

PSYCHOACTIVE SUBSTANCE USE AMONG INMATES IN A NIGERIAN PRISON POPULATION

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Abstract

Drug use/abuse within the prison system is presently a global problem compounded by the influx of drug using offenders. The objective of the study was to identify the prevalence of substance use/abuse among inmates of a prison in South-South Nigeria and to evaluate possible correlation between drug use/abuse and other variables such as demography, criminal justice system and family status among others.

In mid 2005, 249 subjects, mostly young, single, poorly educated males, mean age 29.8 ± 8.5 years, range 16 - 64 years were interviewed and about 75% of them were awaiting trial mostly for armed robbery (30.5%)

Lifetime use for any substance was (85.5%) with alcohol being the highest (77.5%) while prevalence of current drug use for any substance was 27.7% with nicotine being the highest (22.9%). Prevalence of dependence on any substance was 12.5% with nicotine being the lightest (7.2%)

A significantly increased risk of cannabis use was observed among subjects imprisoned for non-violent offences (OR=0.20, $p < 0.01$) while those convicted had significantly increased risk of using nicotine (OR =4.69 $p < 0.01$). Increased risk of alcohol use was observed among respondents imprisoned for non-violent offence (OR=0.25, $p < 0.01$) and inmates who had been imprisoned before (OR=5.99, $P < 0.01$).

INTRODUCTION

Report from various studies across the globe and Nigeria have revealed increasing trend in psychoactive substance use and abuse (Oshodi 1972, Obot 1992, world Drug Report, 2000)

Bruns and Geist, (1984), while investigating the relationship between substance use and stressful life events found a high significant linear relationship between stressful life events and substance use. The increase in the prevalence of substance use has been reported within the prison system in Nigeria and globally (Wish et al 1989, NDLEA 1992, Adesanya et al 1997). While some have observed substance use in prison as a continuation of a habit prior to imprisonment, others see imprisonment as a major life event and a severe and enduring psycho-stressor, which lead to drug use (Homes & Raphe, 1967; Paykel, 1987; Van-Damme et al, 1991). The use of substance in prison may be a coping strategy albeit a maladaptive one.

Though the association between crime and substance use in terms of cause and effect remain controversial and inconclusive, a relationship has however been shown to exist between criminal behaviour and drug dependence (Ball et al, 1981, 1983; Hollin 1994)

The aim of this study was to highlight the prevalence of substance use and the correlates of its use among the inmates of Calabar prison in southern Nigeria. This was achieved through the following objectives.

- Evaluation of current and life time prevalence of substance use among inmates.
- Determination of drug use variable such as type, frequency, quantity, and consequences.
- Evaluation of any possible correlations between drug use and variables such as socio-demography, nature of crime committed, family member use of drug and drug availability.

METHOD

Setting of the study and subjects

The study was carried out at the Federal prisons Calabar in the south-south zone of Nigeria. The prison was established in 1890 with a land area of about 2.076 hectares and it caters for about 500 prisoners (MUSA 1990)

The Calabar prison is a medium security prison which accommodates offenders on remand, persons awaiting trial, persons convicted and condemned criminals. Two hundred and forty-nine (90.6%) inmates out of a total of 275 were interviewed. These were made up of 235 (94.4%) males, age range 16-64 yrs with a mean age of 29.7 ± 8.6 yrs and 14 (5.6%) were females, age range 22-42 years with a mean age of 31.14 ± 8.5 yrs. The predominant age group among the subjects was 21-30 yrs (61.5%). The remaining 9.4% were either granted jail delivery during the study or took part in the pilot study.

Instrument

Data was collected using a semi-structured, interviewer administered questionnaire which consist of four sections. Section "A" sought information on socio-demographic variables and history of family drug use. Section "B" solicited relevant information concerning crime committed and the criminal justice system. Items from section "A" and "B" were adapted from a questionnaire which had been used for general population in the country involving urban areas, rural communities and the prison population (Ebie, 1988; Oharie & Ojeide, 1994; Adesanya et al, 1997). Section "C" obtained information on drug history and it contained items extracted from a questionnaire used by ICAA, (1988) research to assess the prevalence and patterns of substance use in urban and rural areas of Nigeria. Section "D" contained questions which sort to elicit symptoms of dependence based on the International Classification of Disease (ICD-10) criteria for dependence.

Procedure

A pilot study was carried out at the federal prisons Calabar by administering the questionnaire on ten randomly selected inmates with the aim to test the ease of application of the questionnaire and to determine the average time taken to administer the questionnaire. Subjects who participated in the pilot study were excluded from the main study.

