

Psychoactive substance use among commercial tricycle riders in the Kano Metropolis, Northwest Nigeria: prevalence, pattern, and correlates.

¹Shuaib A., ¹Baba F.A., ²Kareem Y.A., ³Jalo R.I., ⁴Gudaji M., ⁵Abiola T.

¹Department of Clinical Services, Federal Neuropsychiatric Hospital, Barnawa, Kaduna State; ²Department of Clinical Services, Neuropsychiatric Hospital, Aro, Abeokuta, Ogun State; ³Community Medicine Department, Bayero University Kano/Aminu Kano Teaching Hospital; ⁴Psychiatric Department, Bayero University Kano/Aminu Kano Teaching Hospital; ⁵Department of Behavioural Sciences, University of Ilorin Teaching Hospital, Ilorin.

Corresponding author:

Shuaib A. Clinical Services Department, Federal Neuropsychiatric Hospital, Barnawa, Kaduna state,

Email: abduhakeems94@gmail.com; 08064428226, ORCID No.: 0009-0005-7104-7214

Abstract

Background: The use of psychoactive substances among commercial road users is not only increasing but strangely predisposing them and their passengers to health hazards. There is a paucity of data on the prevalence and risk factors for psychoactive substance use among commercial tricycle riders in the Kano metropolis, hence the aim of this study.

Methodology: A cross-sectional study design conducted among 227 commercial tricycle riders in the Kano metropolis. The data was collected using an interviewer-administered questionnaire designed by the authors and analysed using SPSS Version 26.0.

Results: Approximately 15% of the riders use psychoactive substances. About 66% of them were influenced by friends and 25% by family members. Among them, 33% started taking substances on/before 16 years, while 62% started on/before 18 years. The main reasons for the persistent use of psychoactive substances are relaxation (31%), relieving anxiety (25%), and enhancing work productivity (21%). The commonly abused substances among the respondents are tobacco (59%) Caffeine (15%), and Alcohol (12%). With a p-value set at 0.05, a significant relationship between religion and lifetime prevalence of psychoactive substance use was found; but not for tribe, marital status, level of education and age.

Conclusion: The study found that most users were introduced by friends and continued to use these substances to relax, relieve anxiety, and boost productivity. Religion significantly influences the lifetime prevalence of substance abuse. We recommend the need to increase awareness among decision-makers of the need for substance abuse control.

Keywords: 'Commercial tricyclists', 'Prevalence', 'Psychoactive substances', 'Risk factors.'

Introduction

The use of psychoactive substances among commercial road users is not only increasing but strangely predisposing them, their passengers and society to health hazards.¹ It is estimated that about 230 million people (5per cent) out of the world's adult population have used an illicit drug at least once in the last 12 months of the survey.² An estimated 4,000 plants yield psychoactive substances, and about 60 of these substances have been in constant use, somewhere in the world, throughout history, with cannabis, opium, cocaine,

tea, coffee, tobacco and alcohol at the forefront.³ In recent years commercial tricyclists ("Keke Napep or Keke Marwa riders" as popularly called in the Southern part of Nigeria or "mai adaida ita sahu" as popularly called in the Northern part of Nigeria) have come to bridge the huge public transport gap in most Nigerian cities. The emergence of commercial tricycles was due to the ban on motorcycles in the state, inadequacies of public transportation systems, poor road network, increasing fuel scarcity, and the ability of these tricyclists to meander through traffic jams, which has encouraged the patronage of this mode of

transportation, thus leading to an upsurge in the use

of tricycles for commercial purposes.¹

A study was conducted in the United States of America to determine the prevalence of drug use in commercial tractor-trailer drivers, where a total of 822 urine specimens were obtained, and 21 per cent of the urine specimens tested positive for abusive drugs.⁴ A study of the epidemiology of alcohol-impaired driving conducted in Ghana reported that 21 per cent of the respondents had a detectable blood alcohol concentration, with 7.3 per cent above the legal limit of 80 mg/dl. The authors reported that 64 per cent of impaired drivers were commercial drivers. However, the study was limited to alcohol use.⁵ About 67.2 per cent of commercial vehicle drivers admit to drinking alcohol during the working day, in a study conducted in Lagos, Nigeria.⁶ In a study in Ibadan, Southwestern Nigeria to explore the relationship between cannabis and road crashes, the result showed that the overall lifetime prevalence of cannabis was 55.7 per cent, and prevalence rates of current abuse 44.5 per cent.⁷ In a study in Sagamu, southwestern Nigeria, of psychoactive substance use among commercial drivers and their assistants, it was reported that the prevalence of salicylates

