

## **Alcohol Use among Tricycle Riders in Jos Nigeria**

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### **Abstract**

#### **Background**

Driving under the influence of alcohol contribute significantly to morbidity and mortality globally. Studies have reported high prevalence of alcohol use among commercial drivers in many parts of the world but such studies have not been reported, to our knowledge, among tricycle drivers even though they play an important role in inner city transport in many cities. The purpose of this study therefore was to determine the pattern of alcohol use and drink driving among tricycle drivers in Jos, Nigeria and their involvement in road traffic accidents.

#### **Methodology**

A descriptive cross-sectional study was conducted among 195 tricycle drivers using an interviewer administered adapted alcohol use AUDIT questionnaire. Data analysis was done with epi info statistical software version 7.2, 95% confidence interval was used with a probability value of < 0.05 considered statistically significant.

#### **Results**

All the one hundred and ninety-five tricycle drivers studied were males and all consume alcohol. Most of them (67.4%) drink and drive. A hundred and seventeen (60%) of respondents have had an accident in the last year and 70% of the accidents occurred while driving after drinking alcohol. There was no significant relationship between frequency of drinking and involvement in road traffic accident.

#### **Conclusion**

The level of alcohol use by tricycle drivers in Jos is alarming and this increases the risk of road crashes. Effective legislation with resources for its implementation are required to reduce drink driving and traffic accidents.

**Key words:** Alcohol use, tricycle drivers, road traffic accidents

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### **I. Introduction**

The relationship between alcohol consumption and vehicle related injuries and death was first highlighted in 1904. [1] Since then accumulated evidence has shown that alcohol consumption can lead to risky driving and increased frequency of traffic accidents and related injuries and mortality. [2] Excess alcohol intake is one of the most important causes of automobile crashes and automobile related injuries and about 40% of all road traffic deaths have been linked with alcohol consumption. [3],[4]. In the United States of America, for instance, alcohol-impaired driving was involved in 31% of fatal crashes in 2010 and resulted in more than 10,000 deaths. In the UK, alcohol accounts for 50,000 deaths per year and up to 500,000 hospital admissions annually, and in Nigeria, approximately 50% of road traffic accidents are related to alcohol use.[5],[6],[7] Alcohol consumption impairs neurological and cognitive functioning which negatively affects driving skills including choosing an appropriate speed, time and frequency of overtaking, lane maintenance, operating brakes, and steering control.[8],[9] It also increases reaction time to potential hazards.[10] As a result of the strong relationship between alcohol consumption and risky driving behaviours, driving after drinking alcohol is prohibited in many countries and a maximum blood alcohol concentration (BAC) has been fixed for all drivers. These countries have measures in place to detect and sanction individuals who drive with blood alcohol levels above the set limit.

In Nigeria and some other developing countries however, there are no such legal limits, even though drunk driving is discouraged. [11] This situation persists in spite of the country's third ranking among the 10 countries with the highest deaths due to road accidents in 2007 and the continued loss of thousands of lives in road traffic accidents each year. [12][13] Although the poor road network and bad condition of vehicles

contribute to the road crashes and deaths each year, driving under the influence of alcohol is a significant factor. [14]

Studies of alcohol drinking habits among commercial motor drivers in some parts of Nigeria reported high prevalence of alcohol use but no such studies, to our knowledge, have been reported in Jos and among tricycle drivers even though they play an important role in intra city mass transportation in the country. The purpose of this study therefore, is to determine the pattern of alcohol use and drink driving among tricycle drivers in Jos Nigeria and their involvement in road traffic accidents.

## II. Methodology

### 2.1 Study Area

The study was carried out in Jos, the capital of Plateau State North Central Nigeria. The state has a population of 3.2 million according to the 2006 census. [8] Majority of the inhabitants are civil servants and farmers, but few are traders. Jos, the administrative seat of Government is a cosmopolitan town located on one of the highest altitudes in the Country lying at about 1500 metres above sea level. Though located in the tropical zone the city has a climate nearest to that of the temperate region with temperatures ranging from 8 to 30 degrees Celsius. [9] Intra city transportation is provided by minibuses and tricycles most of which are driven by the owners although some entrepreneurs hire others to drive for them.

### 2.2 Methods

The study was a descriptive cross-sectional study. The sample size was determined using Epi-Info version 7.2. A population size of 5000 representing the number of registered tricycle drivers in Jos was used. A 95% confidence level was used, and the expected frequency was 84.3% from a previous study of alcohol use among commercial drivers. [15]

All tricycle drivers in Jos metropolis who are licensed to drive the tricycle and registered with the tricycle drivers union were eligible to participate in the study. Subjects were selected using simple random sampling technique. The table of random numbers and the tricycle drivers' union's numbered register were used. The total number of drivers registered with the tricycle drivers union formed the sampling frame. The drivers whose registered numbers correspond with the selected numbers from the table of random numbers were selected for study and then traced to their daily starting point/park for interview. A semi structured interviewer administered questionnaire was used to collect data from the respondents after an informed consent. Data was analyzed using Epi-info version 7.2. Frequencies were used to calculate the level of alcohol use while chi square for trend was used to test for a trend relationship between frequency of drink driving and involvement in traffic accident.