Official permission to undertake the study was obtained from the cross River State controller of prisons after the ethical committee of Neuropsychiatric Hospital Aro, Abeokuta gave approval for the study. A familiarization tour of the prison was done with one of the prison clinic staff and the inmates were informed that the interviewer was not an employee of the prisons or a law enforcement agent and that their participation would not affect them adversely. The purpose of the research was explained to the subjects and they were assured that all information given would be treated as confidential.

Data was analysed using EPI-INFO 6 (Andrew et-al, 1996). Z-test was used to test for significant difference between current drug use and life time use and logistic regression was done to determine the actual contribution of socio-demographic variables, family drug use and prison status to respondent's drug use.

Results

- Socio-demographic Characteristics

Most respondents were single (66.3%) while less than 3% were either separated, divorced or widowed. About half of the respondents had either completed primary education (29.3%) or had some secondary education (22.1%). 4.8% of the respondents had no formal education and only (0.4%) completed university education. Majority of the respondents were unemployed (64.7%) before imprisonment.

- Forensic Details

Table I reveals that the majority of the respondents (67.5%) were imprisoned for violent crimes and the most frequently committed offence was armed robbery (30.5%). Most of the respondents (68.7%) were persons awaiting trial and less than half (41%) of the respondents had spent one year or less in prison with a mean time spent being 2.86 ± 2.97 yrs. Only (8%) of the respondent had previous history of imprisonment and assault (62.5%) was the most frequent reason for previous imprisonment.

- Psychoactive substance use and Dependence

The majority of the respondents as shown in Table II had a positive family history of drug use. Life time use of any substance was 85.5% and was highest for alcohol (77.1%) while current use prevalence for any substance was 27.7% and was highest for nicotine

(23.3%). Eighteen (7.2%) of the respondents met the ICD-10 criteria for dependence on nicotine, 1 (0.4) for alcohol and 16 (6.4%) for cannabis. Two (0.8%) of the respondents were currently dependent on smokeless tobacco(table III).

The majority (81.2%) of drug using respondents got their supply from other inmates while the prison officers supplied drugs to (13%) of current drug users in the prison(table III). There was a significant difference between the proportion of current and lifetime drug use among the respondents. (Table IV)

- **Factors Associated with Current Psychoactive Substance Use**

Table V shows that the only factor that significantly increased the risk of current cannabis use among the respondents was non-violent crimes (OR = 0.02; 95% CI = 0.05-0.72; p=0.01). When other variables were controlled, being convicted (OR = 4.69 95% CI = 1.74- 12.68; p< 0.01) and spending one year or less in prison (OR= 0.41; 95% CI = 0.17- 0.95; P= 0.04) significantly increased the risk of current nicotine use (table VI), while non-violent crime (OR=0.25, 95% CI =0.09-0.67; p<0.01) and previous imprisonment (OR = 5.99, 95% CI = 1.73 –20 .76 ; p< 0.01) were the only factors that significantly increased the risk of current alcohol use among the respondents (table VII).

Table I: FORENSIC DETAIL

N =29

Variable	n	%
A. Offence committed		
Violent crime	168	67.5
Non violent Crime	81	32.5
B. Prison Status		
Awaiting Trial	171	68.7
Convicted	78	31.3
C. Duration of Imprisonment		
≤ 1 Year	102	41.0
>1 Year	147	59.0
Mean (SD)	2.89 (2./97)	
D. Previous Imprisonment		
Yes	20	8.0
No	229	92.0

- Violent crime - Assault , manslaughter , murder , Armed robbery ,Arson vandalism , rape , child abuse
- Non Violent crime – Theft , drugs trafficking, traffic offence , substance use offence forgery , impersonation , unlawful possession of fire arms.

Table II: Psychoactive Substance Use

N=249

Variable	N	%
A Drugs use by Family member	197	79.1
B LifetimeUse		
* Any drugs	213	85.5
Nicotine	158	63.5
Alcohol	192	77.1
Cannabis	93	37.3
Heroin	10	4.0
Cocaine	23	9.2
Solvents	10	4.0
Hypno-sedative	7	2.8
Amphetamine	9	3.6
Smokeless Tobacco	6	2.4
C Current Drugs Use		
* Any drugs	69	27.7
Nicotine	58	23.3
Alcohol	40	16.1
Cannabis	30	12.0
Heroin	1	0.4
Cocaine	3	1.2
Solvents	3	1.2
Hypno-sedative	2	0.8
Amphetamine	2	0.8
Smokeless Tobacco	3	1.2

*This refers to the use of any substance . Respondent who had used any substance will be listed here .