was 80.3 per cent, alcohol (72.9 per cent), tobacco (50.5 per cent), cannabis (31 per cent) and sedatives (23.5 per cent).⁸ In another study of psychoactive substance use among long-distance drivers in Ilorin, Nigeria, it was reported the prevalence of stimulants was 56.1 per cent, tobacco (53.6 per cent), alcohol (37.7 per cent), and anabolic steroids (34.8 per cent).⁹ Another study in Zaria, Northwestern Nigeria, among commercial motorcycle operators in 2008 reported a prevalence of cannabis use as 25.8 per cent, inhalants (24.5 per cent), caffeine (15.8 per cent) and coffee (4.5 per cent).¹⁰

Substance abuse is on the increase among students, adolescent youths and adults (who are the majority population riding tricycles in this part of the country) who take these drugs for various reasons. The National Drug Law Enforcement Agency (NDLEA) in the year 2009 reported on the National Drug Abuse Index putting Kano State among the states with a high prevalence of substance abuse.¹¹ Cannabis, tobacco, caffeine, and other new psychoactive substances (NPA) have been reported to be commonly used amongst these groups of individuals.^{1, 10}. Several factors were reported to promote the use of these substances among pear

ORIGINAL ARTICLE Shuaib *et al.*, Psychoactive Substance Use Among Tricyclist in Kano and family influence, relaxation, sexual performance, stress management and their availability.^{1, 12-15} In a study conducted in Kano metropolis, Kano state, Northwestern Nigeria, to explore the determinants of substance abuse among commercial bus drivers; findings from the study showed that eight out of every ten (81.1 per cent) of the respondents have ever abused a substance.¹² It was reported that a lifetime prevalence of 19.3 per cent, 12 months of use of 16.0 per cent and current use of 16.0 per cent were reported in a study in Kano State to determine the prevalence of psychoactive substance use among registered commercial motorcycle operators.¹⁶ Another study was carried out in the Kano metropolis to find out the most common substance abused, the reasons for the abuse, the socio-economic characteristics of the abusers, the patterns of substance abuse and the impact of substance abuse on the tricycle riders and Kano community showed that majority of the tricycle riders (35.6 per cent) who abuse substances fall within the age range of 24-29 years, most of the abusers are of single marital state (45.6 per cent).¹

The most commonly used psychoactive substances among commercial bus drivers in Kano metropolis include solution (93.3 per cent), coffee (85.2 per cent), Tramadol (80.6 per cent), local stimulant tea (Gadagi) (78.1 per cent), cola-nut (66.3 per cent) and tobacco (65 per cent) in a study conducted by Yunusa *et al.*¹² While among registered commercial motorcycles operators in Kano state, tobacco was found to have the highest prevalence for lifetime use (19.3 per cent), 12-month use (16.0 per cent) and current use of 16 per cent. This is followed by stimulant use, with lifetime use (11.9 per cent), 12-month use (11.7 per cent) and current use of 10.5 per cent.¹⁶ Therefore, the use of psychoactive substances among these individuals poses dangers to themselves, their passengers and other road users, with reports that some of them operate under the influence of drugs and other substances.¹⁰ There is however paucity of empirical data investigating the pattern and correlates of this problem, especially among commercial tricycle riders in this part of the country. Hence, this study aims to determine the prevalence, pattern, and correlates of psychoactive substance use among commercial tricycle riders in the Kano metropolis, Northwest Nigeria.

Methodology

Study Area: The study was conducted in Kano Metropolis, Kano State, located in Northwestern

centre in Nigeria, has a diverse population of approximately 9.4 million as per the 2016 census.

The area is characterized by semi-arid vegetation, with its climate alternating between dry and wet seasons. The metropolis includes key Local Government Areas such as Kumbotso, Ungogo, Fagge, and Dala, making it an ideal location to capture the experiences of commercial tricycle riders.

