regression of main drug of abuse against co-morbid psychosis

		Omnibus test of model coefficient variables in the regression equation							
Variable	**χ^2**	**df**	**p**	**B**	**SE**	**Wald**	**df**	**p**	**Odd Ratio (95% CI)**
Cannabis vs. Cocaine									
Both groups (N=151)	133.88	1	<0.001	5.44	0.71	58.56	1	<0.001	230.38(57.19–927.98)
1992–1997 (N=77)	70.76	1	<0.001	6.01	1.18	25.93	1	<0.001	407.33(40.30–4117.28)
2002–2007 (N=74)	42.69	1	<0.001	21.90	5371	0.00	1	0.997	3E + 009*
Cannabis vs. Alcohol									
Both groups (N=115)	74.67	1	<0.001	4.92	0.77	41.30	1	<0.001	136.67 (30.502–612.351)
1992–1997 (N=37)	17.86	1	<0.001	4.11	1.23	11.13	1	<0.001	60.667 (5.437–676.915)
2002–2007 (N=78)	63.41	1	<0.001	22.71	5371	0.00	1	0.997	7E+009*
Cannabis vs. Opiates									
Both groups (N=118)	55.98	1	<0.001	3.72	0.59	40.13	1	<0.001	41.15(11.57–157.87)
1992–1997 (N=53)	19.17	1	<0.001	2.68	0.68	15.51	1	<0.001	14.57 (3.27–71.75)
2002–2007 (N=65)	28.57	1	<0.001	21.89	5371	0.00	1	0.997	7E+009*

* *Cell with zero value*

environmental, or metabolic among others; this linkage, however, needs further elucidation. Furthermore, this finding highlights the importance of patient treatment matching as drug abusers with co-morbid psychiatric disorders have been shown to benefit more from a less structured programme than currently being practiced in most drug abuse treatment facilities in Nigeria.

It is important to note that the 2.9% HIV seroprevalence obtained in 2002–2007 was higher than the national average for Nigeria for the period which was about 2.5%, while the seroprevalence of (3.6%) in 1992–1997, was higher than the national average then which was about (1.9%). Hence HIV sero-positivity is still higher in the drug abusing population.

The odds ratio of having psychosis with use of cannabis in this study is similar to the finding of Green et al in their study of the prevalence of cannabis use and misuse among people with psychosis.[15] They reviewed 48 clinical and nine epidemiological relevant studies and reported statistically significant greater odds ratio for developing psychosis with use of cannabis. The odds ratios were 5.49 for psychosis and 4.29 for schizophrenic spectrum disorders. The very high odds ratio for psychosis with cannabis use as against alcohol or cocaine in this study suggests that the patients abusing cannabis are more likely to develop psychotic breakdown than those patients abusing cocaine or alcohol. The reason for this is still rather unclear, whether it is a causative or a predisposing association. Conclusively, this study highlights the changes in the trend of drug abuse variables of patients admitted to a treatment facility. It informs of the imperative to continuously evaluate the drug abuse patients assessing treatment facilities so that such may drive evidence-based treatments inputs with attendant improved best practices for these group of patients. It is difficult to generalize the findings of this study to the general population on account of the small sample size and the fact that the sample was drawn from a hospital-based population.

REFERENCES

1. Kessler RC, Gonagle KA, Zhao S, Nelson CB, Hughes M, Eshleman S. Lifetime and 12-month prevalence of DSM-III-R. Psychiatric Disorders in the United States: Results from the National Co-morbidity Survey. *Archives of General Psychiatry.* 1994. **51:** 18–19.
2. Substance Abuse and Mental Health Services Administration (SAMHSA). Results from the 2006 National Survey on Drug Use and Health: National Findings. Rockville (MD): Office of Applied Studies; 2007. (NSDUH Series H-32, DHHS Publication No. SMA 07–4293).
3. Acuda SW. Drugs and alcohol problems in Kenya today: a review of research. *East Afr Med J.* 1982; **59:** 152–6.
4. Du Toit BM, Cannabis, Alcohol and the South African Student-Adolescence Use, 1974–1985. Alhons OH, Ohio University Centre for International Studies 1991; p.166.
5. Adelekan ML, A self reported drug use among secondary school students in Ogun State of Nigeria. *Bull Narc.* 1989; **41:** 109–16.
6. Ohaeri JU, Odejide OA. Admissions for drug and alcohol-related problems in Nigeria psychiatric care facilities in one year. *Drug Alcohol Depend.* 1993; **31:** 101–9.
7. Adamson TA, Malomo IO. Psychosocial Profiles of Some Armed Robbers in Bendel State, Nigeria. *Nigerian Medical Journal* 1991; **21:** 41–4.
8. Lawal RA, Adelekan ML, Ohaeri JU, Orija OB. Rehabilitation of heroin and cocaine abusers Managed in a Nigerian psychiatric hospital. East *Afr Med J.* 1998; **75:** 107–12.
9. Adelekan M, Adeniran RA. Rehabilitation and follow-up issues in drug abusers managed at the Neuropsychiatric hospital, Abeokuta, Nigeria. *West Afr J Med.* 1991; **10:** 354–60.
10. Adamson TA, Akindele MO. Experience with In-Patients treatment Model for Alcohol and drug dependence in Nigeria. *West Afr J Med.* 1994; **13:** 105–8.
11. RachBeisel J, Scott J, Dixon L. Co-occurring severe mental illness and substance use disorder. A review of recent research. *Psychiatry Service;* 1999; **50:** 1427–1424.
12. Chisolm DJ, Kelleher KJ. Admission

to acute care hospitals for adolescent substance abuse: A national descriptive analysis. Substance Abuse Treatment, Prevention Policy. 2006; **1:** 17.
13. Dennis ML, McGeary KA. Adolescent alcohol and marijuana treatment: Kids need it now. TIE Communique, Rockville (MD) Substance abuse and mental health services administration, centre for substance abuse treatment: 1999; 10–12.
14. Mclellan AT, Luborsky L, O'Brien CP. Barr HL, Evans F. Alcohol and drug abuse treatment in three different populations: Is there improvement and is it predictable. *Am J Drug Alcohol Abuse.* 1986; **12:** 101–20.
15. Green B, Yong R, Kavanagh D. Cannabis use and misuse prevalence among people with psychosis. *Br J Psychiatry.* 2005; **187:** 306–13.