

Original Article

PREVALENCE AND DETERMINANTS OF TRAMADOL USE AMONG SENIOR SECONDARY SCHOOL STUDENTS IN YENAGOA LGA BAYELSA STATE, NIGERIA

NJOKU FC¹, UVOH SM^{2*}, ONOKPITE E³, TONKIRI A⁴

¹School of Public health University of port Harcourt River State, Nigeria.

²Department of Human Physiology, Faculty of Basic Medical Sciences College of Health Sciences University of port Harcourt, Rivers State, Nigeria.

³Department of Anaesthesia and Intensive Care, Faculty of Clinical Medicine, College of Health Sciences, Delta State University, Abraka, Delta State Nigeria.

⁴Department of Biochemistry, Faculty of Basic Medical Sciences, University of Port Harcourt, River State, Nigeria

*Corresponding author: Dr. Solomon M. Uvoh; +2348037636801; solomonu31@gmail.com

Abstract

Background: Tramadol abuse by adolescence has become a disturbing health related phenomenon in Nigeria, hence this study investigated the prevalence and determinants of tramadol abuse among senior secondary school students in Yenagoa LGA.

Methods: 400 Students constituted the population size and Questionnaire were used as instruments for data collection. The null hypotheses formulated for the study were tested by the means of chi-square.

Results: The results shows that tramadol is randomly sold in Yenagoa with mean scores of 3.80 and 3.94, students have observe colleague in school use tramadol with a mean scores of 3.50 and 3.61 but disagreed that the chemist store within their area sell tramadol to them with a mean scores of 2.60 and 2.45 as the extent to which peer pressure influence the use of drug by students. More observation indicates respondents agreed to the fact that tramadol can make a student think smarter with mean scores of 3.05 and 3.45. Tramadol can be used to eliminate depression with a mean scores of 2.89 and 3.00, tramadol have some negative effects such as violence and depression on the lives of an individual with a mean scores of 3.33 and 2.44, that tramadol can be used to boost energy with a mean scores of 3.40 and 2.00, and disagreed that tramadol can make an individual stronger with a mean scores of 2.40 and 2.00 as the extent to which they are knowledgeable to the use of tramadol

Conclusion: The prevalence of 37.5% abuse of tramadol amongst students in this study appears to be high based on its effects on the youths and society in the study area. Determinant factors identified include frustration, depression, and the drug ability to make them smarter. Urgent steps, involving the government and health professionals are required to curtail this societal menace to preserve future generation.

Keywords: Abuse, Prevalence, Students, Tramadol, Marijuana.

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INTRODUCTION

Tramadol is synthetic 4-phenyl-piperidine drug similar to codeine, commonly used as pain relievers. Tramadol binds to brain receptors that transmit sensation of pain throughout the body. There are various types of tramadol. While some starts working immediately, others are delayed, slowly releasing its active moiety over several

hours, to provide a constant and even pain control. The substance is taken for both therapeutic purpose but is abused by most subjects. [1, 2, 3,4] Drugs abuse spread rapidly around the world. [5, 6] In Nigeria, the most common types of abused drugs according to NAFDAC (2000) as cited by Humpus, [7] are categorized as follows: - Stimulants: These are substances that directly act and stimulate the central nervous system. Users at the initial stage experience pleasant effects such as energy increase. The major source of these comes from caffeine substance. [8], [9] Drugs have been in existence for long ago with its abuse having long history in societies. [10]

Drugs are substance when taking bring about biological changes as they binds to their receptor cell in the body. [11; 12, 13] It alters perceptions, mood and general body physiology.[14]

Hypotheses of the Study

The hypotheses of study, which was tested under 0.05 alpha levels, are;

1. There is no relationship between the demographic profile of SSS students in Yenagoa LGA and prevalence of tramadol abuse.
2. There is no relationship between peer pressure amongst SSS students in Yenagoa LGA and prevalence of tramadol abuse.
3. There is no relationship between availability of tramadol to SSS students in Yenagoa LGA and the prevalence of its abuse
4. There is no relationship between prevalence of tramadol abuse amongst students and the knowledge of its effects

MATERIALS AND METHODS

Research Design

A descriptive cross-sectional survey was adopted for this study.

Study population

Reports from the Department of Planning, research and statistics of Bayelsa State Post Primary School board, revealed that Yenagoa LGA experienced about 25,914 Senior Secondary School Student Enrolments from

previous year. The same report also stated that Yenagoa has 34 public senior secondary schools.

Sample size/Techniques

Taro Yamane method for sample size was used to determine the minimum sample in relation to population under study. The formula is;

$$n = N/1+N(e)^2$$

n = the required sample size; N= whole population of the study; e= the sampling error

In this study; N= 12. 97; e= 0.05

Sample size = 388; Approximately 410 to create room for loses.

