

# Substance Abuse and its Prevalence Among Secondary School Adolescents in Kagoro, Kaduna State, Nigeria

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**Abstract**— Despite the existing scanty data on patterns of drug abuse in specific groups in the Nigerian communities due to the tendency of changing patterns in illicit drug use with various alarming reports on same points to the need to constantly update information on the use of drugs among Nigerian adolescents. This was a cross sectional, descriptive study on the prevalence of substance use amongst adolescents. A total number of 400 Senior Secondary Schools 1,2,3 students from two selected schools in Kagoro Chieftdom of Kaura local government area in Kaduna State (Nigeria) were randomly administered with a pre-coded four sections (socio-demographic information, drug awareness and use, attitude of the students to drug abuse and practice of substance abuse). Out of a total of 400 respondents, which males constituted 75% and females 25% of substance users. 89.20% were aware of substance use and 10.80 % were not aware. Substances used were alcohol (52.58%), analgesics (33.7%), marijuana (2.59%), cigarette (1.72%), glue/solution (0.86%) and other local substances (8.62%) respectively. Family setting of respondents taking substance (66.6%:5.95%:27.4%) from monogamous, polygamous and extended families respectively. Factors responsible for engagement in substance use was curiosity 38.10%, peer pressure 19.05%, depression 7.14%, energy for work 4.76%, home problems 1.19%, festivities aura 11.90% beliefs 5.96%, others 11.90%. 58.3% of respondents were introduced to substance use by friends, while 25% were introduced by their family members. Curiosity and peer pressure which is a characteristic of this age group are the major reasons for indulgence in substance use as well the ease at obtaining substances. Family also plays a role.

**Index Terms**— Kagoro, Nigeria, Prevalence, Secondary School Students, Substance use.

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## I. INTRODUCTION

The importance of substance abuse as a public health problem warranted its inclusion as a target 5 (Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol) under goal 3 of the Sustainable Development Goal (SDG) [1]. Substances of abuse are categorized as: stimulants, hallucinogens, narcotics, depressants (sedatives and tranquilizers) and anabolic steroids. Although worldwide prevalence is high, researchers noted that illicit drug use remains vastly underestimated because of the inherent difficulty in gathering data, particularly with respect to use of hallucinogenic agents and inhalants, or the nonmedical use of anabolic steroids or benzodiazepines such as diazepam (*Valium*, Roche). It was estimated that in 2012, between 162 and 324 million people, corresponding to between 3.5% to 7.0 % of the world population aged 15-64, had used an illicit drug and the global prevalence of intravenous substance abuse was about 0.27 % and about 0.17% in Africa [2].

The use and abuse of drugs by adolescents has become one of the most disturbing health related phenomena in Nigeria and other parts of the world [3]. Drug use continues to exact a significant toll on valuable human lives and productivity. An estimated 183,000 (range: 95,000-226,000) drug-related deaths were reported in 2012 corresponding to a mortality rate of 40.0 (range: 20.8-49.3) deaths per million among the population aged 15-64 [2]. Substance abuse has obviously become a rapidly growing global phenomenon [4], [5], [6], thus the upper limits of its endemicity falling within the developed countries making it more challenging. Almost 70% of adolescents will have tried alcohol, half will have taken an illegal drug, nearly 40% will have smoked a cigarette, and more than 20% will have used a prescription drug for a nonmedical purpose by their senior years in high school [7]. Despite the relatively recent proscription as an illegal drug in much of the world, marijuana retains its historical popularity [8]. The prevalence of illicit drug use amongst adolescents, especially High School students is also shown to be on the rise in the United States of America, Ontario, Canada; Trinidad and Tobago, Barbados; and in the United Kingdom [9], [10]. The same trend of prevalence is also observed in Africa, confirming the high index of alcohol use, cigarette and cannabis smoking reported in Ghana and Rwanda [11], [12], [13]. Asserted experimental curiosity, peer group influence, lack of parental supervision, personality problems due to socio-economic conditions, the need for energy to work for long hours, availability of the drugs and the need to prevent the occurrence of withdrawal symptoms are the main factors associated with substance use among

adolescents [14, [15], [16], [17]. Reports from all over the world about this menace of drug abuse are severe. The British officer for National Statistics reports that 12% of pupils aged 11–15 had used drugs. Amphetamines are also used among students [18]. Available report indicates that Nigeria is currently the highest consumer of cannabis and amphetamine in Africa [19]. The Nigerian National Drug Law Enforcement Agency (N.D.L.E.A.) has stated that drug abuse is a major problem in schools. For instance; about 20% of the school population in Lagos state had taken a psychoactive drug once in their lives [20]. There are empirical evidences from studies done in various secondary schools and universities in Nigeria to identify the common substances used among students. They identified tobacco/cigarette, alcohol, marijuana, tranquilizers, kola nut, inhalants and cough syrups to be the most used substances [21], [22], [23], [24], [25] and [26]. Prevailing consequences emanating from drug abuse among adolescents, youths and adults include academic problems, physical health impairment, stigmatization, family and social-economic problems, unemployment and delinquency [2], [27]. The problem of drugs and drug abuse are however multi factorial.