Table III: Substance Dependence and Source

N=249

Variable	N	%
A substance Dependence		
Nicotine	18	7.2
Alcohol	1	0.4
Cannabis	16	6.4
Heroin	0	0.0
Cocaine	0	0.0
Solvents	0	0.0
Hypno-sedative	0	0.0
Amphetamine	0	0.0
Smokeless Tobacco	2	0.8
B Source of prison drugs use		
Prison officers	9	13.0
Other inmates	56	81.2
Visitors	2	2.9
Drug Vendors	2	2.9

Table IV: Comparison of Current and life time drugs use

N= 249

Variable	n	Z- test
Nicotine		
Current use	58	289.33
Life time use	158	
Alcohol		
Current use	40	310.66
Life time use	192	
Cannabis		
Current use	30	2.62
Life time use	93	
Heroin		
Current	1	220.0
Life time use	10	
Cocaine		
Current use	3	208.0
Life time use	23	
Solvents		
Current use	3	173.33
Life time use	10	
Hypno-sedative		
Current use	2	180.0
Life time use	7	
Amphetamine		
Current use	2	220.0
Life time use	9	
Smokeless Tobacco		
Current use	3	180.0
Λιφε τιμε υσε	6	

Critical level $1.96 > Z > 1.96$

Table V

Odds Ratio (for variables) with current cannabis use as outcome variable in a Logistic Regression.

Variable	Odds Ratio	95% CI	P
Age (\geq 30 yrs)	0.72	0.22-2.32	0.58
Education (\geq Secondary)	1.76	0.67-4.59	0.25
History of family drug use	0.60	0.12-2.93	0.53
Prison Status (convicted)	0.69	0.20-2.39	0.56
Duration of imprisonment (>1 yrs.)	0.68	0.25-1.83	0.44
Offence Committed (violent crime)	0.20	0.05-0.72	0.01*
Cannabis Use prior to imprisonment	17830222.15	0.00->1.	0.95
Previous imprisonment	1.80	0.37-8.73	0.47

*Statistical significant odds ratio.

Table VI

Odds Ratio (for variables) with current nicotine use as outcome variable in a Logistic Regression.

Variable	Odds Ratio	95% CI	P
Age (\geq 30 yrs)	0.52	0.21-1. 29	0.16
Education (\geq Secondary)	1.35	0.64-2.81	0.43
History of family drug use	4.03	0.93-17.72	0.06
Prison Status (convicted)	4.69	1.74-12.68	<0.01*
Duration of imprisonment (>1 yrs.)	0.41	0.17-0.95	0.04*
Offence Committed (violent crime)	0.69	0.26-1.84	0.46
Nicotine Use prior to Imprisonment	12693009.78	0.00->1.0	0.95
Previous imprisonment	0.74	0.21-2.65	0.65

*Statistical significant odds ratio.

Table VII**Odds Ratio (for variables) with current alcohol use as outcome variable in a Logistic Regression.**

Variable	Odds Ratio	95% CI	P
Age (\geq 30 yrs)	0.96	0.41-2. 22	0.96
Education (\geq Secondary)	0.76	0.34-1.69	0.50
History of family drug use	4.98	0.58-42.44	0.14
Prison Status (convicted)	1.86	0.70-5.0	0.22
Duration of imprisonment (>1 yrs.)	0.71	0.31-1.63	0.43
Offence Committed (violent crime)	0.25	0.09-0.67	<0.01*
Alcohol Use prior to imprisonment	5266179.34	0.00->1.0	0.96
Previous imprisonment	5.99	1.73-20.76	<0.01*

*Statistical significant odds ratio.

DISCUSSION

Most of the inmates were young adults. Adesanya et al, (1997), in a study of substance use prevalence in a prison population in south west Nigeria, found (60.5%) to be below the age of 30 years. Similar findings have been reported in western countries (Freedman, 1965; Gelder et al, 1983; ADAM 2000). Gelder et al,(1983) attributed this finding to the immaturity of people in this age group. It may also be that as people in the criminal population grow older, they become more experienced and street wise to avoid arrest. The young population are also likely to be influenced by peers when compared to the older population.

Adesanya et al, (1997), reported that inmates who were below 30 years of age used cannabis significantly more than those who were older than 30years of age. Many other studies have reported some association between cannabis use and being young (Odejide & Sanda, 1976; Adelekan et al, 1993; Borroafka,1996). They attributed their findings to the fact that young persons are more adventurous, more likely to experiment and more susceptible to peer pressure.

Prison Variables and Drug Use

There was no difference in cannabis use between those convicted and those awaiting trial. A similar finding was reported by Adesanya et al, (1997). Convicted inmates were however seen to significantly use nicotine and alcohol more than those awaiting trial and they also had almost five times more risk of using nicotine than those awaiting trial when all other variables were controlled. It may be that inmates convicted use alcohol and nicotine mainly to relief the stress of being convicted and that the use of cannabis was as a continuation of a dependence.