Multi-stage sampling procedure was used to select respondents from each school that took part in the study. Simple random sampling, stratified sampling and systematic sampling procedures were applied in this process. Yenagoa Local Government Area has fifteen wards and firstly eight wards with largest economic activities were chosen randomly. Secondly, from these wards, forty secondary schools were systematically selected. Then ten students were selected from each secondary school. This resulted in four hundred sample size population.

Data Collection

Four hundred questionnaires were administered to respondents. Ten schools in Yenagoa with the highest populations of secondary school students was identified and visited.

The principals of the schools were approached with the introduction letter from the Ignatius Ajuru University of Education and they were informed about the research, its purpose and benefits. The researchers obtained the class registers and the questionnaires were distributed to the students with the assistance of three trained assistants, after addressing them and soliciting their honest feedback as it's not aimed at punishing them. 2.50 was used as the criterion mean.

Forty (40) questioners distributed amongst each of them, in the following orders; SSS 1 (10 copies), SSS 2 (10

copies) and SSS 3 (20 copies). The SSS 3 was given the largest share as they were observed to be much older students and are more prone to self-decision and exposure to social vices. The questionnaires were retrieved immediately.

Informed consent: This was obtained through the principals before they freely participated in the exercise.

Method of Data Analysis: The retrieved questionnaires were coded and entered into computer for analysis and SPSS 24.0 version was used to analyse the data's obtained for this study. The hypothesis test was done using chi-square.

RESULTS

The results are disintegrated into tables and discussion of findings compared with other previous work. The total number of questionnaires retrieved fit for analysis was 400 out of 410 distributed and this make up 97.6% questionnaires return rate as 10 copies were discarded due to improper filling. The above table shows that majority of the respondents are within the age of 15-19 years (56%). Majority of the parents are civil servants comprising 38.75% of the entire parent's occupation while respondents having both parents, with a score of (54.25%) and guidance having the least score of (21.25%) (Table 1).

Table 1: Demographic variables amongst the study population

<i>Variable</i>	<i>Category</i>	<i>N</i>	<i>%</i>
Age	12-14 years	176	44
	15-19 years	224	56
Gender	Female	185	46.25
	Male	215	53.75
Parents occupation	Civil Servant	155	38.75
	Trader	100	25
	Farmer	120	30
	Unemployed	25	6.25
Religion	Christianity	395	98.75
	Islam	5	1.25
Parents education	No education	50	12.5
	Primary education	67	16.75
	Secondary education	88	22
	Tertiary education	195	48.75
Family size	1- 3 yrs	118	29.5
	4-7 yrs	202	50.5
	>7yrs	80	20
Parenthood Status	Single Parenthood	98	24.5
	Both Parent Present	217	54.25
	Guardian	85	21.25
Place of residence	Urban	279	69.75
	Rural	121	30.25

The percentage prevalence of tramadol abuse was 37.5 as against its non-abuse of 62.5 among the study population. There is no significance between the demographic profile

of the students and prevalence of tramadol abuse ($p>0.05$), therefore the null hypothesis is accepted at 0.05 (Table 2).

Table 2: Percentage prevalence frequency of tramadol use amongst the students

<i>Item</i>	<i>Tramadol use</i>	<i>Frequency</i>	<i>%</i>	<i>p-value</i>
	Yes	150	37.5	0.88
Are you currently using tramadol?	No	250	62.5	
	Total	400	100%	

Criterion mean = 2.50

The respondents agreed to have used tramadol with mean scores of 2.0 and 3.1; they have had disagreements with relatives due to tramadol use with mean scores of 3.40 and 2.50. There is a relationship between peer pressure amongst the students and prevalence of tramadol abuse (314=6.034, $p < 0.05$), therefore the null hypothesis is rejected at 0.05 level of significance (Table 3).

Table 3: Mean responses on the effects of tramadol abuse amongst study population

<i>Items</i>	<i>Male</i>		<i>Female</i>		<i>Remark</i>	<i>P value</i>
Have you heard of the drug Tramadol before?	70	2.7	80	2.7	Yes	0.00
Have you used tramadol before?	70	2.0	80	3.1	Yes	
Do you have friends who use tramadol?	70	2.5	80	2.5	Yes	
Have you lost friends due to tramadol?	70	2.6	80	2.6	Yes	
Do you ever feel bad about your tramadol use?	70	2.0	80	3.0	Yes	
Are you always able to stop drugs use when you need it?	70	2.9	80	2.0	No	
Have you ever missed school because of tramadol abuse?	70	3.0	80	2.0	Yes	
Are your parents aware of your tramadol abuse?	70	3.0	80	2.0	Yes	
Are your parents aware of your tramadol abuse?	70	3.0	80	2.0	Yes	
Have you had disagreements with relatives due to tramadol use?	70	3.4	80	2.5	Yes	
Have you been arrested for possession of any tramadol?	70	2.9	80	2.0	No	
Have you ever been invited through the Social media, e.g. facebook and whatsapp to the use of tramadol?	70	2.8	80	3.0	Yes	
Are there persons in your environment that abuse tramadol?	70	2.5	80	2.2	No	
Do you have adults around you that abuse tramadol?	70	2.1	80	2.1	No	
Grand mean XGM		2.67		2.41		

