

## PREVALENCE AND USE OF CODEINE AS SUBSTANCE OF ABUSE AMONG UNDERGRADUATE STUDENTS IN SOUTH - SOUTH NIGERIA

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### ABSTRACT

**Aim:** To assess prevalence and use of codeine as substance of abuse among undergraduate students

**Methods:** A descriptive cross-sectional study was carried out among 380 students of Igbinedion University, Okada, Edo State. The respondents were selected by multistage sampling method; all the students were stratified based on the faculties, departments and year of study. The sampling ratio for each year of study was calculated and a proportional allocation was carried out. Simple random sampling was applied to select the number of students from each year of study by using table of random numbers. Structured, pre-tested, interviewer-administered questionnaire and In-Depth Interviews were the tools used for data collection. Data was analyzed using IBM SPSS version 20.0 and level of significance was set at  $p < 0.05$ .

**Result:** About one quarter 88(23.2%) of the respondents were currently using codeine, 160(42.1%) had used codeine in the past while above two third 276(72.6%) were aware of the additive potential of codeine. Majority 296(77.9%) of the respondents were aware of the harmful effect of codeine to self and the reasons for continuous usage varies from enhancement of performance 25(6.6%), for confidence 20 (5.3%) and leisure 7(1.8%).

**Conclusion:** About one quarter of the respondents were currently using codeine despite the fact that majority of the respondents were aware of the harmful effect of codeine to self. The health education program on codeine abuse and its associated problems should be directed more at undergraduates, and the accessibility to codeine drinks on campus should be regulated by appropriate authorities.

**Keyword:** Abuse, Addiction, Codeine, Frequency, Misuse, Pattern, Prevalence, Undergraduate, Okada, Edo State.

### INTRODUCTION

Globally, about 200 million (5.0%) people between 15 and 64 years of age use one illicit drug at least once a year.<sup>1</sup> The last report of National Drug Law Enforcement Agency

represented presence of 1.2-2 million substance abusers in Nigeria and 5 million were engaged with the addiction problems of themselves or their family members.<sup>2</sup> Several studies have revealed that illicit substance abuse among young population is more prevalent than other age groups, and codeine abuse among undergraduate students are a major cause of concern.<sup>3,4</sup>

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The problem of drug abuse is evidently one of the most serious social problems facing our contemporary society. According to the World Health Organization report, 320,000 young people between the ages of 15 and 29 years die annually from alcohol-related drugs, resulting in 9.0% of all deaths in that age category while the same report shows that at least 15.3 million persons have drug use disorders.<sup>1,3,4</sup>

Every day, over a 500,000 bottles of codeine are consumed by young Nigerians across the country, same with the intake of tramadol, rohypnol, marijuana, and other opioids, an alarming trend that has subtly eaten deeply into the Nigerian fabric with undergraduate of all classes having a field day abusing these drugs.<sup>2</sup> But parents, stakeholders and the society continue to live in self-denial as a time bomb waits to explode.<sup>2-4</sup>

Abuse of psychoactive substances portends a great danger for youth developments.<sup>5,6</sup> Structurally speaking, the undergraduate years bridge the critical period of life from being a dependent child to an independent adult, as such, it is the life transition where the bulk of adult behaviors and responsibilities are developed.<sup>3,4,6</sup> University education by its very nature and demands is stressful and the period is the training ground for the acquisition of critical adult competencies and behavior which are necessary to navigate through life.<sup>3,4,6</sup>

The prevalence of health-risky behaviors associated with adolescent illicit drug use has attracted growing international recognition. Especially in southern Africa, unsafe sexual behaviors may have significantly untoward consequences, considering the high HIV prevalence estimates from the region.<sup>7</sup> Unfortunately, adolescents and youth may underrate the harmful effects of unhealthy life styles.<sup>6-8</sup> These unpleasant youthful activities are widespread in Nigeria and all

