Assessment of use of Alcohol by Inter-city Commercial Drivers in Benin City, Edo State, Nigeria

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Abstract

The use of alcohol by drivers is a major factor in road transport accident in Nigeria. The study investigates the use of alcohol among inter-city commercial drivers in Benin City. Data on prevalence, pattern, risk and reasons for the use of alcohol were collected using a structured questionnaire. Chi-square was used to compared data from motor parks across the three LGA (Oredo, Egor, Ikpoba-Okha) in Benin City. Linear regression was performed to determine the association between the socio-demographics of the respondents and with rate of alcohol consumption. Results were considered significant at P < 0.05. The prevalence of alcohol use was 100%, more than half (58.1%) of the commercial drivers were heavy user of alcohol. The majority (66.9%) drink spirits, and about one-third (31.1%) have the risk of injuring themselves or someone else during the last year as a result of drinking (P = < 0.0001, χ2 = 58.50), and 67.5% were concerned by relative, friends, doctor/other health workers about drinking and need to cut down on their habit ((P = < 0.0001, χ2 = 27.18). The most common reason for the use of alcohol was coping with stress and job pressure (84.5). Age, educational qualification and monthly income were associated with the rate of alcohol use by the respondents (P < 0.05, OR = -0.239, -0.436, -0.165 at 95% CI). Most of the commercial drivers were observed to be at risk as a result of alcohol consumption. There was an association between age, educational level and monthly income level with the rate of alcohol use.

Keywords: Alcohol, Prevalence, Commercial drivers, Pattern, Benin City

INTRODUCTION

There is a positive correlation between alcohol use and an increased risk of morbidity and death in certain diseases as well as violent injuries (Ferrari *et al.*, 2014), with road traffic accidents (RTAs) being heavily associated with these outcomes. Road users who are particularly susceptible, such as bicycles, motorcyclists, and pedestrians, sustain 20 to 50 million injuries globally from RTAs; these injuries result in half of all RTA-related deaths (WHO, 2018). RTAs have a significant impact on individuals in the working age group, and one significant risk factor is driving after drinking. Because of this, victims and their families have had to bear a heavy financial burden, whether it be from medical expenses or lost

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productivity as a result of the illness or disability (WHO, 2022). According to earlier research, the use of alcohol while driving reduces one's ability to pay attention and think clearly (du Plessis *et al.*, 2016, Kalsi *et al.*, 2018, Santoyo-Castillo *et al.*, 2018, Egwuatu *et al.*, 2020). According to previous research from Nigeria, accidents may be largely caused by alcohol consumption, (Obot, 2002). The Federal Road Safety Commission (FRSC) reported that the use of alcohol and other psychoactive substances while driving contributes majorly to RTA in the nation (Vanguard,2017). Due to an increase in RTAs, illness morbidity and mortality, and substantial economic loss caused by alcohol consumption, attention has been drawn internationally to the development of legislation and strategies for reducing injuries and fatalities from alcohol-impaired driving. As a result, most industrialized nations have increased their study into alcohol-related accidents, tightened their enforcement of the laws against driving after intoxication, and passed additional laws (Odero & Zwi, 2000). The use of alcohol and other psychoactive substances while driving has been strongly discouraged by the FRSC through advertising and awareness programs, yet commercial drivers in Nigeria have continued unabated (Abiona et al., 2006, Iroanya et al., 2018).

Law enforcement officials in Nigeria have not adequately implemented policies prohibiting driving under the influence of drugs or alcohol, despite the country's high death (Chidoka, 2008), and high rates of alcohol and drug use among commercial vehicle drivers (Lasebikan & Baiyewu, 2009). The study aimed to evaluate the prevalence of the use of alcohol among inter-city commercial drivers in major selected parks from three Local Government Areas (LGA) in Benin City, Edo State, Nigeria.

MATERIALS AND METHODS

Study design
The study was a cross-sectional quantitative, to determine the prevalence of alcohol use among commercial drivers in selected parks across major Local Government Area (LGA) in Benin City, Edo State.