Criterion mean = 2.50

There is no relationship between the prevalence of tramadol abuse amongst students and the knowledge of its effects. (68=0.904, $p>0.05$), therefore the null hypothesis is accepted at 0.05 level of significance (Table 4).

Table 4: Mean responses on the knowledge of tramadol abuse amongst the students

Items	Male		Female		Remark	
	n1	\bar{x}	n2	\bar{x}		
Tramadol can be used to boost energy?	70	3.40	80	2.00	Agreed	
Tramadol can be used to eliminate depression?	70	2.89	80	3.00	Agreed	
Tramadol make an individual stronger?	70	2.40	80	2.00	Disagreed	
Tramadol have some negative effects such as violence and depression on the lives of an individual?	70	3.33	80	2.44	Agreed	
Tramadol can make a student think smarter?	70	3.05	160	3.45	Agreed	
Tramadol can be taken occasionally without being addicted to it?	70	2.89	160	3.10	Agreed	
	3.0	2.67				
N	Df	χ^2 cal	Sig. (2-tailed)	Level of Sig.	χ^2 crit.	Decision
68	332	0.853	0.904	0.05	9.49	H0 4 Accepted

Criterion mean = 2.50

The results in Table 5 indicated that respondents agreed to the fact that health issues such as depression could bring about the abuse of tramadol with a mean scores of 3.80 and 3.94, while addiction to other related drugs can lead to the abuse of tramadol with a mean score of 3.50 and 3.61 (Table 5).

Table 5: Mean responses on the reasons for tramadol abuse amongst the students

Items	Male		Female		Remark
	n	\bar{x}	n	\bar{x}	
Depression could bring about the abuse of tramadol	70	3.80	80	3.94	Agreed
Stress and frustration could bring about the abuse of tramadol	70	3.70	80	2.35	Agreed
Tramadol can be taken to boost energy	70	2.60	80	2.30	Disagreed
Curiosity and desire for adventure could bring about the abuse of tramadol	70	3.93	80	3.44	Agreed
Addiction to other related drugs, could bring about the abuse of tramadol	70	3.50	80	3.61	Agreed
Grand mean \bar{X}_{GM}		3.51		3.13	

Criterion mean = 2.50

Table 6 below presents mean scores of 2.73 and 2.88, indicating that the desire to impress peers and gain acceptance, as well as low self-esteem, can influence the abuse of tramadol among secondary school students in Yenagoa. These mean scores reflect the impact of

knowledge and peer pressure on tramadol abuse, as shown in Table 6. There is a relationship between peer pressure amongst the students and prevalence of tramadol abuse ($314=6.034, p<0.05$), therefore the null hypothesis is rejected at 0.05 significance (Table 7).

Table 6: Mean responses on the knowledge and peer pressure influence on the use of tramadol abuse amongst students

Items	Male		Female		Remark	
	n1	\bar{x}	N2	\bar{x}		
The need to impress peers and be accepted could influence the abuse of tramadol	70	2.73	80	2.88		Agreed
Being around friends that are addicted to the use of tramadol could influence its use	70	2.93	80	2.61		Agreed
Belonging to a particular cult or group can influence the abuse of tramadol	70	2.53	80	2.88		Agreed
Do you have friends who take Tramadol	70	2.57	80	2.50		Agreed
Imitation could bring about the abuse of tramadol	70	2.70	80	2.61		Agreed
Low self-esteem could bring about the abuse of Tramadol.	70	2.73	80	2.88		Agreed
Grand mean XGM		2.69		2.72		

Criterion mean = 2.50

Table 7 revealed that there is a relationship between peer pressure amongst the students and tramadol abuse ($314=6.034, p<0.05$), therefore the null hypothesis is rejected at 0.05 level of significance.

Table 7: Summary of χ^2 analysis on peer pressure amongst Senior Secondary School students and prevalence of tramadol abuse

Variable	N	Df	χ^2_{cal}	Sig. (2-tailed)	Level of Sig.	$\chi^2_{crit.}$	Decision
Peer pressure	314	86	6.033	0.004	0.05	1.49	H02 Rejected

There is a relationship between availability of tramadol to the students and the prevalence of its abuse ($p<0.05$),

therefore the null hypothesis is rejected at 0.05 significance (Table 8).