Over Africa, thus giving a lot of concern to the government and general public.<sup>2,9</sup> Drug abuse remains a major health challenge all over the world.<sup>1</sup> Drug abuse is an excessive and persistent self-administration of a drug without regard to medically or culturally acceptable patterns.<sup>1,2,10</sup> Drug is said to be abused when its use is not pharmacologically necessary especially when it's used in face of legal prohibition or when socially acceptable beverage is used excessively.<sup>11,12</sup> Drug abuse may lead to organized crimes and disruption of normal academic programmes.<sup>12</sup> It has led to increased secret cult activities in Nigerian universities, which has been a source of threat to lives and properties.<sup>12</sup> The impact of drug abuse among Nigerian youths has also been associated with the loss of our societal values and ideals.<sup>12</sup> Drugs alter the normal biological and psychological functioning of the body, especially the central nervous system.<sup>11-13</sup>

Undergraduate constitute a large population sub-group of substance abusers in Nigeria.<sup>2,14</sup> A number of reasons can be adduced for this. Generally, undergraduate period is characterized by series of experimentation and trying outs. Undergraduate may indulge in substance abuse while "trying out". Curiosity, boldness, friends-do-it, sound sleep, sexual-prowess and enhanced spirit performance peer pressure and social influence as significant factors that predisposes an undergraduate to substance use and abuse.<sup>11-14</sup>

In Nigeria, so many undergraduate are confronted with myriads of problems one of which is the new trend in the misuse of cough syrup (codeine).<sup>2,14,15</sup> The non-medical consumption of codeine among undergraduate has become a subject of

public health concern largely due to its potential danger to the society.<sup>14-16</sup>

The data generated from the study could be used by subsequent researchers to explore alternative ways of reducing drastically or putting to a halt, the phenomenon of drug abuse in the Nigerian higher institutions. Practically or empirically, the findings of this study may help to ameliorate the problem of drug abuse among undergraduate students and this can be done through the initiation of new laws that prohibit the consumption of codeine.

## METHODS

A descriptive cross-sectional study was carried out among 380 students of Igbinedion University, Okada, Edo State, Nigeria. The respondents were selected by multi-stage sampling method; used the stratified sampling method, all students were stratified based on the department and year of study. The sampling ratio for each year of study was calculated and a proportional allocation was carried out. Simple random sampling using computer generating numbers was applied to select the number of students from each year of study to make up the required sample size.

Data was collected with the aid of an interviewer administered questionnaires in the university community. The data was assessed for completeness, serialized, coded and entered into Statistical Package for Scientific Solution (SPSS 20) for analysis. The results were presented in frequency tables, charts and prose. Means were compared using t-test and bivariate analysis was done using chi-squared test. A p value less than 0.05 was considered statistically significant. The information obtained was based on self-reporting and therefore subject to information bias.

The ethical clearance to carry out the survey was sought and obtained from the Igbinedion University, Okada, Ethical Committee before administration of the questionnaires. Confidentiality was assured by informing respondents that personal information will not be divulged.

## RESULT

In a survey to assess prevalence and use of codeine as substance of abuse among students of Igbinedion University, Okada, Edo State. Three hundred and eighty respondents were interviewed and the response rate was 100%.

**Table 1: Socio-demographics**

Variables	Frequency (n=380)	Percent (100%)
<b>Sex</b>		
Males	195	51.3
Females	183	48.2
<b>Age Groups</b>		
15-20	203	53.4
21-25	136	35.8
26-30	33	8.7
31-35	7	1.8
36-40	1	0.3
<b>Marital Status</b>		
Single	355	93.4
Married	25	6.6
<b>Family Type</b>		
Monogamous	250	65.8
Polygamous	44	11.6
Single Parent	86	22.6
<b>Religion</b>		
Christian	346	91.1
Muslim	28	7.4
Africa Religion	5	1.3

Majority 195(51.3%) of the respondents were males and over half 203(53.4%) of the respondents were within the age group of 15-20.

Most 355(93.4%) of the respondents were single, above one fourth 86(22.6%) were from single parental families while most 346(91.1%) of the respondents were

Christians (Table 1).

