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## **A Comparative Study of Pattern of Substance Use in Two Nigerian Cities Located in the Southern and Northern Nigeria**

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## Abstract

*The study compared the pattern of substance use in two cities, Uyo and Kiru in the Southern and Northern Nigeria respectively, to determine the level of involvement among youths. A total of 338 male inmates, 190 from Uyo and 148 from Kano completed a modified form of 117-item self-report instrument based on the World Health Organization guidelines for students' substance-use surveys. Data from 320 (94.7%), comprising 179 (94.2%) from Uyo and 141 (95.23%) from Kiru were analyzed; 18 ((5.3%) were discarded due to incomplete information. The mean age of inmates from Uyo was  $26.3 \pm 2.7$  years and Kiru  $23.7 \pm 3.9$  years. The lifetime prevalence of alcohol/substance use was more in Uyo than Kiru (47.4% vs. 33.7%;  $p=0.002$ ); but current use prevalence of more than one substance was (48.3% vs. 54.6%;  $p=0.340$ ). The use of alcohol in various forms was high in Uyo, compared to inhalants, sleeping drugs, cough syrup in Kiru. Cigarettes and Indian hemp were high in both cities. Reasons for use were similar. This study has shown that substance use cuts across all boundaries in Nigeria. Therefore, efforts must be made to strengthen measures aimed at controlling the use, in order to prevent amplifications of social and health hazards.*

**Key words:** Alcohol; Psychoactive substances; Use; Inmates; Locality

## Introduction

Substance use is a major public health problem worldwide (UNODC, 2010). Despite the intimidating harmful effects, the trend is on the increase. The varying rates of use in many countries may be attributable to differences in sociocultural background. Data from advanced countries shows a high prevalence among college and high school students (ECDA, 2004). Alcohol and marijuana are widely reported to be the most commonly used substances in many of these countries (Parry et al., 2004). The use of prescription drugs such as tranquilizers is also on the increase (UNODC, 2013). In developing countries, urbanization and globalization are reported to have significantly influenced the pattern of use of substances (Courtois et

al., 2004; Anthony et al., 2004; Gureje et al., 2007; Rehm et al., 2008). However, locally available substances are still consumed more in both rural and urban communities (Adelakan et al., 2002; Gureje et al., 2007; Obot, 2007; Makanjuola et al., 2007; Heerden et al., 2009). Evidence suggests that these are sources for the emergence of highly potent habit-forming substances (Fatoye & Morakinyo, 2002; Clausen et al., 2009). Although, substance use is a universal problem, the vulnerability of youths and young adults makes it imperative to seek for appropriate measures for control (Rehm et al., 2004; Gureje et al., 2007; Oshodi et al., 2011). This is because it has major implications for the individuals, families and communities (UNODC, 2010). The involvement of youths and young adults has posed significant impact on the workforce, thereby slowing down economic activities and social progress in many countries.

Though largely observational and empirical, there is overwhelming evidence that the pattern of alcohol and other psychoactive substance use among youths in Nigeria is changing (Adelakan & Ndon, 1997; Obot, 2012). This may be due to the emergence of new substances of abuse in our communities, as well as the dramatic resurgence of social and economic challenges. Evidence suggests that most of the antisocial vices are often perpetrated under the influence of harmful and potent habit-forming substances such as alcohol, Indian hemp, cocaine and heroin (Adamson & Babalola, 2000; Abasiubong et al., 2008). One is therefore not surprised by the increasing number of armed robberies, kidnappings, rape and even the dreaded boko-haram in Nigeria. These are event with potential impact on the mental health of the entire population. It appears the main issues in dealing with substance use in Nigeria are ignorance and custom that encourage the use of these substances without control. Substances like alcohol in the form of palmwine and local gin; kolanuts, tobacco and snuff are always in high demand in traditional functions and during conflict settlements. Their availability in large quantities in these ceremonies, apart from suggesting the cultural importance and general acceptance, is an indication that their usage is not restricted to gender or age. One

is therefore not surprised by the impact of these local substances, as manifested in the widespread use of more potent habit-forming substances like cannabis, cocaine and heroin in our environment (Adelakan et al., 2001; Omigbodun & Babalola 2004; Parry, 2005). One major obstacle militating against the control of substance use in many communities in Nigeria is unemployment. This chronic social disability occasioned by corruption, uncontrolled greed, political instability and a mismanaged economy has impacted negatively on youths, forcing them to exhibit neurotic need for money and power. Many with selfish motives as manifested by desire to amass wealth and not by any altruism or desire to improve the society are lured into substance use and trafficking. Other factors such as peer pressure, experimentation, dysfunctional family system and faulty moral values have been reported as being responsible for increasing substance use. Therefore, there is need to address the social indices that may predispose or help to maintain the habit; if efforts aimed at curbing the menace of substance use is to yield positive results.

