

## Alcohol Use Disorder Identification Test (AUDIT) In Assessing Alcohol Use Disorder Among Commercial Long-Distance Truck Drivers In Benin City, Edo State, Nigeria.

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### Abstract

**Introduction:** Nigeria has also reported the everyday use of alcohol among commercial and long-distance vehicle drivers. This can lead to an alcohol use disorder among this occupational group. This study seeks to assess Alcohol Use Disorders among commercial long-distance truck drivers in Benin City, Edo State, using Alcohol Use Disorder Identification Test (AUDIT).

**Methods:** This study was conducted in Oluku Motor Park, Ovia North East local government, Edo State, Nigeria. A descriptive cross-sectional study design was used in conducting this study. Data was collected using quantitative methods of data collection. Data on alcohol use disorder was collected using Alcohol Use Disorder Identification Test (AUDIT) while Data was analyzed using Statistical Package for Scientific Solutions (SPSS) version 20.0.

**Results:** Almost all the respondents, 215 (98.2 %), stated that they had not injured anyone as a result of their drinking, and 4 (1.8 %) had injured someone as a result of drinking. Thirty-four 34 (15.5 %) agreed that their drinking has been of concern to someone, while 185 (84.5 %) stated that their Drinking habit has not made someone concerned. Almost all the respondents, 215 (98.2 %), indicated that they had not injured anyone due to their drinking, and 4 (1.8 %) had injured someone due to drinking. Thirty-four 34 (15.5 %) agreed that their drinking has been of concern to someone, while 185 (84.5 %) stated that their Drinking habit has not made someone concerned. Forty-two (19.2 %) respondents were optimistic about the hazardous use of alcohol. Twenty-seven (12.3%) respondents were confident about alcohol dependence. Twenty-seven (12.3 %) of the respondents were positive for the harmful use of alcohol. Conversely, 177 (80.8 %) were negative for hazardous use of alcohol, 192 (87.7 %) were negative for Alcohol dependence, and 192 (87.7 %) were negative for Harmful use of alcohol.

**Conclusion:** Forty two (19.2%) respondents tested positive for hazardous use of alcohol. Twenty seven (12.3%) respondents tested positive for alcohol dependence. Twenty seven (12.3%) of the respondents tested positive for harmful use of alcohol.

**Keywords:** Alcohol Use Disorder Identification Test (AUDIT), Commercial long distance Truck drivers, Alcohol use, Road Safety.

### Introduction

Road safety is an essential human concern [1]. The need to move from place to place is critical to human existence. Also, the need to transport people, food, goods, and services is part of trade and commerce. Commercial truck drivers are responsible for this task [2]. The stress and difficulty in driving trucks at commercial levels have led to drivers seeking to adapt to the stressors. Thus, there is an upsurge in drug-related problems and an ever-increasing trend toward the misuse and abuse of alcohol [1,3,4]. Studies in Nigeria have also reported the everyday use of alcohol among commercial and long-distance vehicle drivers [2,5,6]. Specifically, that driving was done in conjunction with the use of alcohol as 15.9 % of commercial long-distance truck drivers drink before driving [5]. This may lead to an alcohol use disorder among this occupational group.

Moreover, more drivers indulge in taking alcohol before or during driving to be able to work without feeling the stress and hustling to realize more income in the commercial transport business. Such individuals are usually involved in road traffic accidents. Epidemiological evidence linking alcohol and transportation accidents is supported by research on alcohol's effect on specific driving-related skills. These skills may be divided into cognitive skills, such as information processing [7], and psycho-motor skills (those involving eye, brain-hand coordination) [8,9]. This situation has led to a global plan for a decade of action on road safety, which was developed by the World Health Organization and the United Nations Regional Commissions [1], in cooperation with partners in the United Nations Road Safety Collaboration and other stakeholders, as a guiding document to support the implementation of the Decade

of Action 2021–2030 and its objective. As one of its targets, this plan seeks to ensure an improvement in road safety and a reduction by half of the accidents due to alcohol use [1].