About one quarter 88(23.2%) of the respondents were currently using codeine, 160(42.1%) had used codeine in the past while majority 276(72.6%) of the respondents had knowledge of the addictive effect of

**Table 2: Prevalence of codeine use**

Variables	Frequency (n = 380)	Percent (%)
<b>Knowledge of existence</b>		
Yes	361	95.0
No	19	5.0
<b>Source of Knowledge</b>		
School	261	68.7
Home	100	26.3
<b>History of use</b>		
Yes	160	42.1
No	220	57.9
<b>Reason for use</b>		
Cough	202	53.2
Boldness	117	30.8
Never	61	16.0
<b>Current use</b>		
Yes	88	23.2
No	292	76.8
<b>Knowledge of addictive potential</b>		
Non response	4	1.1
Yes	276	72.6
No	100	26.3

codeine (Table 2).

Over three quarters 296(77.9%) of the respondents were aware of the harm of codeine to their self and most 316(83.2%) of the respondents agreed that codeine can be of harm to others (Table 3).

Twenty three (6.1%) of respondents said peer pressure triggered the use of codeine while 25(6.6%) listed enhancement of performance as the reason for continuous usage among the respondents (Table 4).

About one quarter 88(24.7%) of respondents were currently using codeine and of the respondents using codeine, 36(9.5%) used it daily. Majority 44(11.6%) of the users obtained codeine from friends, 77(20.3%) of the respondents using codeine funded by themselves, 10(2.6%) agreed to be addicted of codeine

**Table 3: Awareness of health hazard associated with codeine use**

Variables	Frequency(n=380)	Percent (%)
<b>Awareness of harm to self</b>		
Non response	12	3.2
Yes	296	77.9
No	72	18.9
<b>Self-perceived effects</b>		
Non response	22	5.8
Yes	139	36.3
No	221	57.4
<b>Possibility of harm to others</b>		
Non response	33	8.7
Yes	316	83.2
No	31	8.1

<b>Table 4: Factors associated with codeine abuse</b>		
<b>Variables</b>	<b>Frequency(n=380)</b>	<b>Percent (%)</b>
<b>Trigger for use</b>		
No answer	227	59.1
Yes	4	1.1
Availability	23	6.1
Peer pressure	17	4.5
Affordability	4	1.1
Loneliness	5	1.3
Burden	1	0.3
Emotional problems	1	0.3
Adventure	98	25.8
Others		
<b>Reason for continuous use</b>		
Non response	242	63.7
Leisure	7	1.8
For confidence	20	5.3
Enhancement of performance	25	6.6
Others	86	22.6

<b>Table 5: pattern of codeine use</b>		
<b>Variables</b>	<b>Frequency(n=380)</b>	<b>Percent (%)</b>
<b>Current use of codeine</b>		
Yes	88	23.2
No	292	76.8
<b>Frequency of use</b>		
No response	292	76.8
Daily	36	9.5
Weekly	12	3.2
Monthly	8	2.1
Occasionally	32	8.4
<b>Source of obtaining codeine</b>		
None Response	292	76.8
Friends	44	11.6
Home	24	6.3
Drug outlet	20	5.3
<b>Funding of codeine purchase</b>		
Non response	292	76.8
Personal	77	20.3
Friends	9	2.4
Others	2	0.5
<b>Acceptance to addiction</b>		
Non response	292	76.8
Yes	10	2.6
No	78	20.5
<b>Trial at quitting</b>		
Non response	168	44.2
Yes	160	42.2
No	52	13.6

Of the respondents using codeine, 36(9.5%) used it daily (Table 5). Majority 44(11.6%) of the users obtained codeine from friends, 77(20.3%) of the respondents using codeine funded by themselves, 10(2.6%) agreed to be

addicted of codeine while 72(11.6%) of the respondents agreed to have quit the use of codeine.