Study location
The study was conducted across three major LGAs in Benin City. Benin City is the capital of Edo State, southern Nigeria, with a total population of about 1.8 million as of 2021. The major tribe in Benin, is the Edo people, and they speak Bini language. The city is now home to other ethnic groups from other neighboring states and Local governments. The three major LGAs in Benin City are Oredo, Egor and Ikpoba-Okha, and are parts of the Edo south senatorial districts. Benin City is home to many educational and health institutes, such as the University of Benin, Benin City, University of Benin Teaching Hospital (UBTH), Edo State Specialist Hospital, and numerous secondary and primary schools. There are numerous parks used for both inter and intra-city transportation. Major parks are New Benin, Central (Oredo), Uselu, Ugbowo (Egor), Ramat and Agbor (Ikpoba-Okha).

Sample collection
A convenient non-probability sampling method was used to carefully select the major parks across the three local Governments in Benin City. The study population comprises of inter-city commercial drivers across the major parks of the three local Governments in Edo State, between February and May 2023. The target population as obtained from the selected parks in Benin City, Edo State, was 236 drivers. A sample of 148 drivers was calculated using the Taro Yemane formula (Yemane, 2007). Inclusion criteria were registered and consented to by inter-city commercial drivers, 20 years of age and older, across major parks in the three local

Government areas within the study period. Intra-city commercial drivers, and those in other parks not within the local Government were excluded from the study.

Data collection
Data was collected using a self-developed, semi-structured and pre-tested questionnaire. The instrument consists of socio-demographics (gender, age, marital and religious status, educational qualifications and monthly income), as well as open-ended (yes, no) and closed-ended questions such as never, less than monthly, monthly, weekly, daily or almost daily to determine the prevalence of alcohol use, risk of alcohol use, and the types and reasons for drinking alcohol. Those who consume alcohol 2 to 3 times a week, and 4 or more times a week, were considered as high alcohol users. The questionnaire was pre-tested among inter-city commercial drivers from different parks outside the studied population, with a Crobach alpha of 0.86.

Data analysis
Data collected were entered into Microsoft Excel (window 10), double-checked, and thereafter transferred to Statistical Package for Social Sciences (SPSS) version 25 for analysis. Analyses were mainly descriptive and inferential. Chi-square was calculated to compare prevalence, risk and reasons for alcohol use across the three LGA. In dichotomous data for the rate of alcohol use, a linear regression was performed to determine the association of respondents' socio-demographics with the rate of consumption of alcohol, and results were considered significant at $p < 0.05$. The major outcome measure was the prevalence of alcohol use, other outcomes include, risk, types and reasons for using alcohol.

Ethical consideration
Approval for the study was obtained from the Heads of the studied parks of the three LGA. Written and informed consent was obtained from the participants of the study. The purpose of the study was explained to the participants, and were assured of no risk for participation. Anonymity and confidentiality of information provided by the respondents were guaranteed, by eliminating names and addresses from the questionnaire.

RESULTS

Socio-demographic characteristics of the respondents
There was a 100% (148) response rate from the respondents. All (100%) of them were male, with over one-third (36.5%) from Oredo. The majority (54.1%) were between the age range 41 – 50 years, across all three LGA. All (100%) of the participants were married. Very many (62.3%) of the respondents had up to the secondary level of education, Those from Oredo had the highest (8.9%) level of education. Most (69.7%) of them were Christian, and (66.5%) with a monthly income of < ₦ 30,000.

Socio-demographic characteristics of the respondents

Characteristics	Oredo n (%)	Egor n (%)	Ikpoba-Okha n (%)
Gender			
Male	54 (36.5)	44 (29.7)	50 (33.8)
Female	0 (0)	0 (0)	0 (0)
Age (years)			
20 – 30	4 (2.7)	0 (0)	4 (2.7)
31 – 40	10 (6.8)	18 (12.2)	12 (8.1)
41 – 50	28 (18.9)	26 (17.6)	26 (17.6)
>50	12 (8.1)	0 (0)	8 (5.4)
Marital status			
Single	0 (0)	0 (0)	0 (0)
Married	54 (36.5)	44 (29.7)	50 (33.8)
Divorced	0 (0)	0 (0)	0 (0)
Widow	0 (0)	0 (0)	0 (0)
Educational level			
No formal	0 (0)	0 (0)	0 (0)
Primary	18 (12.2)	1 (0.7)	3 (2.0)
Secondary	23 (15.5)	43 (29.1)	41 (27.7)
Tertiary	13 (8.9)	0 (0)	6 (4.1)
Religion status			
Christianity	22 (14.9)	43 (29.1)	38 (25.7)
Islam	24 (16.2)	1 (0.7)	12 (8.1)
Traditional	8 (5.4)	0 (0)	0 (0)
Others	0 (0)	0 (0)	0 (0)
Monthly income			
< ₦ 30,000	19 (12.8)	38 (25.7)	28 (18.9)
₦ 30,000 – ₦50,000	13 (8.8)	6 (4.1)	10 (6.8)
₦ 51,000 – ₦ 80,000	0 (0)	0 (0)	0 (0)
₦ 81,000 – ₦ 100,000	11 (7.4)	0 (0)	7 (4.7)
>₦ 100,000	11 (7.4)	0 (0)	5 (3.4)