Alcohol drinking is widespread among most ethnic groups in Nigeria. Its history is complex, particularly among tribes where it was not religiously prohibited [10]. Alcohol is vital in the sociocultural relations between different communities during various traditional gatherings [10, 11]. It is utilized in marriage ceremonies, festivals, rites, chieftaincy enthronements, life celebrations, etc. Adult men consume primarily for recreational purposes, whereas ladies and youths are traditionally discouraged from doing so. Drinking excessively was not the norm, and drunkenness resulted in harmful consequences [10,11].

The World Health Organization reports a link between drivers' hazardous use of alcohol and road traffic accidents in Nigeria [8]. Approximately 50 % of accidents, and their attendant consequences, on Nigerian roads, are related to alcohol use [12,13]. The enforcement aspect against drunk driving has, unfortunately, been unsuccessful as there is poor implementation of alcohol use regulation. Accidents involving trucks can be dangerous, especially those carrying petroleum products. Truck accidents may result in fires, leading to the loss of properties like houses, cars of innocent passers-by and road damage due to sloughing off of heated or melted bitumen. The sloughed-off portions of the road readily develop into potholes, which can cause serious accidents [14]. Many countries have been working

## Methodology

This study was conducted in Oluku Motor Park, Ovia North East local government, Edo State, Nigeria [23,24]. Oluku community is located along Benin – Lagos Expressway [25]. It is a stopover community for long-distance truck drivers; it has a primary health center, one government-owned primary school, three private primary schools, a secondary school, a market, and five petrol stations. It is home to truck parks, bus parks, and parking spots for drivers and visitors. It also has hotels, brothels, and a night market. The town is divided into two by the Lagos- Benin Expressway, a highway linking South-Western Nigeria to South-South and South-Eastern Nigeria [24,25].

It is part of Benin City and serves as a transit area, with four major highways linking the eastern part of Nigeria to the northern and western parts of Nigeria to the east. Truck driving is a common occupation, and numerous Truck road transport operators in the city carry goods to different states in Nigeria [23,26]. There over 400 Truck drivers are registered in the park. Most of them are on a trip to other parts of Nigeria. These parks cater for regular transport of foodstuff, furniture, and petroleum products to and from Benin City [23,26].

A descriptive cross-sectional study design was used in conducting this study. This study's population was commercial long-distance truck drivers registered to park at Oluku Motor Park., driving a distance above 300km and a minimum of 4 hours continuously. This study

on solutions to drunk driving for an extended period, including publicity, education, and tough drunk-driving laws [15].

Alcohol can affect drivers' vigilance, attention, cognition, judgment, and reaction, which closely relate to driving ability. Alcohol consumption, even at low doses, significantly affected driving-related skills such as vision, braking behavior, and vigilance [9,16,17] Studies found that alcohol affected simple reaction times, vigilance, visual searches, and logical reasoning [9,18]. In most developed countries, BAC checks among drivers and motorcyclists by law enforcement agents are carried out routinely, and when there is a suspicion of driving under the influence of alcohol or following a crash, this is a practice that should be done in Nigeria too. Individuals with alcohol dependency have approximately twice the risk of crash involvement as controls [13,19,20]. Regarding drugs, there is limited evidence regarding crash risk and drug dependencies; approximately 13 % of fatal crashes are attributed to drug use. The trouble is amplified with alcohol-drug and impairing drug-drug combinations [19,20].

Drivers of commercial vehicles are of peculiar interest because commercial road transport is the significant means of transportation in Nigeria, and drivers who use alcohol in a hazardous manner could endanger several lives [6,20,22]. Attempts at controlling alcohol use among drivers of commercial vehicles have often failed [21,22]. This study seeks to assess Alcohol Use Disorders among commercial long-distance truck drivers in Benin City, Edo State, using Alcohol Use Disorder Identification Test (AUDIT).

focused on the Truck drivers operating within the confines of Oluku Motor Park Union.