Just like every form of addiction, substance abuse has to be managed as a disorder. Depending on the severity of the disorder, it has been shown that substance abuse disorder can be difficult to treat [28]. With that said, many substance abusers in Nigeria and Africa as a whole have little to no access to quality health care, which ultimately worsens their social and health conditions leading to health risks like weakened immune system, cancer, mental disorders, lung or cardiovascular disease in the near future. Recent studies show that a lifetime of alcohol intake is associated with an increased chance of developing colorectal cancer with unique somatic mutations in BRAF and KRAS genes [29] and invasive breast cancer in women [30], [31]. Hence, the need to educate adolescents and their families of the risks involved in controlled substance abuse cannot be over emphasized. Also, controlling the availability of these substances is necessary in combating misuse and abuse.

*A. Background of Kagoro chiefdom*

Kagoro chiefdom is in Kaura, LGA southern part of Kaduna state, Nigeria which is located on Latitude 9.6°North and Longitude 8.38°East of the Equator. It’s a multi-ethnic settlement with the Gworok (kagoro) tribe as majority and majorly a Christian dominated area. The settlements are semi-urban in nature, rapidly developing and are also known for peace and warm hospitality.

Kagoro Chiefdom is located in southern part of Kaduna State (Nigeria). It is made up of eleven districts with thirty health

facilities; two general hospitals, twenty eight primary health care centers, fifty schools (both Primary and Secondary) and one Institute of health technology (which trains Community Health Extension Workers, Record Clerks, Environmental health officers and Laboratory technicians). Population are predominantly agrarian and lie within on coordinate 9° 36’ N and 8° 23’ E. Based on the 2006 Projected Census figure, the district has a population of 77,008 of which the growing population is more than 50% of the population [32].

*B. Aims and Objectives*

Despite the scanty data on patterns of drug abuse in specific groups in the Nigerian community and as a result of increasing urbanization, there is a tendency of changing patterns in illicit drug use with various alarming reports on same. This however informs the need to constantly update information on the use of drugs among Nigerian adolescents. Thus the objective of this study is to determine the prevalence and types of substances commonly used abused by among young people, factors responsible and their consequences on the Kagoro society Kagoro district Kaduna State, Nigeria.

II. MATERIALS AND METHODS

*A. Sample Size Determination*

The sample size was determined using fisher’s formula  $n = Z^2pq \div (d)$   
 $= (1.962 \times 0.51 \times 0.49) \div 0.05 = 384 \approx (400)$

*B. Data Collection and Analysis*

A total number of 400 students (youth) of two selected senior secondary schools vis: Senior Secondary School 1 (SS1), Senior Secondary School 2 (SS2) and Senior Secondary School 3 (SS3) from the study area were randomly administered with a pre-coded four sectioned questionnaire (socio-demographic information, drug awareness and use, attitude of the students to drug abuse and practice of substance abuse), while the data was analyzed with a computer software- SPSS (version 20.0). Simple frequency tables were generated as well as cross-tabulation (as appropriate) to check for levels of statistical significance.

*C. Ethical Consideration*

Ethical approval for study was obtained from the Bingham University Teaching Hospital Ethical Committee, the Chief of Kagoro, district heads; village heads, and the various the school heads.

III. RESULTS AND DISCUSSION

TABLE 1: DISTRIBUTION OF RESPONDENTS BY AGE AND SEX

AGE	SEX		TOTAL No. of respondents (%)
	MALE No. of respondents (%)	FEMALE No. of respondents (%)	
10-14	13 (3.25)	20 (5.00)	33 (8.25)
15-19	170 (42.5)	169 (42.25)	339 (84.75)
20-24	16 (4.00)	11 (2.75)	27 (6.75)
25-29	0 (0.00)	0 (0.00)	0 (0.00)
30+	0 (0.00)	1 (0.25)	1 (0.25)
<b>TOTAL</b>	<b>199 (49.75)</b>	<b>201 (50.25)</b>	<b>400 (100)</b>

IV.MATH

A total of 400 students were interviewed in the 2 schools, of these 339 (84.75%) respondents were within ages 15-19 years. 50.25% were females while 49.75% were males. The implication is that majority of the sampled population are teenagers while gender distribution is about equal though with more of females (Table 1). However, this age distribution is comparable to the findings of [22] and [24] in Nigeria as well as [11] in Ghana, and [33]. This is within the usual age range of students in senior secondary school or high school.