Study Design: A cross-sectional study design was used to explore the Prevalence, Pattern, and Correlates of Psychoactive substance use among commercial tricycle riders in the Kano metropolis, Northwest Nigeria.

Study Population: The target population consisted of commercial tricycle riders actively operating in the Kano Metropolis. This demographic was chosen due to their significant role in local transportation and their exposure to unique occupational stressors.

Sample Size Determination: The total sample size, after correcting for possible attrition, was calculated to be 227 participants.

Sampling Technique: A multistage sampling technique was employed:

1. Stage I: Two Local Government Areas (LGAs) were randomly selected—Nassarawa and Kumbotso.
2. Stage II: One political ward was selected from each chosen LGA using simple random sampling by balloting.
3. Stage III: The major tricycle park was selected from each of the wards and then a consecutive sampling technique was used to select 114 participants from each of the parks.

Preparation for Data Collection: A letter of introduction was obtained from the Department of Community Medicine Bayero University Kano, and approved by the Chairman of the Kano State Tricycle Riders' Association. Following this, informed consent was obtained from all participants. Research assistants were trained to assist with the data collection.

Data Collection: Data was gathered using a pre-tested, structured questionnaire comprising five sections:

- a. **Section 1:** Sociodemographic characteristics such as age, ethnicity, religion, occupation, level of education, marital status and monthly income.

b. **Section 2:** Pattern of psychoactive substance

abuse.

c. **Section 3:** Types of psychoactive substances

commonly abused.

d. **Section 4:** Risk factors for psychoactive

substance abuse.

e. **Section 5:** Negative impacts of psychoactive

substance abuse.

Interviews were conducted in person, ensuring clarity and accuracy in data collection.

Data Analysis: The collected data was analyzed using SPSS (version 20.0). Descriptive statistics (e.g., frequencies, percentages, means) were generated for both categorical and continuous variables. Chi-square tests were employed to identify significant associations between variables, with a $p\text{-value} \leq 0.05$ considered statistically significant. Results were visualized through tables and charts created with Microsoft Excel and Word.

Results

Up to 15 per cent of the respondents have abused substances in their life, while the remaining 85 per cent have never used substance abuse in their life as shown in the figure below (figure 1)

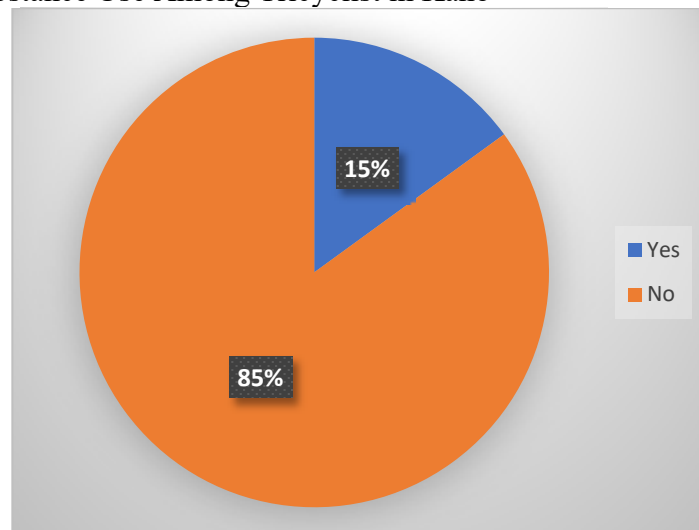


Figure 1: Lifetime prevalence of substance abuse by the respondents

Sixty-six per cent of psychoactive substance abusers were influenced by their friends, while 25 per cent were influenced by their family (Figure 2), Among those who have ever used psychoactive substance in life, 33 per cent commenced at the age of 16 years and, (21% and 12% before 15 and 16 years respectively) and 62% on/ or before 18 years (33 per cent, 3 per cent at 17 years, 26 per cent at 16, 17 and 18 years respectively), (Figure 3).