The minimum sample size for long-distance truck drivers was calculated using Cochran's formula as 219 drivers [27,28]. Data was collected using quantitative methods of data collection. Data on alcohol use was collected using the Alcohol Use Disorder Identification Test (AUDIT), which has been used and validated in several studies [29,30,31,32]. AUDIT is a globally accepted method of assessing sleepiness and alcohol use, respectively.

## Alcohol Use Disorder Identification Test [29-31]

The AUDIT procedure was developed by the World Health Organization to identify persons whose alcohol consumption has become hazardous, causing dependence or harmful to their health [29,31]. AUDIT is a brief, rapid, and flexible screening test for international use. It contains questions about recent alcohol consumption, dependence symptoms, and alcohol-related problems. It identified harmful and hazardous alcohol use; designed for primary health care workers. It focuses on current alcohol use and is consistent with ICD-10 definitions of alcohol dependence and harmful alcohol use [29,31]. Drivers are classified as positive or negative for hazardous use of alcohol, alcohol dependence, and harmful use of alcohol.

Alcohol Use Disorder Identification test is a set of 10 questions, each with a possible score of 0- 5 depending on possible scores allocated to the question. A score  $\geq 8$  in any of the categories is POSITIVE to AUDIT, while  $< 8$  indicates NEGATIVE to AUDIT. In general, high scores on the first three items in the absence of elevated scores on the remaining items suggest **hazardous alcohol use** (Minimum score of 3 – Maximum score of 14).

Elevated scores on items 4 through 6 imply the presence or emergence of **alcohol dependence** (Minimum score of 3 – Maximum of 15). High scores on the remaining items suggest **harmful alcohol use** [29,31]. (Minimum score of 2- Maximum score of 16)

A one-week training program was conducted for 6 research assistants (who were currently House officers at the University of Benin Teaching Hospital). The training covered using and applying questionnaires on the use and interpretation of the Alcohol Use Disorder Identification Test (AUDIT) for quality data collection. The researcher screened questionnaires for completeness, coded them, and entered them into the Statistical Package for Scientific Solutions (SPSS) version 20.0 software for analysis. Data on AUDIT was presented as proportions (percentages). Drivers are unfit to drive if abnormal AUDIT scores (positive to hazardous use of alcohol and alcohol dependence and harmful alcohol use) [12,13,15].

## Results

### A) Alcohol dependence pattern and harmful alcohol use pattern- AUDIT (personal) among truck drivers.

Table 1 shows that 43 (19.6 %) of the respondents revealed that they could not stop drinking once they started, while 176 (80.4 %) could stop once they started drinking.

Thirty-five 35 (16.0 %) failed to do what was normally expected of them, while 184 (84.0 %) revealed that they did not do what was generally expected due to drinking.

The University of Benin Teaching Hospital Research Ethics Committee granted ethical clearance for this study, the Driving and Transport Department of the Transport Companies/Parks, the Edo State Ministry of Transport, and the National Union of Road Transport Workers (NURTW) in Benin City also gave permission. Written informed consent was obtained from each respondent before the conduct of interviews after adequate information was provided. Confidentiality and privacy were respected during the course of the interview.

Parks were identified by alphabet and respondents by serial numbers to preserve confidentiality. Respondents were told that there would be no fines or loss of reward for refusing to participate in or withdraw from the study. There was no risk of harm or injury to the individuals during or after the research. Respondents with health concerns were counseled and sent to the nearest health facility for proper treatment and management. At the conclusion of the study, the researcher performed a group health and road safety lecture for the study's drivers.

### Limitations

The AUDIT Scale responses are based on driver self-report. Regardless of the tool's validity, they depend on the participant's honesty; however, highlighting the benefits of supplying this information frequently drives the respondent to answer correctly [31].

Thirty-seven 37 (16.8 %) needed a first drink in the morning to get going after a heavy drinking session, while 182 (83.1 %) did not need a drink in the morning to get going after a heavy drinking session.

Seven 7 (3.2 %) drivers could not remember the previous night's events because of drinking, while almost all 212 (96.8 %) could recognize the events of the last night because of drinking.

Sixty-five, 65 (29.2 %), usually feel guilt or remorse after drinking, while the majority, 155 (70.8 %), stated that they do not feel guilty after drinking.

