

DRUG USE DISORDERS AMONG LONG DISTANCE COMMERCIAL VEHICLE DRIVERS

Christopher I. Okpataku,

Department of Psychiatry, Bingham University Teaching Hospital, Jos, Nigeria

ABSTRACT

This study investigates substance use disorders among long-distance commercial vehicle drivers in Kaduna, Nigeria. Each consecutive 4th long distance driver who was to load his vehicle on each day was interviewed using the Schedule for Clinical Assessment in Neuropsychiatry (SCAN) to generate an International Classification of Diseases (ICD-10) substance use diagnosis until a sample size of 274 was attained. The data was analysed using the SPSS version 16.0. The current and life time prevalence of an ICD-10 diagnosis was 18.4%, and 21.2% respectively. None of them had received any form of medical treatment for drug problems. Substance use disorder occur among long distance commercial vehicle drivers, and there is a need to develop a system that identifies substance use disorders and provides treatment for drug users as part of a holistic approach against drugged-driving.

Keywords: Drug-use disorders, long-distance commercial drivers, Nigeria

INTRODUCTION

The use of psychoactive substances is common. Globally, it is estimated that in 2012, 3.5-7% of the world's population aged 15-64 had used an illicit drug mainly from the group of cannabis, opioid, cocaine and amphetamine-type stimulants, at least once in the previous year (UNODC, 2014a). The global prevalence of drug use has remained relatively same over the past 4 years, but there have been more

cases of problem drug users and drug dependence (UNODC, 2015). There has also been an increase in the production and consumption of new psychoactive substances (NPS), particularly synthetic cannabinoids, cathinones and phenethylamines (UNODC, 2015). Worldwide, men are thrice more likely than women to use illicit substances (UNODC, 2014b).

Substance use have huge negative health (Rehm et al, 2009) and economic consequences (Ezzati & Lopez, 2003;

Wuracel et al, 2015). It can reduce the quality of life through disability (Smith, & Larson, 2003; De Maeyer et al, 2010) and can lead to premature death (UNODC, 2015). A study estimated that the disability adjusted life years (DALY) for illicit drug dependence was responsible for 3.6 million years of life lost through premature death and 16.4 million years of life lived with disability (Degenhardt & Hall, 2012).

Commercial drivers have been documented to use psychoactive substances worldwide (Mathijssen & Houwing, 2005; Abiona et al, 2006; Beimesse & Davis, 2006; Labat et al, 2008; Bello et al, 2011; Giroto et al, 2014). Virtually all classes of substances have been involved. Long distance commercial driving is commonly practiced in Nigeria and elsewhere, mostly in the developing world where other means of transportation such as rail system is inadequate to meet demand. There are reports of on-the-job consumption of multiple substances substance use by drivers who engage in this pattern of driving (Makanjuola, 2007; Lasebikan & Baiyewu, 2009; Okpataku, 2015). These drivers could develop mental and behavioural disorders associated with substance use and may continue to offend or violate traffic regulations on drugs and driving as a result of a drug-induced brain disease which creates loss of control over substance use.

While so much may be known about the use of substances by drivers and its association with road traffic accidents (Adenekan & Osigbogun, 1999; Lowenstein & Koziol-McLain, 2000; Drummer et al, 2004; Movig et al, 2004; Mir et al, 2012) only little or nothing is known about the direct effect of these drugs on the mental health of these drivers and the behaviour that is likely to follow these disorders.

This study evaluates substance-induced disorders in long distance commercial vehicle drivers.

METHOD

The study was conducted in Kaduna, Northwest Nigeria. Kaduna is the 3rd most populous state in Nigeria, with a population of more than 6 million (NPC, 2006).

It was carried out among all long distance commercial vehicle drivers who consist mostly of young and middle aged men of diverse ethno-cultural origin with a slight Hausa-Fulani predominance. All licensed drivers who have been driving a minimum distance of 500km from Kaduna for at least 1 year and were registered members of the National Union of Road Transport Workers (NURTW) Kaduna branch, were eligible to participate. The NURTW among other roles regulates the activities of the motor parks and exercises authorities on its members.

It was a cross-sectional descriptive study of the drivers. Eligible drivers were identified by their vehicle numbers and a list of them created. The number of drivers to be selected from each motor park was determined by proportional allocation of a calculated sample size of 270. The sample size required was calculated using the formula for calculating sample size in cross-sectional studies when the population is less than 10,000. (Araoye, 2003). With a prevalence of psychoactive substance use in a similar study of about 43% (Lasebikan & Baiyewu, 2009), and an estimate of population of long distance drivers in Kaduna city put at about 1000 by the NURTW, an estimated minimum sample of 270 was obtained. However, 274 drivers were recruited.