The persistent use of psychoactive substances is attributed to relaxation in 31 per cent of cases, anxiety relief in approximately 25 per cent, and enhanced work productivity in about 21 per cent, 3 per cent of users cited the easy availability of these substances as a reason for continued use, while around 2 per cent used them to enhance sexual performance, another 2 per cent to improve

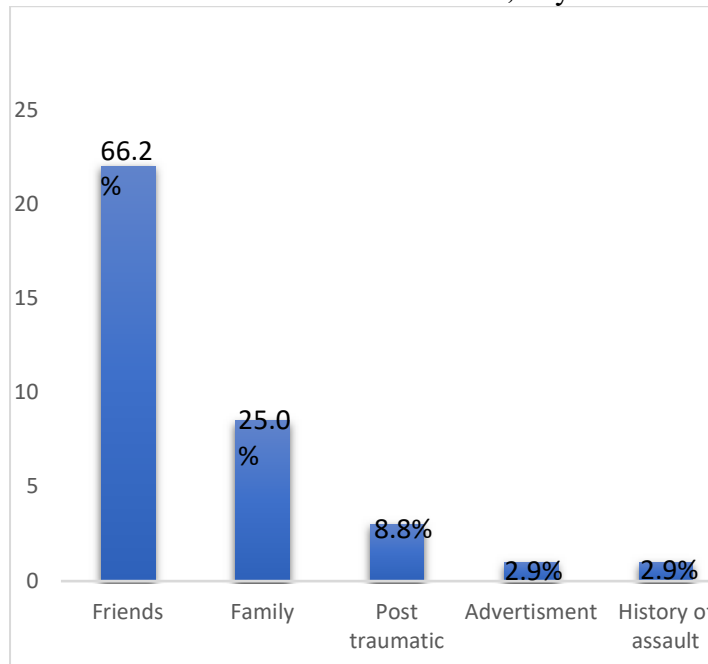


Figure 2: Risk factors for psychoactive substance use

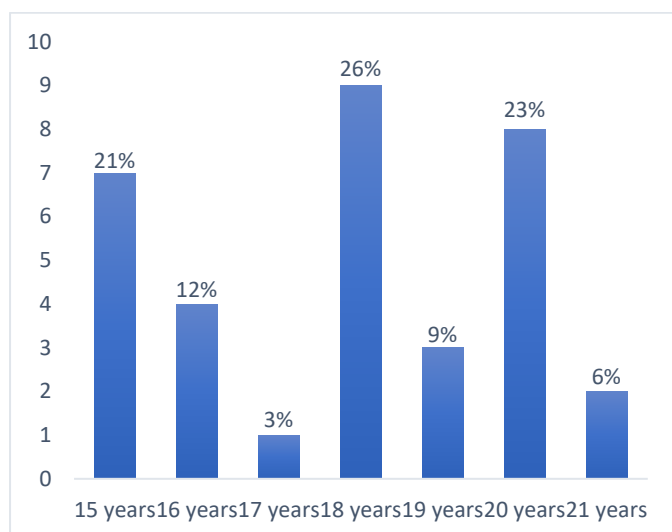


Figure 3: Age of Commencement among those with Positive Lifetime Use

sleep quality, and the remaining 18 per cent had no specific reason for their use.

The commonly abused substances among the respondents are Tobacco about 59 per cent, Caffeine about 15 per cent, Alcohol about 12 per

cent, Cannabis about 6 per cent, Codeine about 6 per cent and Inhalants about 3 per cent (Figure 4).