Department of Respondents	Current codeine use		Total (%)
	Yes	No	
Health sciences	2.1	26.8	28.9
Pharmacy	3.2	15.0	18.2
Natural/applied sciences	9.5	5.5	15.0
Law	0.8	12.4	13.2
Engineering	1.6	10.0	11.6
Business management studies	2.6	4.2	6.8
Art/Social science	3.4	2.6	6.1
<b>Total</b>	<b>23.2</b>	<b>76.8</b>	<b>100.0</b>
<b><math>\chi^2 = 96.762</math> <math>p=0.001</math></b>			

Level of Respondents	Current use of codeine			Total (%)
	Non response	Yes	No	
100	3.4	0.5	6.6	10.5
200	3.9	3.7	18.4	26.1
300	4.2	5.0	26.6	35.8
400	0.8	11.1	8.7	20.5
500	1.3	0.8	2.9	5.0
600	0	0.3	1.8	2.1
<b>Total</b>	<b>13.7</b>	<b>21.3</b>	<b>65.0</b>	<b>100.0</b>
<b><math>\chi^2 = 99.093</math> <math>p=0.001</math></b>				

The college of natural and applied sciences had the highest proportion of respondents currently using codeine. This finding was found to be statistically significant (Table 6).



The 400 level students had the highest number of respondents currently using codeine. This was found to be statistically significant (Table 7).

There were more male than female

Gender of Respondents	Current use of codeine			Total (%)
	Non response	Yes	No	
Males	5.5	15.8	30.3	51.6
Females	8.2	5.5	34.7	48.4
<b>Total</b>	<b>13.7</b>	<b>21.3</b>	<b>65.0</b>	<b>100.0</b>
<b><math>\chi^2 = 21.513</math> p=0.001</b>				

respondents currently using codeine than this finding was found to be statistically significant (Table 8).

There was high use codeine of among

Socio-economic status	Current use of codeine			Total (%)
	Non response	Yes	No	
Low	1.5	0.8	2.6	5.0
Medium	9.7	4.5	43.7	57.9
High	2.4	16.1	18.7	37.1
<b>Total</b>	<b>13.7</b>	<b>21.3</b>	<b>65.0</b>	<b>100.0</b>
<b><math>\chi^2 = 71.507</math> p=0.001</b>				

respondents of high socio-economic status than respondents of low socio-economic status and this finding was statistically significant (Table 8).

Socio-economic status	Frequency of codeine use					Total (%)
	Non response	Daily	Weekly	Monthly	Occasional	
Low	4.2	0.3	0.3	0.0	0.3	5.0
Medium	51.1	0.8	1.8	0.8	3.4	57.9
High	19.7	8.4	1.1	1.3	6.6	37.1
<b>Total</b>	<b>75.0</b>	<b>9.5</b>	<b>3.2</b>	<b>2.1</b>	<b>10.3</b>	<b>100.0</b>
$\chi^2 = 70.765$	$p=0.001$					

There was high frequency of codeine use among respondents of high socio-economic status than respondents of low socio-economic status. This finding was found to be statistically significant.

## DISCUSSION

Widespread ignorance of the probable ill effect of certain drugs and legal prohibition against the illegal use of such drug constitute an obstacle to any epidemiological study of drug abuse in Nigeria.<sup>1,2</sup> The consequent reluctance on the part of abusers to cooperate in such studies for fear of persecution or stigmatization appears understandable, though misguided. Nevertheless, it is necessary to have an idea about the nature and size of the problem if meaningful and effective preventive measures are contemplated.

Substance abuse is a multi-etiological universal phenomenon with significant adverse impacts on public health.<sup>1,2,5</sup> Substance abuse among youths has

immediate and longtime implications and may result in psychiatric disorder, hence preventing early substance related problem will reduce the risk of such problems in adulthood when the magnitude of life stress is greater.<sup>1,2,5</sup>

The findings from this research revealed that about one quarter of the respondents were currently using codeine while about half of the respondents had used codeine in the past with mean age 19.0 years. This is similar to the study carried out in three universities in Iran where one fourth were currently using codeine and the mean age of students who abused codeine was 19.5years.<sup>17</sup> Early childhood education on substance abuse may reduce the use of drugs among students which is in line with the National policy on education of the Federal Ministry of Health, Nigeria where early childhood education is highly supported.<sup>2,11,12</sup>

The findings from this research also showed that there were more male students using codeine than female students. This finding was similar to the findings of a study carried out in a private medical institution in the southeastern part of Nigeria where male

abusers were more than the female abusers.<sup>14</sup> This difference may probably be due to male undergraduates wanting to fuel their masculinity hence they rely heavily on drugs more than their female counterparts who have nothing to prove and also ahead of them in physical, psychological and social development. This confirms the report of the National drug law enforcement agency on the signs, stages and effect of drug abuse. The report identifies adolescent and youths as constituting the high risk groups with males getting more involved than the females.<sup>2</sup>