For each of the 10 motor parks, a proportionate sample was taken. Beginning with the first driver who was to load his vehicle on an interview day at each of 10 designated motor parks, each consecutive 4th driver was interviewed until the sampling fraction for that park was attained. This process was repeated at the various motor parks until the sample size was attained.

It was a 2-stage assessment. Respondents were initially screened for alcohol and other substance use with 2 screening instruments after which those who had problem drug use based on cut-off scores were further assessed using a diagnostic tool. Drivers responded to the alcohol use disorder identification test (AUDIT) (Saunders et al, 1993) and the drug abuse screening test (DAST-10) (Skinner, 1982). Those with a total score of 8 and above on the AUDIT and or a total score of 3 or greater on the DAST indicating the likelihood of harmful use or dependence (Skinner, 1982; Yudko, 2007), were further evaluated for alcohol and other substance use disorders using the Schedule for Clinical Assessment in Neuropsychiatry (SCAN). The SCAN is a set of instruments aimed at assessing, measuring and classifying the psychopathology and behavior associated with the major psychiatric disorders of adult life (WHO, 1999). A computer program of the instrument was used in this study to generate diagnoses of the mental and behavioural disorders due to psychoactive substance use. The author administered the SCAN, having been trained in a World Health Organization Reference Centre on the use of the SCAN. Drivers were also asked to indicate if they had ever received medical treatment for drug-related health problems. The instruments were translated to Hausa

language and the interview conducted in Hausa, as this was the major language of communication by the study population.

Ethical clearance was sought and approved for the study by the Health Ethics Research Committee of the Ahmadu Bello University Teaching Hospital Zaria and the Kaduna state Ministry of Health. In addition, written informed consents were sought from the respondents and they were assured of confidentiality for participation in the study and that there was not going to be any consequence for non-participation.

The data obtained was analysed by means of descriptive statistics using the Statistical Package for Social Sciences (SPSS version 16.0) (SPSS 16.0).

RESULTS

Seventy nine subjects met the minimum cut-off score for the screening instruments requiring the application of the SCAN. Thirty subjects out of those who screened negative were administered the SCAN. None of them had an ICD-10 diagnosis. On the application of the SCAN, the current and life time prevalence of an ICD-10 diagnosis was 18.4%, and 21.2% respectively. The diagnosis found was harmful use and dependence (see Table 1).

No respondent had received any form of medical assistance with drug-related health problems.

DISCUSSION

The drivers in this study were found to be using various psychoactive substances. Some of the reasons for this is that drivers may wish to alter some basic physiologic process in order to meet other competing

Table 1. Psychoactive substance use disorders

Drug type	Harmful use						Dependence					
	PY		LB		NO USE		PY		LB		NO USE	
Alcohol	5	1.8%	6	2.2%	263	96.0%	1	0.4%	3	1.1%	269	98.2%
Cannabis	4	1.5%	4	1.5%	266	97.1%	1	0.4%	1	0.4%	272	99.3%
Opioids	3	1.1%	0	0%	271	98.9%	2	0.7%	0	0%	272	99.3%
Nicotine	8	2.9%	9	3.3%	257	93.8%	27	9.9%	5	1.8%	242	88.3%
Anxiolytics	0	0%	0	0%	274	100%	0	0%	0	0%	247	100%
Kolanuts	3	1.1%	1	0.4%	270	98.5%	0	0%	0	0%	274	100%
Solvent	0	0%	0	0%	274	100%	0	0%	0	0%	274	100%
Cocaine	0	0%	0	0%	274	100%	0	0%	0	0%	274	100%
Amphetamine	0	0%	0	0%	274	100%	0	0%	0	0%	274	100%
Caf.subs.	2	0.7%	0	0%	272	99.3%	0	0%	0	0%	274	100%

PY=past year, LB= lifetime before, Caf subs= Caffeinated substances

demand such as the need to take stimulants to stay awake to drive for longer period (Okpataku, 2015). Substances such as amphetamine and cocaine were not recorded as drugs currently used. Drug use is influenced by factors such as availability, affordability, accessibility and acceptability. Cocaine is an illicit drug in Nigeria and an important substance being hunted down by the drug law enforcement agents in the country. A World Health Organization global survey on psychoactive substances recorded low proportion of cocaine users in Africa, including Nigeria (Degenhardt et al., 2008). This could explain the near absence of these drugs among the respondents. Although it by no means eliminates the possibility of ongoing use nor does this undermine their wish to use these substances as this study was based on self-report of drug use with its limitations. Lowenstein et al in a study to determine crash responsibility in injured motorist found more subjects with serum levels of cannabis and alcohol than other drugs (Lowenstein & Koziol-McLain, 2000). Similarly, in the work done in France to determine the prevalence of

psychoactive substance use in truck drivers, the investigators found more urine samples with cannabinoids than other drugs (Labat et al, 2008)

About one of every five driver in this study was found to have a current ICD-10 substance use diagnosis. Lasebikan et al in their study found the prevalence of an ICD-10 diagnosis using the Composite International Diagnostic Interview (CIDI) to be 29.4% (Lasebikan & Baiyewu, 2009). This may partly be attributable to the different sociocultural settings in which these studies were conducted and the data collecting instruments. As both studies depended on self-reporting for screening substance users from non-users, underreporting could also be a factor.