**TABLE 2: GENERAL DISTRIBUTION OF RESPONDENTS BY CLASS IN SCHOOL**

PRESENT CLASS	NUMBER OF RESPONDENTS	FREQUENCY
SS1	133	33.25
SS2	120	30.00
SS3	147	36.75
<b>TOTAL</b>	<b>400</b>	<b>100.00</b>

Table 2 portrayed the general distribution of the respondents by their classes in school. Most of the students were in SS3 (36.75%) followed by SS1 (33.25%) and SS2 (30.00%). The implication of this is that both the terminal (SS3) and introductory (SS1) classes have more respondents 147 and 133 respectively.

**TABLE 3: DISTRIBUTION OF RESPONDENTS BY SUBSTANCE USE**

Parameter	Frequency	percentage
Those that use substance	84	21.0
Those that don't use substance	316	79.00
<b>Total</b>	<b>400</b>	<b>100.00</b>

84 respondents engage in substance abuse. This constitutes 21% of total population. The observed 21% prevalence of substance abuse among adolescents in this study is in contrary with studies carried out in other parts of Nigeria and other parts of the globe - with 47.4% in Uyo and 33.7% in Kiru Kano state [21], 69.3% in Oyo state [34], 39% in a public secondary school in Lagos [24], and 30.5% [22]. The 21% found in this study may be due to the rural location of Kagoro. It is however higher than the 6% prevalence of substance use among school going adolescents in Thailand, in the study done by [32].

**TABLE 4: DISTRIBUTIONS OF RESPONDENTS WHO USE SUBSTANCE BY PRESENT AGE AND SEX**

AGE (years)	Number of Respondents	Percentage
10-14	3	3.37
15-19	71	84.53
20-24	10	11.90
25-29	0	0.00
30+	0	0.00
<b>TOTAL</b>	<b>84</b>	<b>100</b>

  

Age at Introduction to substance (Years)	Number of Respondents	Percentage
5-9	4	4.76
10-14	30	35.71
15-19	49	58.33
20 and above	1	1.20

  

SEX	Number of Respondents Who Use Substance	Percentage
Male	63	75
Female	21	25
<b>Total</b>	<b>84</b>	<b>100</b>

  

WHO INTRODUCED YOU TO DRUGS		
Friends	49	58.30
Family	21	25.00
Self	8	9.50
Others	6	7.20
<b>Total</b>	<b>84</b>	<b>100</b>

  

REASON FOR SUBSTANCE USE		
Peer Pressure	16	19.05
Curiosity	32	38.10
Depression	6	7.14
Energy For Work	4	4.76
Homeproblems	1	1.19
Festivities	10	11.90
Beliefs	5	5.96
Others**	10	11.90
<b>Total</b>	<b>84</b>	<b>100</b>

Table 4 depicts various parameters from respondents that agreed to using substances.

Our study revealed that, the average age at introduction of substances was 14 years, with extremes of 6 and 20 years. The most vulnerable groups were males and those within the 10-19 year age group (94.04%). Social interaction between family and friends is an important factor for introduction to substance intake in Kagoro. This is comparable with the study done by Taylor [35] which stated that adolescents are likely to smoke if their parents smoked. Other salient reasons for engaging in substance use were such associated with adolescence, including curiosity (38.10%), peer pressure (19.05%) aura of festivities (11.90%) and depression (7.14%) in Kagoro. This is in line with a report that drug abuse is commoner in males (67.03%) than females (36.92%) according to [12].

**TABLE 5: FAMILY HISTORY ON SUBSTANCE USE**

SETTING	Number of Respondents	Frequency
Polygamous	23	27.40
Out Of Wedlock	5	5.95
Monogamous	56	66.65
<b>Total</b>	<b>84</b>	<b>100.00</b>
<b>FAMILY MEMBER ENGAGED IN SUBSTANCE USE</b>		
Use Substance	32	38.10
Do Not Use Substance	52	61.90
<b>Total</b>	<b>84</b>	<b>100.00</b>

66.65% of the substance users came from monogamous and 27.40% polygamous while 5.95% were from out of wedlock

**TABLE 6: LITERACY LEVEL OF SUBSTANCE USERS PARENTS**

PARENTS' LITERACY LEVEL					
PARENT (s)	None	Primary	Secondary	Tertiary	Total
<b>Mother</b>	4 (4.76%)	16 (19.05%)	26 (30.95%)	38 (45.24%)	84
<b>Father</b>	10 (11.90%)	6 (7.14%)	25 (29.76%)	43 (51.19%)	84

Study revealed that alcohol is the most commonly abused drug, current use being 36.2% but when this is combined with other alcohol containing substances like Burukutu 8.62% and palm wine 7.76%, alcohol constitute over 52.6% of most commonly used substance. This is in keeping with studies carried out by [34], but not in keeping with studies done by [22] where the most commonly abused drug was analgesic e.g. paracetamol. The next most commonly abused substance in this study was analgesics (33.66%) this comprised (Tramadol - 32.8% and codeine – 0.86%) other substances being abused by respondents in this study include: marijuana – 2.59%, cigarette – 1.72%, ‘solution’ – 0.86% and other local substances (8.62%) for example; septic tank dry faeces sniffing and madara sukurdai. The exact constituent of “madara sukurdai” is formaldehyde.