The increased risk of cannabis use in respondents imprisoned for non-violent offences which was evident when all other variables was controlled is similar to other studies that have reported association of cannabis use with stealing without breaking, and fraud (Adesanya et al, 1997; BJS 1999; AIC 2003; Makkai & payne, 2003). Individuals dependent on cannabis are observed to commit these crimes which are usually non-violent in nature for the financial or social means of obtaining the drug (Brochu, 1995, 1997). Adamson et al, (1990), suggested that the primary motive for theft is material gain.

The significantly increased risk of alcohol use among respondents imprisoned for non-violent offences which was almost five times that of those imprisoned for violent crimes when all other variables were controlled was different from reports by several investigators that have associated alcohol abuse with crimes like child abuse, spousal violence, traffic offences and assault (Byles, 1978; Leonard et al, 1985).

According to Brochu, (1995), while the general pharmacological characteristics of most common drugs and alcohol in particular are quite well known, understanding the specific mechanism of promoting violent behaviour appears extremely deficient. He suggested that a complex nature of variables are involved which include, dosage, the users predisposition and social environment among others which might account for the incidence of violent crime reported with alcohol use.

Adesanya et al, (1995), observed that those who had spent only 6 months or less in prison used cannabis significantly more than those who had spent more than 6 months. He opined that those who had spent less than 6 months might have smuggled cannabis into prison while being transferred from the community to the prison. Also their being

more financially solvent than those who have stayed for a long time in prison makes them more able to purchase cannabis.

Cord, (1984), on the other hand reported that it is rather the long stay inmates who abuse cannabis more which they use as a coping strategy for overcoming the anxiety, frustration and boredom associated with long incarceration. Also prolong incarceration would afford the prison inmates the opportunity to acquaint themselves with the strength and weakness of the prison, as to perfect their skills in the acquisition, distribution and use of cannabis. This study did not however observe any difference in the use of any drug with the duration of imprisonment. It may be that drug use by the respondent was more of a continuation of a habit, unaffected by duration of imprisonment.

Prevalence of Substance Use/Abuse Among Prison Inmates.

Adesanya et al, (1997), reported similar lifetime prevalence of substance use in prison with alcohol being the highest followed by nicotine, then cannabis. Drug surveys in different target groups across the country have reported alcohol use to be the most prevalent drug, ranging between 67% - 84.2% (Nevadomsky, 1985, Achalu 1987; Adelekan, 1992; Odek – ogunde, 1999). Alcohol is used in many social gatherings and the majority of people do not view it as a drug. This may explain why alcohol had the highest use prevalence before the age of ten years.

The life time use of any substance was 85.5%. Lyne and Chantel, (2001), reported lifetime substance use prevalence of (84.5%) among inmates, while other studies have reported a wide range of between 22% - 86%. (Maden et al, 1991; EMCDDA, 2004). When compared with the general population, prison inmates have higher life time prevalence for most substances of abuse (Ebie, 1988; Obot, 1992; Ohaeri et al, 1993; Ohaeri & Odejide, 1994). It could be inferred that those who would commit crimes resulting in imprisonment are more likely to have used drugs of abuse in their life time.

There was a significant difference in the proportion of inmates using drugs currently when compared to those who had ever used it in their life time, with all the drugs studied. Many studies have reported that lifetime use of any substance is usually significantly more than current use prevalence. (Adesanya 1995; AIC 2003; EMCDDA 2004).

The difference reported in the prevalence between lifetime and current drug use may result from the fact that many persons who have experimented on drugs have not proceeded to regular use. Even persons who were once dependent might have become abstinent over time. Also, the fact that substances use is prohibited in prison limits access to drugs in prison and punishment that may accompany drug use in prison may deter some from using drugs in prison.

Limitations

The major limitation of this is the fact that all findings were based on self reports only. The possibility of under-reporting drug use among prison inmates have been reported by some researchers(Maden et al, 1991; McAllister & Makkai 1991) Clinical case note review and drug urinalysis could have improved the findings of this study.

Implications

This study shows that prison inmates use of drugs was as a continuation of an old habit. This is in contrast to some studies that have attributed prison drug use to the effects of imprisonments. Although it cannot be determined from this study that drug use has a causal impact on crimes committed, a relationship between drug use and crime has been established. The contribution of prison officials in the prison drug distribution system would impact negatively on any efforts to combat the problem. Education of prison officials may be a starting point in dealing with the problem.

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