Prevalence of alcohol use by the respondents

The prevalence of alcohol use; is presented in Table 2. All (100%) of the respondents consumed alcohol. Very many (83.8%) of the commercial drivers consume alcohol at least 4 or more times a week, with the majority (29.4% and 27.0%) from Egor and Oredo respectively. Almost all (97.9%) take 1 or 2 drinks on a typical day when driving, and high (35.8% and 33.8%) proportions of them were from Oredo and Ikpoba-Okha, while respondents from Oredo, Egor (27%) and Ikpoba-Okha (25%) take 5 or more drinks, 2 to 4 times a month on one occasion. The highest (8.8%) of the respondents from Ikpoba-Okha, were not able to stop drinking daily or more during the last year once started, while the majority (25%) from Oredo, were not able to stop drinking less or monthly, once started. This was statistically significant, with P = 0.0003, χ^2 = 20.92. Similarly, there was a significant statistical difference (P = 0.002, χ^2 = 12.52) with failure to do what was normally expected due to drinking during the last year, with 15.6%, 12.8%, and 6.8% affected in Ikpoba-Okha, Egor and Oredo respectively. On whether or not they need a first drink in the morning to get going after a heavy drinking session, and the feeling of guilt or remorse after drinking during the last year, 12.8% and 9.5% of Ikpoba-Okha claimed to have been affected. These were also statistically significant (P = 0.044, χ^2 = 6.27, and P = < 0.00001, χ^2 = 26.31). Overall, more than half (58.1%) of the commercial drivers across the three LGAs were high users of alcohol. Respondents from Egor, had a higher (29.9%) level of alcohol consumption.

Table 2: Prevalence of alcohol use by the respondents

Variables	Oredo n (%)	Egor n (%)	Ikpoba-Okha n (%)	P value, (df), $\chi2$
How often do you have a drink containing alcohol?				
Monthly or less	3 (2.0)	0 (0)	30 (12.2)	
2 – 4 times a month	10 (6.8)	1	18 (12.2)	
2 – 3 times a week	1 (0.7)	1	0 (0)	
4 or more times a week	40 (27.0)	42 (29.4)	2 (1.4)	
How many drinks containing alcohol do you have on a typical day when you are drinking?				
1 or 2	53 (35.8)	42 (28.4)	50 (33.8)	
3 or 4	1 (0.7)	1 (0.7)	0 (0)	
7 – 9	0 (0)	1 (0.7)	0 (0)	
Have 5 or more drinks on one occasion?				0.265, (2), 2.66
Never	14 (9.5)	6 (4.1)	11 (7.4)	
2 – 4 times a month	40 (27.0)	40 (27.0)	37 (25.0)	
Not able to stop drinking once you had started during the last year				0.0003*, (4), 20.92
Monthly or less	37 (25.0)	13 (8.8)	24 (16.2)	
2 – 4 times a month	15 (10.1)	24 (16.2)	9 (6.1)	
Daily or almost daily	5 (3.38)	7 (4.7)	13 (8.8)	
Have failed to do what was normally expected of you because of drinking during the last year				0.002*, (2), 12.52
Monthly or less	44 (29.9)	21 (14.2)	30 (20.4)	
2 – 3 times a week	10 (6.8)	23 (15.6)	19 (12.8)	
Needed a first drink in the morning to get going after a heavy drinking session during the last year				0.044*, (2), 6.27
Never	44 (29.7)	27 (18.2)	31 (30.0)	
2 – 3 times a week	10 (6.8)	17 (11.5)	19 (12.8)	
Had a feeling of guilt or remorse after drinking during the last year				<0.0001*, (4), 26.31
Never	29 (19.6)	6 (4.1)	23 (15.5)	
2 – 4 times a month	16 (10.8)	30 (20.4)	11 (7.4)	
2 – 3 times a week	9 (6.1)	10 (6.8)	14 (9.5)	
Unable to remember what happened the night before because you had been drinking during the last year				
Never	0 (0)	0 (0)	22 (14.9)	
Monthly or less	38 (25.7)	0 (0)	23 (15.5)	
2 – 4 times a month	0 (0)	0 (0)	1 (0.7)	
2 – 3 times a week	0 (0)	17 (11.5)	1 (0.7)	
4 or more times a week	16 (10.8)	27 (18.2)	3 (2.0)	
Levels of alcohol use				
High user	41 (27.7)	43 (29.1)	2 (1.4)	
Low user	13 (8.8)	1 (0.7)	48 (32.4	