Table 8: Mean responses on the availability of tramadol relationship to its abuse amongst students

Items	Male		Female		Remark	p-value
	N	\bar{x}	N	\bar{x}		
Tramadol is cheaply sold around the area	70	3.80	80	3.94	Agreed	0.00
Can tramadol be easily being found on your street?	70	3.70	80	2.35	Agreed	
Does the chemist store within your area (environment) sell tramadol to you or others?	70	2.60	80	2.30	Disagreed	
Is tramadol used in your social gatherings like Parties and picnics?	70	3.93	80	3.44	Agreed	
Have you seen anyone in your school use tramadol?	70	3.50	80	3.61	Agreed	
Grand mean XGM		3.51		3.13		

Criterion mean = 2.50

DISCUSSION

About 18 drugs of different pharmacological effect has been identified as among substance abused by students in Bayelsa state with tramadol inclusive in 2020. [15] This study is in agreement with previous study that tramadol abuse has contributed to increase morbidity among adults in the Niger delta.[16] Tramadol use is approved medically; but in recent time this had not been the case. Secondary school students are now known to use tramadol for pleasure with negative effect on their academic performance. Students are now found using tramadol for various reasons, but mainly for the feel of pleasure it provides.[17]

The results also indicated that respondents agreed to the fact that they help teachers perform optimally with mean scores of 2.68 and 3.01, the need to impress peers and be accepted could influence the abuse of tramadol with a mean scores of 2.73 and 2.88 tramadol is randomly sold around the area with a mean scores of 3.80 and 3.94, that tramadol is used in social gatherings like Parties and picnics with a mean scores of 3.93 and 3.44, I have seen someone in my school use tramadol with a mean scores of 3.50 and 3.61, that tramadol can easily be found in my street with a mean scores of 3.70 and 2.35 and disagreed that the chemist store within my area sell tramadol to me or others with a mean scores of 2.60 and 2.45 as the ways

availability of tramadol relate to its use by Senior Secondary School students in Yenagoa. The use of illicit drugs frequently starts among schoolchildren during adolescence. [16,17]

Students' knowledge of the effect of tramadol abuse was that the extent to which they are knowledgeable with regards to the use of tramadol are the fact that tramadol can make a student think smarter, can be taken occasionally without being addicted to it, can be used to eliminate depression, have some negative effects such as violence and depression on the lives of an individual, can be used to boost energy and disagreed that tramadol can make an individual stronger.[18,19,20]

Determinants for tramadol use by Senior Secondary School students in Yenagoa are that health issues could bring about the abuse of tramadol, thus previous studies have also shown that 79.9% and 65.3% abuse tramadol use in an attempt to reduce depression and anxiety.[21] This is not in agreement with our study of 37.5% abuse. In support of this, Yusuf.[22] posited that peer group is found to have a strong influence on use of tramadol than parental influence. In line with this also.[23] and [24] opined that most youth whose work required more energy abuse tramadol to boost their energy and earn more.

Regarding availability of Tramadol relationship to its Abuse, the respondents agreed to the fact that the ways availability of tramadol relate to its use by Senior Secondary School students in Yenagoa are that they help teachers perform optimally, the need to impress peers and be accepted could influence the abuse of tramadol, tramadol is randomly sold around the area, that tramadol is used in social gatherings like Parties and picnics, I have seen someone in my school use tramadol, that tramadol can easily be found in my street and disagreed to the fact that the chemist store within my area sell tramadol to me or others. Easy access to the drug on campus is factors that also promote its use among students. Tramadol is easily accessed in our environments these days because of the chemist and pharmacy around. Abdu-Raheem. [25]

Peer Pressure influence: The respondents agreed to the fact that the extent to which peer pressure influence the use of tramadol by Senior Secondary School students in Yenagoa are that tramadol is cheaply sold around the area, that it is used in social gatherings like Parties and picnics, I have seen someone in my school use tramadol, that it can easily be found in my street, and disagreed that the chemist store within my area sell tramadol to me or others. In support of this, Al-Haqwi. [26, 27, 28] described peer pressure as the number one thing because when new students come to school for the first time, the peer pressure is so much that they feel they need to belong to something and that leads them to it. In line with this Yusuf [21], [23,26] posited that some students joins particular groups where most people use drugs so they feel it is a normal thing and if they don't use those drugs with them, it is as if you don't belong and as such they will be forced to use it.

CONCLUSION

This study observes a decline in tramadol abuse compared to previous studies of higher prevalence. However, the 37.5% of abuse observed among students in this study is not encouraging. Hence, proactive measures from the ministry of health in collaboration with the state government should be taken to curb this menace of tramadol abuse.

Conflict of Interest: None declared.

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