There is relative dearth of studies of substance use disorders among vehicle drivers. Reports on substance use by drivers have largely been centred on the description and of the presence or otherwise of the various drugs. This is probably so because concerns about the use of psychoactive substances by drivers has essentially being related to traffic safe-

ty and the risk for injury it portends for passengers and other road users when drivers use substances and drive. The focus has not really been extended to the safety and personal health risks of these drugs on the user-the drivers in this case.

Transportation by road arguably still remains the most important means of movement for humans and goods in developing countries. Commercial vehicle drivers travel over hundreds of miles daily. This is a tedious job for drivers who are fatigue-prone and sleep on the wheels. Psychoactive substance use has been reported to be responsible for traffic injuries and death globally (Movig et al, 2008; Gjerde et al, 2011; Bogstrand et al, 2012). The direct impact of the drugs on the health of the driver may not have taken into consideration in these analyses. There perhaps could be an underestimation of the burden of substance use by vehicle drivers.

In most jurisdictions, law enforcement agents and road traffic authorities enforce the law against drugged-driving and apply punitive measures on drivers who violate laws as it relates to the use of substances. Drivers who abuse substances are not spared the mental and behavioural disorders arising from substance use. Drug-dependent drivers may be unable to adhere to traffic regulations on control or prohibition of substance use during driving as a result of a drug-induced brain disease. They should benefit from treatment just like other non- driver patients who are perceived as sick too. They would need medical assistance than mostly punitive measures. For a drug-dependent driver, medical referral and management may be an effective strategy to stay abstinent while driving than punishment. Several of the drivers had been arrested

for drugged-driving. However, from this study, none of the respondents had ever benefited from medical help for a drug use disorder even though they were in a major metropolis.

That some drivers had met the diagnosis of drug use disorders means a focused and purposeful intervention including drug treatment may be needed to assist drivers especially those dependent on drugs as part of a holistic approach to curtail the problems associated with the use of psychoactive substances among drivers.

ACKNOWLEDGMENTS

My sincere gratitude goes to the officials and the entire members of the National Union of Road Transport Workers, Kaduna chapter for their cooperation and assistance during the period of data collection. This work was funded from the personal resources of the author and should be credited to the Department of Psychiatry, Ahmadu Bello University Teaching Hospital, Zaria, Nigeria. The author declares no known conflict of interest.

REFERENCES

- Abiona, T.C., Aloba, O.O., & Fatoye, F.O. (2006). Pattern of alcohol consumption among commercial road transport workers in a semi- urban community in south western Nigeria. *East African Medical Journal*, 83(9), 494-499.
- Adenekan, A.K., & Osigbogun, A. (1999). Drug use and road traffic accident in Sagamu, Ogun State. *Journal of Community Medicine and Primary Health Care*, 11: 36-47.