Where * = significant at P < 0.05, $\chi2$ = Chi square, df = degree of freedom

Types of alcoholic beverages consumed by commercial drivers

Most (13.6%) of the respondents from Oredo take beer, while 23%, 22.3% and 21.6% from Ikpoba-Okha, Egor and Oredo consume spirit. Most (6.1%) of those from Ikpoba-Okha take

local brew, and 6.1% from Egor consume both beer and spirit. Only very few (0.7%) take a combination of beer and local brew, and beer spirit and local brew in Ikpoba-Okha and Egor respectively.
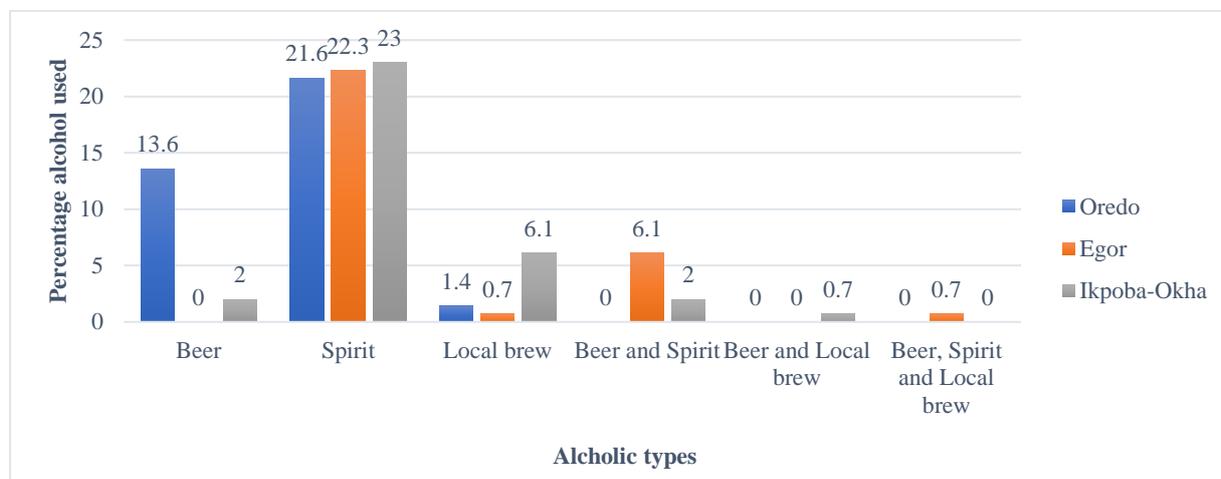

Figure 1; Types of alcoholic beverages consumed by commercial drivers

Risk encountered due to alcohol use by commercial drivers

About one-third (31.1%) have the risk of injuring themselves or someone else during the last year, as a result of drinking, and most (14.2%) were from Oredo. This was highly statistically significant, with P = < 0.0001, χ2 = 58.50. The majority (67.5%) of the respondents from the three LGA had the risk of being concerned by relatives, friends, doctors/other health workers about drinking and the need to cut down on their habit. Commercial drivers from Ikpoba-Okha had the highest (12.8) risk and concerns during the last year. There was also a significant statistical difference (P = 0.0028, χ2 = 16.19) between the LGA. (Table 3)