It is expected that literate individuals are opened to the opportunity of basic reading, writing and interpretation. Most advertisements and campaigns against the illicit use of drugs and other substances of abuse, though targeted to the general public but often literate audience biased. Parents of young substance users in Kagoro are mostly literate thus, expected to have influence on the respondents by way of sending them to school. One may say that they know the importance of education. However, despite the appreciable level of parent’s literacy (95.24% Mothers: Fathers 88.09%) – Table 6, Kagoro school-age adolescents still engage in substance abuse appreciably. The implication of this is that campaign against drug abuse via print and electronic media as well as through other public enlightenment expected to have positive influence on the literates is yet to meet its purpose in Kagoro. The highest level of education of the parents of substance was the tertiary level with record of 51.2% and 45.25 for fathers and mother respectively.

backgrounds. Also 32% of respondents who used substance had family members who also engaged in substance use as against 52% without record of substance use (table 5) thus a clear indication that the immediate family has positive influence on substance use among the young in Kagoro.

From table above the most abused substance was Alcohol (36.2%) followed by tramadol (32.8%) and Local brew (8.62%).

**TABLE 7. SUBSTANCES ABUSED BY RESPONDENTS**

SUBSTANCES	Number of Respondents	Percentage
<b>Tramadol</b>	38	32.80
<b>Alcohol</b>	42	36.20
<b>Codeine (cough syrup)</b>	1	0.86
<b>Cigarette</b>	2	1.72
<b>Marijuana</b>	3	2.59
<b>Palm wine</b>	9	7.76
<b>Burukutu and other local brew</b>	10	8.62
<b>Solution (glue)</b>	1	0.86
<b>*Others</b>	10	8.62
<b>Total</b>	116	100

Number of responses is more than 84 because respondent used more than one substance \*Others includes soak away (septic tank) inhalation, dry faeces sniffing, the exact constituent of “madara sukurdai” was found out to be (madara – milk in the hausa language and sukurdai “soak and die”) – formaldehyde as it was known to be used in embalming dead bodies.

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**TABLE 8: SOURCES OF OBTAINING SUBSTANCE OF ABUSE**

Source of SUBSTANCE	NUMBER OF RESPONDENTS	PERCENTAGE
SCHOOL	7	8.33
FRIENDS*	3	3.58
HOME**	51	60.71
PATENT MEDICINE STORE	9	10.71
STORES	4	4.77
MARKET***	2	2.38
OTHERS****	8	9.52
<b>TOTAL</b>	<b>84</b>	<b>100.00</b>

\*Friends; indicates people who got the substances freely from peers and had never purchased it themselves. \*\* Home; indicates those who got substances from relatives. \*\*\*Market differs from stores as this signifies those obtained from local market days especially local brews. \*\*\*\*Others; includes groups not mentioned above e.g. those who got substances from parties or community festivals.

#### IV. CONCLUSION

The general prevalence of substance use among the young people from two senior secondary schools studied in Kagoro district Kaduna state was found to be 21%. Upper limit of these groups lied between the final and introductory classes. Introduction to substance use occurred before adolescence that is 5-9 years (4.7%). However, the most vulnerable age group involved in substance use in Kagoro was 15-19 years of age (84.5%). The major reason for indulgence in substance use by respondents was curiosity- 38.1% then peer pressure – 19.0% thus, family, friends and curiosity constitute important influence on the prevalence of substance use in Kagoro. Despite high literacy level of parents, the young folks still feel comfortable engaging in substance use. Still further, Family is also an important influence in the prevalence of substance use in the study area as a good number of the substance users were introduced by family members aside those introduced by friends as well as most of substance users obtaining the substance at home.

#### RECOMMENDATIONS

Health education and sensitization programs on the effect of substance use for young people and families via school curriculum, health and religious worship centers should be put in place. Monitoring of activities during festivities on substance use should not be overlooked. Furthermore, there is a need for the establishment of self-help groups and rehabilitation centers within the community so that drug users could be re-oriented into positive activities, with more active participation of Governmental, Community and Non-Governmental Organizations (NGOs).

**Conflicting Interest:** None

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