- Araoye, M.O. (2003). Research methodology with statistics for health and social sciences. Ilorin: Nathadex Publisher; pp.117-120.
- Bello, S., Fatiregun, A., Ndifon, W.O., Ayoita, A., & Ikpeme, B. (2011). Social determinants of alcohol use among drivers in Calabar. *Nigerian Medical Journal*, 52(4), 244-249.
- Beimess, D.J., & Davis, C.G. (2006). Driving under the influence of cannabis: Analysis drawn from the 2004 Canadian addiction survey. Canada: Canadian Centre on Substance Abuse.
- Bogstrand, S.T., Gjerde, H., Normann, P.T., Rossow, I., & Ekeberg, Ø. (2012). Alcohol, psychoactive substances and non-fatal road traffic accidents—a case-control study. *BMC Public Health*, 3(12), 734.
- Degenhardt, L., & Hall, W. (2012). Extent of illicit drug use and dependence, and their contribution to the global burden of disease. *The Lancet*, 379 (9810), 55-70.
- Degenhardt, L., Chiu, W., Sampson, N., Kessler, R.C., Anthony, J.C., & Angermeyer, M. et al. (2008). Toward a Global View of Alcohol, Tobacco, Cannabis, and Cocaine Use: Findings from the WHO World Mental Health Surveys. *PLoS Medicine* 5(7), e141.
- De Maeyer J, Vanderplasschen, W., & Broekaert E. (2010). Quality of life among opiate-dependent individuals: A review of the literature. *International Journal of Drug Policy*, 21(5), 364-380.
- Drummer, O.H., Gerostamoulos, J., Batziris, H., Chu, M., Caplehorn, J., Robertson, M.D., et al. (2004). The involvement of drugs in drivers of motor vehicles killed in Australia road traffic crashes. *Accident Analysis and Prevention*, 36(2), 239-248.
- Ezzati, M., & Lopez, A.D. (2003). Estimates of global mortality attributable to smoking in 2000. *Lancet*, 362(9387), 847-852.
- Giroto, E., Mesas, A.E., Maffei de Andrade, S., & Birolim, M.M. (2014). Psychoactive substance use by truck drivers: a systematic review. *Occupational and Environmental Medicine*, 71(1), 71-76.
- Gjerde, H., Normann, P.T, Christophersen, A.S., Samuelsen, S.O., Morland, J. (2011). Alcohol, psychoactive drugs and fatal road traffic accidents in Norway: a case-control study. *Accident Analysis and Prevention*, 43(3), 1197-1203.
- Labat, L., Fontaine, B., Delzenne, C., Doublet, A., Marek, M.C., & Tellier, D. (2008). Prevalence of psychoactive substances in truck drivers in the Nord-Pas-de-Calais region (France) *Forensic Science International*, 174(2-3), 90-94.
- Lasebikan, V.O., & Baiyewu, O. (2009). Profile of Problems Associated with Psychoactive Substance Use Among Long Distance Commercial Automobile Drivers in Ibadan. *Nigerian Journal of Psychiatry*, 7(1), 9-13.
- Lowenstein, S.R., & Koziol-McLain, J. (2000). Drugs and Traffic Crash Responsibility: A Study of Injured Motorists in Colorado. *Journal of Trauma-Injury, Infection, and Critical Care*, 50(2), 313-320.
- Makanjuola, B.A., Oyeleke, S.A., & Akande, T.M. (2007). Psychoactive substance use among long distance vehicle drivers in Ilorin. *Nigerian Journal of psychiatry*, 5(1), 15-16.
- Mathijssen, R., & Houwing, S. (2005). The prevalence and relative risk of drink

- and drug driving in the Netherlands: a case-control study in the Tilburg police district Research in the framework of the European research programme IMMORTAL. Leidschendam: SWOV Institute for Road Safety Research.
- Mir, M.U., Khan, I., Ahmed, B., Abdul Razzak, J. (2012). Alcohol and marijuana use while driving-an unexpected crash risk in Pakistani commercial drivers: a cross-sectional survey. *BMC Public Health*, 12:145.
- Movig, K.L., Mathijssen, M.P., Nagel, P.H., van Egmond, T., De Gier, J.J., Leufkens, H.G., et al. (2004). Psychoactive substance use and the risk of motor vehicle accidents. *Accident Analysis and Prevention*, 36(4), 631-636.
- National Population Commission (NPC) (2006). Nigerian National Population Census 2006. National Population Commission of Nigeria.
- Okpataku, C.I. (2015). Implications of the pattern and reasons for psychoactive substance use among long distance commercial vehicle drivers in northern Nigeria, *Indian Journal of public health*, 59(4), 259-263.
- Rehm, J., Mathers, C., Popova, S., Thavornchareoensap, M., Teerawattananon, Y., & Patra, J. (2009). Global burden of disease and injury and economic cost attributable to alcohol and alcohol use disorders. *Lancet*, 373(9682), 2223-2233.
- Saunders, J.B., Aasland, O.G., Babor, T.F., Fuente, J.R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption II. *Addiction*, 88(6), 791-804.
- Skinner HA. Guide for using the Drug Abuse Screening Test. Toronto, Canada. Center for Addiction and Mental Health. 1982; www.emcdda.europa.eu 1982. Assessed 25/05/2011.
- Smith, K.W., & Larson, M.J. (2003). Quality of life assessments by adult substance abusers receiving publicly funded treatment in Massachusetts. *American Journal of Drug and Alcohol Abuse*, 29(2), 323-335.
- SPSS for windows, version 16.0 Chicago, SPPS Inc.
- United Nations Office on Drug and Crime (UNODC) (2014a). World Drug Report, United Nations Publications.
- United Nations Office on Drug and Crime (UNODC) (2015). World Drug Report, United Nations Publications.
- United Nations Office on Drug and Crime (UNODC) (2014b). Early warning advisory on NPS, United Nations Publications.
- World Health Organization. (1999). Schedules for Clinical Examination in Psychiatry. Assessment, Classification and Epidemiology; Geneva.
- Wurcel, A.G., Merchant, E.A., Clark, R.P., & Stone, D.R. (2015). Emerging and underrecognized complications of illicit drug use. *Clinical Infectious Disease*, 61(12), 1840-1849.
- Yudko, E., Lozhkina, O., Fouts, A. (2007). A comprehensive review of the psychometric properties of the Drug Abuse Screening Test. *J Substance Abuse Treatment*, 32(2), 189-198.