Findings from this study revealed that, living with families and relation and coming from stable homes was protective against use of psychoactive substance abuse. These factors have been reported by other studies as modulatory against the influence of peer pressure.<sup>14,18</sup> With respect to parent's involvement in the welfare of their children, this study revealed a significantly higher level of substance use among respondents whose parents have little or no time for them as against those that spend quality time with their children.<sup>10,14,17,18</sup> This finding was similar a study done in south western Nigeria that reported that level of codeine consumption among undergraduate was directly proportional to their parent's involvement in their children's welfare.<sup>10</sup> The family system is a bed rock of character development.<sup>2</sup>

It was seen that the 400 level students have the highest number of respondents currently using codeine. This is similar to the study carried out in a private medical school in the south east of Nigeria where the prevalence of drug use was highest among those in their fourth and fifth year of undergraduate training.<sup>19</sup> This may be due to the fact that these respondents have more time for themselves and less for studies, hence more time for social vices. Finding from the study also revealed that most respondents who use

codeine obtained it from friends and this was similar to a study carried out in Usmanu Danfodioyo University Sokoto, Nigeria and Kenya where most students got their drugs from friends. Other sources of codeine include mammy market, underground agents, school minimarket, hostel minimarket, chemist, from villagers, from university security and various places in the town.<sup>20,21</sup> These findings may be linked to effect of peer pressure and lack of parental upbringing. Finding from this research revealed that most of the respondents who attested to codeine use listed peer pressure as their reason for indulgence. Concerning the association between peer pressure and substance abuse it was showed that peer pressure was also a significant predictor. This is consistent with studies done in Nigeria, Kenya and Nepal where peer influence was a significant predictor of substance abuse among students,<sup>20-22</sup> and a national survey among drug users in Nepal, where 83.0% of drug users reported drug use as due to peer pressure.<sup>23</sup>

This finding suggests that peer support program could be implemented to reduce substance use and promote healthy life style. In itself, however, this may not be a challenging task because the students themselves displayed high awareness and optimal attitudes towards substance abuse.

The findings on socioeconomic status and abuse of codeine showed that just over a third of the respondents who abuse codeine were of high socioeconomic status and high frequency of codeine use was also higher among these respondents. The result of this study appears informative. There is need to intensify research on epidemiology of codeine abuse in various institutions particularly at this time of fluctuating socioeconomic fortunes. Increase in codeine abuse has been known to increase abnormal

behavior of students like stealing, fighting, students using their fees to secure more drugs and to crown it all, poor academic performance in school.<sup>1,2,23</sup>

On frequency of codeine abuse among respondent, the findings reveal that majority of the respondent abused codeine occasionally, every day, weekly and only a few abuse codeine monthly. This is in line with the study carried out among students of University of Uyo, South-South, Nigeria in which frequency of substance abuse was established.<sup>15</sup> These findings are not pleasant as it portends danger for the school system and the society at large.

Finding from this research also revealed that the respondents who engage in codeine abuse believed it causes family, financial, psychological, educational, medical and clinical problems. This agreed with the studies carried out in Bayero University in Kano, Bayelsa state and Osun State, Nigeria where substance abuse was attributed to causing damages to the abusers and society at large.<sup>16,24,25</sup> The sociomedical consequences of abuse of this substance and the fact that codeine is a very important agent of social interaction make their inclusion in such a study necessary.

In conclusion, about one quarter of the respondents were currently using codeine, about half had used codeine in the past while majority of the respondents were aware of the additive potential of codeine, the harmful effect of codeine to self and the reasons for continuous usage varies from enhancement of performance, self-confidence and leisure. Codeine abuse is associated with significant negative effects, consequences on physical, social, and psychological wellness. Therefore, health education program on codeine abuse and its associated problems should be directed more at the undergraduate and the

accessibility to codeine drinks on campus should be regulated by appropriate authority.

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