Despite the extensive implications arising from widespread use of alcohol and other psychoactive substances, recent development in Nigeria has shown that the increasing incidence of youth restiveness and social vices may have been influenced by these substances. Unfortunately, there is scarcity of data and gross underestimation of the level of use. In view of the depreciating standard of healthcare services and unequal health facilities distribution in Nigeria, there is need for a nation-wide survey of substance use, for purposes of planning appropriate management strategies and control. This study was therefore aimed at assessing the use and nature of these substances in the Southern and Northern Nigeria, in order to determine the degree of youth involvement.

### **Materials and methods**

**Location of the study:** The study was carried out at two Rehabilitation Centres Uyo and Kiru Rehabilitation Centres. The first centre was at Uyo, capital both Uyo Local Area and Akwa Ibom State,

Southern part Nigeria. It has an acre of 188.02<sup>2</sup> kilometres, with a population of 309,573 people (2006 National Census). Kiru, the second centre, is the capital of Kiru Local Area, one of 42 Local Government Councils in Kano, North Central Nigeria. It has an acre of about 966.63<sup>2</sup> kilometres, with a population of 267,168 people (2006 National Census). The two centres were established by both Akwa Ibom and Kano States to take care of youths and young adults with history of substance use problems respectively.

**Participants:** As part of the surveillance, the National Drug Law Enforcement Agency (NDLEA), established by the Federal Government of Nigeria in 1989, for purposes of exterminating illicit drug trafficking and consumption in Nigerian society, from to time arrest suspicious individuals for routine checks and investigations. This agency has offices in major cities in Nigeria including State capitals and Abuja. Participants of this study included a total of three hundred and thirty eight male youths arrested and camped at the both Kiru and Uyo Rehabilitation Centres, between October and December, 2013.

**Data collection:** A total of 338 male youths at the two centres completed a self-report questionnaire adapted from a modified form of 117-item self-report instrument based on the World Health organization guidelines for students' substance-use surveys (Smart et al., 1989). This was done after the consent was obtained. Information on biodata such as age, marital status, educational level and occupation were elicited through a semi-structured sociodemographic questionnaire. Those with little or no education were assisted to fill the questionnaire. This self-report questionnaire has been used in several studies in many countries including Nigeria (Adelakan & Ndon, 1997; Fatoye & Morakinyo, 2002; Courtois et al., 2004; Abasiubong et al. 2008). The participants were also assessed for reasons for using the substances. Permission to carry out this was obtained from the authority of the National Drug Law Enforcement Agency and the management of the Centres. This study passed

through the Ethics and Research Committee of the hospital for approval.

**Data analysis:** The results of the study were analyzed using Statistical Package for Social Sciences (SPSS 17.0). Sample means and percentages were calculated from which simple frequency tables were created. Standard deviation from the mean was calculated and comparisons of categorical data were done using Chi-square. The P-value of less than or equal to 0.05 was used to determine the level of the statistical significance.

## Results

Of the 338 male inmates recruited into the study, data from 320 (94.7%), comprising 179 (94.2%) from Uyo and 141 (95.23%) from Kiru were analyzed; 18 (5.3%) consisting of 11 (3.2) from Uyo and 7 (2.1%) Kiru were discarded due to incomplete information. Table 1 shows the sociodemographic characteristics of the inmates from both cities. The mean age of the inmates from Uyo was  $26.3 \pm 2.7$  years compared to  $23.7 \pm 3.9$  years from Kiru. More youths 83 (58.9%) from Kiru than Uyo 33 (18.4%) had primary school and below level of education; 27 (15.1%) from Uyo compared to 21 (14.9%) from Kiru dropped-out from school; 76 (42.5%) from Uyo and 29 (20.6%) from Kiru completed secondary school education; while 43 (24.0%) against 8 (5.7%) had post secondary school education. A total of 77 (43.0%) inmates from Uyo and 41 (29.1%) from Kiru were unemployed; 53 (29.6%) against 93 (65.9%) self-employed; while 49 (27.4) from Uyo compared to 7 (5.0%) from Kiru were civil servants.