## III. Results

One hundred and ninety-five tricycle riders were interviewed. Their ages ranged from 19 to 53 years. All of them were male, 50.5% were single and majority had secondary level education. Table 1 All the 195 respondents (100%) interviewed consumed alcohol although only 67.4% admitted drinking and driving while on duty. The frequency of drinking varied widely, 66(33.7%) drank alcohol about 2- 4 times a month, while 68 (34.7) drank 4 or more times a week. Table 2. The quantity of alcohol consumed could not be determined because some of the respondents drank the local brew, the alcoholic content of which has not been measured or standardized. One hundred and seventeen respondents (60%) have had an accident while driving in the last year, and 82 (70%) of these accidents occurred while driving after drinking. There was no statistically significant relationship between involvement in an accident and frequency of drinking. Table 3.

## IV. Tables

**Table 1** Baseline characteristics of study subjects

Variable	Frequency	Percentage
<b>Sex distribution</b>		
Male	195	
Female	0	
Total	195	100
<b>Age group of respondents</b>		
18- 25	38	19.5
26 – 35	11	5.9
36 - 45	36	18.5
46 – 55	6	3.0
Total	195	100

**Marital status**

Married	92	47.4			
Separated	3	1.1			
Single			98	50.5	
Widowed			2		1.0
Total				195	100

  

<b>Highest Level of Education</b>					
None				6	3.2
Primary				74	37.9
Secondary				98	50.5
Tertiary				17	8.4
Total					

**Table 2:** Patterns of alcohol consumption of Respondents

<b>Respondents that drink alcohol</b>					
Drink Alcohol				<b>Frequency</b>	<b>Percentage</b>
Yes				195	100
No				0	0
Total				195	100

  

<b>Frequency of alcohol consumption</b>					
2-4times/month	66			33.7	
2-3 times/week				61	31.6
≥ 4 times/week				68	34.7
Total				195	100

  

<b>Driving after drinking alcohol (Drink driving)</b>					
Never				64	32.6
2-4 times/month	58	29.5			
2-3 times/week				24	12.6
≥ 4 times/ week				49	25.3
Total				195	100

  

<b>Involved in accident while drink driving in the last year.</b>					
Yes				117	60
No				78	40
Total				195	100

**Table 3:** Relationship between frequency of drink driving and involvement in road accident

	<b>Involvement in traffic accident</b>		
<b>Frequency of drink driving</b>	<b>yes</b>	<b>No</b>	<b>Total</b>
Never	16		48
2-4 times/month	27		30
2-3 times/week	7		18
≥ 4 times/week	32		17
Total	82		113

$\chi^2$  for trend =0.007, P-value = 0.934

## V. Discussion

Our study found that all (100%) of the respondents drink alcohol and over a third of them drink alcohol at least four times a week. This is higher than the 84.4% found among commercial vehicle drivers in Calabar, South East Nigeria and the 67.2% found among commercial drivers in Ile-Ife, South western Nigeria.[15],[16] The very high prevalence of current alcohol usage could be because of the very high level of alcohol consumption in the country and the fact that most of the tricycle drivers are young and thus are more likely to drink alcohol. The proportion of our respondents that drive after drinking was also very high (67.4%). This has both public health and economic implications because individuals who drink and drive are more likely to be involved in traffic accidents and this could result in injuries and loss of lives, property and productivity. Since these are commercial drivers, who carry scores of people in their vehicle daily the number of people exposed to this danger is very high and cannot be ignored. In our study, 117 (60%) of the respondents were involved in traffic accidents in the last one year. This alarming accident rate cannot be allowed to continue if dire consequences are to be avoided.

We believe the high level of drinking and driving among commercial tricycle drivers and their high accident rates could be due to the lack of effective legislation against drinking and driving in the country. Studies have shown that the existence of effective legislation, particularly the BAC per se law, and the use of mobile alcohol breath tests in its enforcement has significantly reduced the level of drink driving in many countries. [17] There is therefore the urgent need to enact this kind of legislation and provide the technologies and programs for its logical enforcement in Nigeria in order to protect other road users from drunk drivers.

Our study had some limitations. Firstly, the frequency of alcohol consumption and drink driving were based on self-reports and may not be a true reflection of the respondents' practices since they are subject to recall bias. Involvement in an accident however is a significant experience for every driver and is unlikely to be forgotten within one year so we believe that the rate of involvement in traffic accidents reported in this study is accurate.

Secondly, we were unable to determine the proportion of drivers with hazardous alcohol drinking because some of the drivers consumed locally brewed beverages whose alcoholic concentration has not been determined. It is recommended that future studies should determine the alcoholic content of local brews marketed in the city.

## VI. Conclusion

All tricycle drivers in Jos drink alcoholic beverages and most of them drink and drive with passengers in their vehicles, exposing them to the risk of injury and death during traffic accidents to which an alarming proportion of them are predisposed. Effective legislation should be enacted, and resources provided for its implementation to reduce drink driving and accidents on Jos roads.

**Conflict of Interest:** Authors have declared no conflict of interest.

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