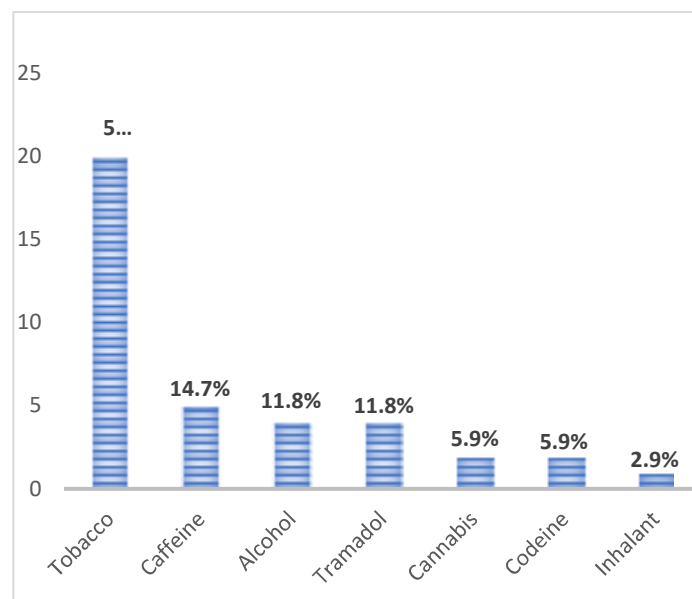


Figure 4: Commonly Abused Substances

Despite the majority of the participants knowing that medical complications are one of the harmful effects of psychoactive substance use (68.4%), followed by road traffic accidents, the majority of them still use these substances in their tricycles (29.4%). As shown in Figures 5 and 6 below, respectively.

With a p-value set at 0.05, a significant association was found between religion and the lifetime prevalence of psychoactive substance use, while no significant relationship was observed for tribe, marital status, level of education, or age shown in Table 1 below.

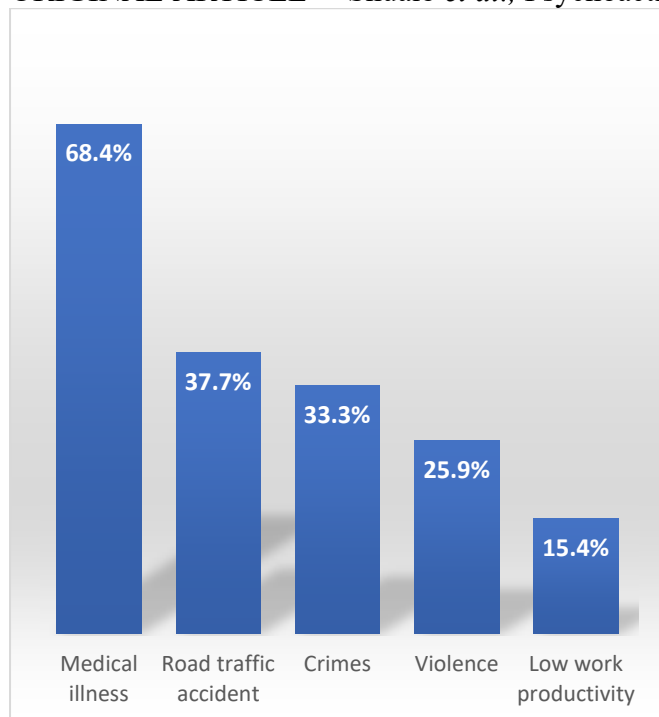


Figure 5: Knowledge of the Harmful Effects of Psychoactive Substance Use

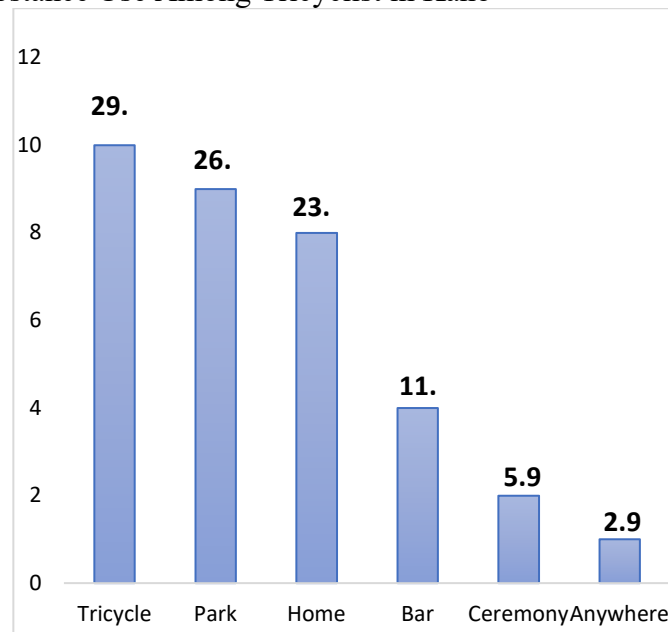


Figure 6: Common Places of Use of Psychoactive Substances

Table 1: Relationship Between Religion and Lifetime Prevalence of Substance Abuse

Religion	Lifetime prevalence of substance abuse			Chi-square	p-value
	Yes	No	Total		
Islam	30	191	221	10.150	<0.01*
Christianity	4	3	7		
Total	34 (100%)	194 (100%)	228 (100%)		

*p-value < 0.05 indicates significance.