**Table 1:** showing Sociodemographic characteristics of the Respondents

| Variables                | Inmates              |                       |                        |
|--------------------------|----------------------|-----------------------|------------------------|
|                          | Uyo (N=179)<br>n (%) | Kiru (N=141)<br>n (%) | Total (N=320)<br>n (%) |
| Mean age                 | 26.3±2.7 years       | 23.7±3.9 years        |                        |
| <b>Marital status</b>    |                      |                       |                        |
| Single                   | 161 (89.9)           | 117 (82.9)            | 278 (86.9)             |
| Married                  | 18 (10.1)            | 24 (17.0)             | 42 (13.1)              |
| <b>Educational level</b> |                      |                       |                        |
| Prim sch & below         | 33 (18.4)            | 83 (58.9)             | 116 (36.2)             |
| Sec sch. drp -out        | 27 (15.1)            | 21 (14.9)             | 48 (15.0)              |
| Sec. school              | 76 (42.5)            | 29 (20.6)             | 102 (31.9)             |
| Above sec sch            | 43 (24.0)            | 8 (5.6)               | 51 (15.9)              |
| <b>Occupation</b>        |                      |                       |                        |
| Unemployed               | 77 (43.0)            | 41 (29.1)             | 118 (36.9)             |
| Employed                 | 49 (27.4)            | 7 (5.0)               | 56 (17.5)              |
| Self-employed            | 53 (29.6)            | 93 (65.9)             | 146 (45.6)             |

Sch = school

Drp = drop

Table 2 shows the pattern and prevalence of alcohol/substance use among the inmates. The lifetime use prevalence of these substances is 47.4% in Kiru and 37.7% in Uyo. The prevalence of current multiple use of more than one substance in Kiru was 81 (45.2) as against 77 (54.6) in Kiru. kolanuts {34 (19.0%) vs 91 (64.5%) p=0.001}; bitter kola {43 (24.0%) vs 25 (17.7%); p=0.218}; tobacco/snuff {29 (16.2%) vs 15 (10.6%); p=0.200}; cigarette {78 (43.6%) vs 93 (66.0%); p=0.001}; palmwine 87 (48.6%) vs none; local gin {66 (36.9%) vs 5 (3.5%); p=0.001}; brewed beer {93 (51.9%) vs 3 (2.2%); p=0.001}; Hot drinks {55 (30.7%) vs 5 (3.5%);p=0.001}; Sleeping

drugs {23 (12.8%) vs 49 (34.7%);  $p=0.001$ }; Indian hemp {63 (35.2%) vs 61 (43.3%);  $p=0.174$ }; cocaine {13 (7.3%) vs 21 (14.8%);  $p=0.048$ }; heroin {9 (5.0%) vs 17 (12.0%);  $p=0.038$ }; cough syrup {23 (12.8%) vs 67 (47.5%);  $p=0.001$ }; Petrol {5 (2.8%) vs 29 (20.6%);  $p=0.001$ }. benzhexol 19 (13.5%); glue 33 (23.4%); shoe polish 27 (19.1%) were used only by the Kiru inmates; palmwine and anabolic steroids were used solely by the Uyo inmates.

Table 2 Showing Pattern and prevalence of substance use among the Respondents

| Substance                 | Inmates                |                        | X <sup>2</sup> | P-value |
|---------------------------|------------------------|------------------------|----------------|---------|
|                           | Uyo (N = 179)<br>n (%) | Kiru (N =141)<br>n (%) |                |         |
| Multiple (>one substance) | 81 (45.2)              | 77 (54.6)              | 0.95           | 0.340   |
| kolanut                   | 34 (19.0)              | 91 (64.5)              | 8.17           | 0.001*  |
| Bitter kola               | 43 (24.0)              | 25 (17.7)              | 1.23           | 0.218   |
| Tobacco/snuff             | 29 (16.2)              | 15 (10.6)              | 1.28           | 0.200   |
| Cigarette                 | 78 (43.6)              | 93 (66.0)              | 3.88           | 0.001*  |
| Palmwine                  | 87 (48.6)              | -                      | -              | -       |
| Local gin (Ogogoro)       | 66 (36.9)              | 5 (3.5)                | 7.00           | 0.001   |
| Brewed beer               | 93 (51.9)              | 3 (2.2)                | 9.51           | 0.001*  |
| Hot drinks                | 55 (30.7)              | 5 (3.5)                | 6.05           | 0.001*  |
| Sleeping drugs            | 23 (12.8)              | 49 (34.7)              | 4.53           | 0.001*  |
| Cough syrup               | 23 (12.8)              | 67 (47.5)              | 6.73           | 0.001*  |
| Indian Hemp               | 63 (35.2)              | 61 (43.3)              | 1.36           | 0.174   |
| Cocaine                   | 13 (7.3)               | 21 (14.8)              | 1.98           | 0.048*  |
| Heroin                    | 9 (5.0)                | 17 (12.0)              | 2.07           | 0.038*  |
| Benzhexo (Exol)           | -                      | 19 (13.5)              | -              | -       |
| Formalin                  | -                      | 21 (15.0)              | -              | -       |
| Petrol                    | 5 (2.8)                | 29 (20.6)              | 4.94           | 0.001   |
| Glue                      | -                      | 33 (23.4)              | -              | -       |
| Shoe polish               | -                      | 27 (19.1)              | -              | -       |
| Anabolic steroids         | 7 (3.9)                | -                      | -              | -       |