Table 3: Risk encountered due to alcohol use by commercial drivers

Variables	Oredo n (%)	Egor n (%)	Ikpoba-Okha n (%)	P value, (df), χ2
Have you or someone else been injured as a result of your drinking?				<0.0001*, (4), 58.50
No	9 (6.1)	5 (3.4)	40 (27.0)	
Yes, but not in the last year	24 (16.2)	19 (12.8)	7 (4.7)	
Yes, during the last year	21 (14.2)	20 (13.5)	5 (3.4)	
Has a relatives/friends/doctor, or another health workers been concerned about your drinking or suggested you cut it down?				0.0028*, (4) 16.19
No	25 (16.9)	12 (8.1)	11 (7.4)	
Yes, but not in the last year	23 (15.5)	24 (16.2)	19 (12.8)	
Yes, during the last year	5 (3.4)	10 (6.8)	19 (12.8)	

Reasons for consumption of alcohol by the respondents

Table 4 shows various reasons for the use of alcohol by the respondents across the LGA. Fatigue relief and staying awake during long hours of driving (79.8), coping with stress and job pressure (84.5), peer influence, and socialization with other drivers (81.1) were major reasons for alcohol consumption among commercial drivers from the selected LGA. Most of the respondents from Oredo (28.4%), Ikpoba-Okha (25.7%), and Egor (9.5%) cited cultural or societal norms surrounding alcohol consumption as a reason for alcohol use (P = < 0.0001, χ2 = 27.18).

Table 4: Reasons for consumption of alcohol by the respondents

Reasons	Oredo n (%)	Egor n (%)	Ikpoba-Okha n (%)	P value, (df), χ2
Fatigue relief and staying awake during long hours of driving.				
Not at all important	14 (9.5)	1 (0.7)	13 (8.8)	
Slightly important	1 (0.7	0 (0)	0 (0)	
Moderately important	1 (0.7)	0 (00	0 (0)	
Very important	38 (25.7)	43 (29.1)	37 (25.0)	
Coping with stress and pressure associated with the job.				0.235, (2), 2.90
Not at all important	12 (8.1)	5 (3.4)	6 (4.1)	
Very important	42 (28.4)	39 (26.4)	44 (29.7)	
Peer influence and socialization with other drivers.				0.757, (2), 0.56
Not at all important	12 (8.1)	10 (6.8)	14 (9.5)	
Very important	42 (28.4)	34 (23.0)	36 (24.3)	
Cultural or societal norms surrounding alcohol consumption				<0.0001*, (2), 27.18
Not at all important	12 (8.1)	30 (20.3)	12 (8.1)	
Very important	42 (28.4)	14 (9.5)	38 (25.7)	
Lack of awareness about the risks and consequences of drinking and driving				
Not at all important	54 (36.5)	44 (29.7)	50 (33.8)	

Association with the rate of use of alcohol

In a linear logistic regression, there was a significant association ($P < 0.05$) between age, educational qualification and monthly income to rate of alcohol use by the respondents (OR = -0.239, -0.436, -0.165 at 95% CI). (Table 5)

Table 5: Respondents demographics relationship with the rate of alcohol used

Characteristics	Odd ratio	95 % CI for Exp B		P-value
		Lower	Upper	
Age (years)	-0.239	-0.260	-0.054	0.003*
Religion	0.045	-0.121	0.197	0.639
Marital status	0.127	-0.164	1.690	0.106
Education level	-0.436	-0.595	-0.222	0.000*
Monthly income	-0.165	-0.165	-0.002	0.041*

· = $P < 0.05$, CI = Confidence interval, OR = odd ratio

DISCUSSION

This study's high prevalence of alcohol use is significantly greater than that of other research conducted in Nigeria's Kano, Calabar, and Lokoja, which found that, respectively, 81.1%, 85.4%, and 93.8% of people used alcohol (Aniebu and Okonkwo, 2008, Yunusa et al., 2017, David & Toyin, 2018). A total of 58.1% of commercial drivers in Benin City who drank alcohol were heavy users, with the majority of them coming from Egor and Oredo LGAs. Due to their central location, these two LGAs are likely to have easier access to alcohol. Since alcohol is frequently sold and exhibited in and around parking lots, drivers have unrestricted access to it and other substances.