Discussion

This study was conducted to assess the prevalence and risk factors for substance abuse among commercial tricycle riders in the Kano metropolis. Up to 15% of the respondents have engaged in substance abuse at some point in their lives, while the remaining 85% have never done so, resulting in a lifetime prevalence of 15%. This finding aligns with some of the studies referenced in this

research.^{1,16} Over sixty-six (66) per cent of these abusers were influenced by friends, 25 per cent of them by their family members, 9 per cent got influenced after a traumatic event, 3 per cent got influenced via advertisement, and 3 per cent were influenced following an assault. This shows the importance of peer groups and friends in the influence of the use of psychoactive substances among these youths. Among respondents who have

ever used psychoactive substances, 21% initiated use at age 15 years, 12% at age 16, 3% at age 17, 26% at age 18, 9% at 19, 23% at age 20, and 6% at age 21. None of the studies referenced in this research provide data on the age of initiation of psychoactive substance use.

The continued use of psychoactive substances is primarily driven by the need for relaxation, followed by alleviation of anxiety and enhancement of work productivity. Other reasons include the easy availability of these substances, enhancement of sexual performance, and improvement of sleep, while some individuals reported no specific reason for their persistent use. Similar findings were observed in some of the referenced studies..^{1,12,13}

The majority of the respondents (more than two-thirds) believe that the use of psychoactive substances predisposes them to conditions such as mental disorders, lung cancer, hepatitis and HIV/AIDs, many of them believe that psychoactive substance abuse by commercial tricycle riders is one of the causes of road traffic accident; some also believe that psychoactive substance abusers are liable to crimes such as theft, robbery, rape and violence behaviours in the society; and others

believe that persistence abuse of the substances may ultimately lead to poor work productivity. A similar result was found in some of the other studies.^{1, 17,18}

This study also shows that there is a significant relationship between religion and the lifetime prevalence of substance abuse, this is because the majority of the respondents are Muslims, and substance abuse is generally believed to be prohibitive among Muslims. However, there is no significant relationship between the marital status, level of education, age and tribe of the respondents and the lifetime prevalence of substance abuse. The most commonly abused substances among respondents include tobacco (approximately 59%), caffeine (15%), alcohol (12%), cannabis (6%), codeine (6%), and inhalants (3%). Additionally, about 5% of respondents reported using two or more substances. The high prevalence of tobacco use in this study may be attributed to its affordability. The presence of alcohol use in this study, unlike findings from a study on motorcycle riders in Kano, may be influenced by differences in the study population. Notably, Muslim respondents likely abstained from alcohol due to religious

prohibitions. These findings align with studies

conducted in Northern Nigeria.^{1,12,16,13}

Limitation

The cross-sectional study design limits the generalizability of findings, making it difficult to establish causal relationships between risk factors and psychoactive substance use. Also, the reliance on self-reported data introduces the risk of social desirability bias. However, the study is strengthened by being a community-based study sampling the Kano Metropolis.

Conclusion

The prevalence of substance abuse, predominantly cigarette smoking, among commercial tricycle riders was high despite an increased level of awareness of the dangers of psychoactive substance use amongst adults in Metropolitan Kano. This is due to the various reasons given for the persistent use of these substances viz: pleasure, enhancement of work productivity and addiction among other things which outweigh their perception of the dangers as well as the financial burden of this practice; even though most of them wishes to quit, but the influence of friends amongst other influences, as well as the resultant addictive effects of these substances may hinder the

actualization of this wish. The pattern of psychoactive substance use is influenced by factors which include: peers, family members, post-traumatic events, media advertisement, pleasure, enhancement of work productivity, and ready availability, with which predominantly use in their tricycle, with a significant relationship between religion and psychoactive substances use.