Inmates from both cities used alcohol/substances for variable reasons. Table 3 shows different reasons using substances. A total of 45 (25.1%) inmates Uyo and 37 (26.7%) from Kiru used these because of ready availability; 19 (10.6%) against 31 (22.0%) to enhance

performance. A significant number of inmates, 33 (18.4%) from Uyo compared to 21 (14.9%) from Kiru 53 (37.6%) gave unemployment as reason for using substances. Whilst 18 (10.0%) inmates from Uyo compared to 8 (5.7%) from Kiru used substances for unidentified reasons, 43 (24.0%) against 35 (24.8%) indulged in them as a result of peer influence. However, 21 (11.7%) inmates from Uyo against 9 (6.4%) from Kiru used alcohol/substances because of unexplained personal problems.

Table 3 Highlighting possible reasons given by inmates for currently using the substances

| Variables                     | Inmates              |                       |
|-------------------------------|----------------------|-----------------------|
|                               | Uyo (N=179)<br>n (%) | Kiru (N=141)<br>n (%) |
| Easy to get (Availability)    | 45 (25.1)            | 37 (26.7)             |
| Unexplained Personal problems | 21 (11.7)            | 9 (6.4)               |
| Unemployment                  | 33 (18.4)            | 21 (14.9)             |
| Enhanced performance          | 19 (10.6)            | 31 (22.0)             |
| Influence from others         | 43 (24.0)            | 35 (24.8)             |
| Unidentified reasons          | 18 (10.0)            | 8 (5.7)               |

## Discussion

The findings of this study have shown that alcohol and other psychoactive substance use is a national problem. Although variation exists in the rate of use in both cities, the findings seem to suggest that substance use is common among youths in Nigeria. This is in line with previous studies (Fatoye & Morakinyo, 2002; Adelakan et al., 2005; Obot, 2007; Makanjuola et al., 2007). Substance use among youths is a major concern because of the potential risk of addiction. Although concerted efforts are being made in developed countries to control use of substances and associated problems, monitoring their use in Nigeria is however difficult. This is because the problems are often under

reported due to poorly documented information and data from the communities (Gureje et al., 2007; Obot, 2007; Oshodi et al., 2011). Furthermore, most of the studies on alcohol and other psychoactive substance use are usually hospital-based and self-reports. Consequently, the management of substance use and abuse in Nigeria is a major problem with serious challenges. Therefore, there is need for a nation-wide survey that would aim at focusing on strategies for prevention. This will help in tackling the extensive implications for the users, families, communities and the society at large.

Our study has shown that there are differences in the types and nature of substances used in the Southern and Northern Nigeria. While alcohol is used commonly in Uyo, inhalants such as glue, petrol, formalin and shoe polish are consumed in large quantities in Kiru. Also in this study, about 35% of inmates from Uyo and 43% from Kiru used Indian hemp, 7% and 15% cocaine, and 5% and 12% heroin. This is similar to reports in previous studies (Adelakan et al. 2002; Abdulkarim et al., 2005; Yunusa et al., 2011). This is a very dangerous trend in view of the associated health hazards. Although, the rate of consumption may vary, the finding seems to suggest that youths in Nigeria are at high risk of multitude of socioeconomic problems. This scenario could be overwhelming when taken into consideration that 45% of inmates from Uyo and 55% from Kiru in this study used more than one substance including these potent habit-forming substances. This is in line with findings from previous studies (Makanjuola et al., 2007; Yunusa et al., 2011). The implications of this finding could be serious, in view of the increasing incidence of youth restiveness and social vices in Nigeria. Although, it may be difficult to isolate behaviours due to alcohol and/or other substances, several studies have implicated these substances in various mental illnesses. There is also overwhelming evidence linking various antisocial vices to use of alcohol and other psychoactive substances.