The most commonly used alcoholic beverage was spirit (66.9%), followed by beer (15.1%), with the majority (13.6%) from Oredo drinking beer, a result that is similar to a study in Ile-Ife, which reported local spirit as the commonest alcoholic beverage consumed by the drivers (Abiona *et al.*, 2006), and also in Ghana, it was reported that commercial drivers consume more of hard liquor (Asiamah *et al.*, 2002). However, this is in contrast to a study conducted among

drivers of commercial vehicles in Calabar, which found that 90.9% drank beer (Bello *et al.*,2011). Different varieties of spirits, both bottles and sachets are commonly available in motor parks in Nigeria. Recently, there was a strong resistance from the people over the federal government's ban on sachet drinks in Nigeria (Vanguard, 2024). A considerable portion (6.1%) of the commercial drivers who drank the local brew and the combination of the local brew with beer and spirit were from Ikoba-Okha and Egor, suggesting that they typically choose the more reasonably priced, easily accessible alcoholic beverages in the parking lot.

Most commercial drivers in the LGA (79%) drink five or more drinks at least once every two to four months, and the majority of those from Ikpoba-Okha (8.8%) found it difficult to quit drinking regularly or more throughout the previous year once they got into it. This behaviour has the potential to raise the danger of driving after drinking. According to the study, nearly one-third (31.1%) of the commercial drivers reported having hurt themselves or someone else, and 23.0% said that their drinking habit had caused worry and concern for friends, doctors, or other health professionals. These findings suggest that the commercial drivers were already exposed to a significant risk. Reports of drunk drivers in Nigeria show a startling number of deaths and injuries. Due to their adverse effects on judgment, coordination, and reaction time, alcohol and drugs make driving a motor vehicle extremely dangerous (Bud-Perrine, 1997). According to this research, drivers who are older (41–50 years) have a higher likelihood of drinking alcohol. Studies have shown that older drivers between the ages of 36 and 40 have been found to drink more alcohol (Davey et al., 2020; Freeman et al., 2020), and are probably more likely to commit crimes (Goldenbeld et al., 2020). Other research contradicts this finding, demonstrating that younger drivers drink more alcohol (Abiona et al., 2006).

The primary and statistically significant (P < 0.05) justifications provided by the commercial drivers for their alcohol consumption were: relieving fatigue and maintaining alertness; managing the stress and strain of driving; interacting with peers and society; and adhering to cultural and societal norms related to alcohol consumption. Previous research has also documented various other factors that are similar (Asiamah et al., 2002, Abiona et al., 2006, Aniebu & Okonkwo, 2008). If drivers overindulge in alcohol after work due to hangovers the next day, their lives and the lives of their passengers can be in jeopardy.

Our study demonstrates a strong correlation between the rate of alcohol consumption and age, educational attainment, and monthly income. Previous studies from Ethiopia and Nigeria have also found that age and marital status had an impact on commercial drivers' use of alcohol and other psychoactive substances (Kassa et al., 2014, Okpataku, 2016, Yosef et al., 2021). Drivers with low monthly wages often believe they should be making more money, which is consistent with the study's findings. Thus, as previous studies have also demonstrated, they are more prone to drive fast, abuse these drugs, and may see a rise in traffic accidents (Mir et al., 2012, Yosef et al., 2021). The study is however, not without limitations, The responses from the commercial drivers in this study, were self-reporting, and cannot be free from bias. The study was only conducted in three LGAs, in Edo State; the findings cannot be generalized. Further studies involving large population and multi-centers should be carried out.

CONCLUSION
There was a very high prevalence of alcohol use observed in this study. Most of the commercial drivers were observed to be at risk as a result of alcohol consumption. There was an association between age, educational level, and monthly income level and the rate of

alcohol use. It is important for policy makers to be aware of this pattern of use and reasons for use because it could be inadequate to legislate against alcohol use at motor parks. Laws prohibiting driving under the influence of drugs or alcohol in Nigeria should strictly be enforced, with adequate punishment meted out to the offenders.

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