References

1. Odivwri JE. Substances abuse among commercial tricycle riders in Kano metropolis, Nigeria. *Int J Educ Res.* 2014;2(6):535–44.
2. Crime UNO on drugs and. World Drug Report issue. United Nations publication. 2012;
3. Mustapha G. Drug Abuse Treatment & Rehabilitation. Kano: Dr. Mustapha Gudaji Senior lecturer/Consultant Psychiatrist; 2018. p. 1–135.
4. Couper FJ, Pemberton M, Jarvis A, Hughes M, Logan BK. Prevalence of drug use in commercial tractor-trailer drivers. *J Forensic Sci [Internet].* 2002 May [cited 2018 Jan 28];47(3):562–7. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/12051337>
5. Asiamah G, Amegashie J MC. Epidemiology of alcohol impaired driving in an African nation. *Annu Proc Assoc Adv Automot Med.* 1998;(42):335–51.
6. Ogazi C EE. The drink driving situation in Nigeria. *US Natl Libr Med Natl Institutes Heal [Internet].* 2012;13(2):115–9. Available from: <https://www.ncbi.nlm.nih.gov/pubmed/22458788>
7. Lasebikan VO. Is Cannabis Use Related to Road Crashes? A Study of Long Distance Commercial Drivers in Nigeria. *African J Drug Alcohol Stud.* 2010;9(1).
8. Adenekan AK OA. Drug Use and Road Traffic Accidents Among Commercial Drivers and Their Assistants in Sagamu, Ogun state, Nigeria. *J Commun Med Prim Care.* (11):36–47.
9. Makanjuola BA, Oyeleke SA AT. Psychoactive substance use among Long distance vehicle drivers in Ilorin, Nigeria. *Niger J Psychiatry.* 2007;5(1):14–8.
10. Alti-Muazu M, Aliyu AA. Prevalence of psychoactive substance use among commercial motorcyclists and its health and social consequences in Zaria, Nigeria. *Ann Afr Med [Internet].* 2008

11. NDLEA. National Drug law Enforcement Agency Report on incidence of drug abuse in Nigeria. Nigeria; 2014.
12. Umar Yunusa, Umar Lawal Bello, Munir Idris, Mahfuz Muhammad Haddad DA. Determinants of Substance Abuse among Commercial Bus Drivers in Kano Metropolis, Kano State, Nigeria. *Am J Nurs Sci* [Internet]. 2017;6(2):125–30. Available from: <http://www.sciencepublishinggroup.com/journal/paperinfo?journalid=152&doi=10.11648/j.ajns.20170602.16>
13. Obot I, Nelson E-U, Umoh O, Essien N, Okediji E, Udoh E, et al. Pattern of Psychoactive Substance use in the Northern region of Nigeria. *African J Drug Alcohol Stud*. 2014;13(2):79–85.
14. Danielson CK, Amstadter AB, Dangelmaier RE, Resnick HS, Saunders BE, Kilpatrick DG. Trauma-related risk factors for substance abuse among male versus female young adults. *Addict Behav* [Internet]. 2009 Apr [cited 2018 Feb 10];34(4):395–9. Available from: <http://www.ncbi.nlm.nih.gov/pubmed/19110381>
15. Obot IS. Patterns of Substance Use and Its Predictors among North-West University Students Mafikeng Campus. *African J Drug Alcohol Stud* [Internet]. 2006 [cited 2018 Feb 10];5(1):1–2. Available from: <https://www.ajol.info/index.php/ajdas/article/view/156991/146601>
16. Gudaji MI, Habib ZG. Prevalence of psychoactive substances use among registered commercial motorcycles operators in Kano, northwestern Nigeria: a community study. 2016;8(October):105–11.
17. Johnson OE, Owoaje ET. Effect of health education on the riding habits of commercial motorcyclists in Uyo, Southern Nigeria. *West Afr J Med* [Internet]. 2012;31(1):39–46. Available from: <http://www.embase.com/search/results?subaction=viewrecord&from=export&id=L373292597%5Cnhhttp://resolver.lib.washington.edu/resserv?sid=EMBASE&issn=0189160X&id=doi:&atitle=Effect+of+health+education+on+the+riding+habits+of+commercial+motorcyclists+in+Uyo%2C>
18. Oguilili PN, Kareem YA, Sham JD, Kareem FA, Davuruk DA. Level of Concordance Between Urine Drug Test Results and Self-Report Among Patients Attending the Substance Use Disorders Clinic in Federal Neuropsychiatric Hospital Maiduguri. *Orient J Med*. 2024;36(4).