The findings of this study have also revealed that these substances are present in large and equal quantities in both cities. However, it is difficult to explain the variation in the nature and pattern of use. One

may be tempted to attribute the differences in the pattern of use to either religion or culture. The inmates from the Southern Nigeria are predominantly Christians unlike those from the North who are Moslems. The two religions strictly abhor use of alcohol and other psychoactive substances. Although, it was not possible to determine the impact of culture and religion or both in this study, one may not be entirely wrong to suggest that one or both of these two factors play a significant role in the choice of use of these substances. It is possible the custom that encourages provision and use of some of these substances in traditional ceremonies may be responsible for the widespread use, including differences in the levels and type of substances.

Our study also highlights various reasons among inmates for using alcohol and other psychoactive substances. The findings seem to suggest that ready availability alone accounts for more than 25% of the reasons in both cities, while unemployment and influence from others were responsible for 18% and 24% respectively. This is similar to reports in previous studies (Adelakan et al., 1997; Obot, 2007; Igwe & Ojinnaka, 2010). This seems to be very significant findings. In our opinion, these findings may turn out to be positive development, with respect to control and prevention of substance use in our environment. For example, ready availability seems to be critical in controlling the habit (Lawoyin et al., 2005; Gureje et al., 2007; Oshodi et al., 2011). Therefore, targeting this alone will serve as supply reduction and may be used as important strategy to control use of substances in our communities. This will reduce the presence of substances and the number of users. Furthermore, judging from the fact that 24% of the inmates from Uyo and 25% from Kiru also indulged in substances because of peer pressure. One may be tempted emphasize that educating these youths in an environment free of alcohol and other psychoactive substances would make a great impact in their life. It is also worthy to mention that identifying and addressing the factors that encourage little or no use of these substances would go a long way in tackling the problems of substance use in Nigeria. For example

inhalants are used minimally in the South and alcohol in the North, identifying and focusing on factors that discourage youths from indulging in these substances could form part of the management strategies.

The findings of this study also reveal a more disturbing trend in the use of substances in Nigeria. Although studies in the past have always focused on alcohol and other potent habit-forming substances (Adelakan et al., 2002; Makanjuola et al., 2007), the use of prescription drugs is gradually taking a centre stage, especially in the Northern part of Nigeria, where more than 30% of the inmates used sleeping drugs such as diazepam and rohypnol and cough syrup. One may not be able to explain why the use of sleeping drugs is on the increase. However, given that a significant percentage of the inmates claimed to use these substances because of unidentified personal problem, it is possible many of them are ill. The findings seem to suggest that many of them are indulged in self medication. This may be attributable to inability to access healthcare services. This may be dangerous because of associated adverse effects of self medication. Many of these substances have potential risk of addiction and could pose serious health challenges to the users (Madu Matla, 2003; Rehm et al., 2004; Parry, 2005). However, judging from the general low level of education of the inmates in this study, it would be difficult for them to have adequate information on the harmful effects of these drugs.

This study has major limitations. Using self-reports to assess alcohol and other substance use is bound to be biased because of the possibility of concealing the habit. The complex nature of the country implies that it is difficult to penetrate every community in Nigeria for assessment. Therefore, the sample size is not a representation of all youths in the country, and the results cannot be generalized.

In conclusion, the findings of this study suggest that Nigeria is ravaged with substance use problem and no area is safe. Therefore, there is need to design measures to prevent alcohol and other

psychoactive substance use, since treatments of abuse and its associated problems are always difficult. In addition, the prevailing environment of insecurity, violence and antisocial activities in Nigeria implies that there is need to contend the use of substances among youths. Massive educational campaign is necessary to increase awareness on possible harmful effects of alcohol and other substances. This campaign must be initiated by government and non-governmental organizations and sustained in all communities in Nigeria.

Given that ready availability, unemployment and peer pressure are key reasons for using these substances, there is need to rid our environment of presence of alcohol and other substances by enacting and enforcing laws that will deal with selling and consumption of these substances. Efforts must be made to provide recreational facilities and employment opportunities to engage the idle youths, so as to take their attention away from substances. Above all, there is need to improve and equip our healthcare facilities to cater for those who may be faced with health challenges as a result of substance use.

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