**Table 1:** Respondents' alcohol dependence pattern and harmful alcohol use pattern- AUDIT (personal)

Variables	Frequency of occurrence (n = 219)				
	Never n (%)	<monthly n (%)	Monthly n (%)	Weekly n (%)	Daily n (%)
<b>Alcohol dependence pattern</b>					
Unable to stop drinking once started	176 (80.4)	14 (6.4)	29 (13.2)	0 (0.0)	0 (0.0)
Failed to do what was normally expected of him/her due to drinking	184 (84.0)	32 (14.6)	2 (0.9)	1 (0.5)	0 (0.0)
Needed a first drink in the morning to get going after a heavy drinking session	182 (83.1)	4 (1.8)	29 (13.2)	4 (1.8)	0 (0.0)
<b>Harmful alcohol use pattern (personal)</b>					
Feeling guilt or remorse after drinking	155 (70.8)	25 (11.4)	34 (15.5)	5 (2.3)	0 (0.0)
Unable to remember the events of the previous night because of drinking	212 (96.8)	5 (2.3)	0 (0.0)	0 (0.0)	2 (0.9)

**B) Commercial drivers ' alcohol use pattern- AUDIT (in public)**

Almost all the respondents 215 (98.2 %) stated that they had not injured anyone as a result of their drinking, 4 (1.8 %) had injured someone as a result of drinking. Thirty -four 34 (15.5 %) agreed that

their drinking has been of concern to someone, while 185 (84.5 %) stated that Drinking habit has not made someone concerned.

**Table 2:** Commercial drivers ' alcohol use pattern- AUDIT (in public)

Variables	Frequency of occurrence (n = 219)		
	No n (%)	Yes, but not last year n (%)	Yes, during last year n (%)
Injured someone as a result of drinking	215 (98.2)	2 (0.9)	2 (0.9)
Drinking habit has made someone concerned	185 (84.5)	2(0.9)	32 (14.6)

**C) Alcohol Use Disorder Identification Test (AUDIT) Score for drivers**

Forty two (19.2 %) respondents were positive for hazardous use of alcohol. Twenty seven (12.3 %) respondents were positive for alcohol dependence. Twenty seven (12.3 %) of the respondents were positive for harmful use of alcohol.

Conversely, 177 (80.8 %) were negative to hazardous use of alcohol, 192 (87.7 %) were negative to Alcohol dependence, 192 (87.7 %) were negative to Harmful use of alcohol.

**Table 3:** Alcohol Use Disorder Identification Test (AUDIT) Score for drivers

AUDIT Score	Frequency	Percent
<b>Hazardous use</b>		
Positive**	42	19.2
Negative	177	80.8
<b>Alcohol dependence</b>		
Positive**	27	12.3
Negative	192	87.7
<b>Harmful use</b>		
Positive**	27	12.3
Negative	192	87.7
<b>Total</b>	<b>219</b>	<b>100.0</b>

\*\* Unfit to drive

**Discussion**

Alcohol use disorder manifests after long-term use of alcohol; 20 % of the respondents could not stop drinking once they started. This presents an addictive component to drinking as the urge to drink persists without wanting to stop. This hazardous consumption of alcohol makes drivers unable to do what is expected of them during drinking. 16.0 %

failed to do what was normally expected of them due to drinking, but a majority (84.0 %) did not fail to do what was normally expected of them due to drinking. As the drinking habits are formed, drinkers usually have this urge to drink first thing in the morning, as shown in this study, where 16.8 % needed a first drink in the morning to get going after a heavy drinking session. Forgetfulness is a sign of alcoholism. Thus, 3.2 % of drivers were unable to remember the previous night's events because of drinking, even though almost all (96.8 %) can recognize the events of the last night because of drinking.

About 30.0 % usually feel guilt or remorse after drinking, while almost all the respondents (98.2 %) stated that they had not injured anyone as a result of their drinking, and 1.8 % had injured someone as a result of drinking. Thirty -four 34 (15.5 %) agreed that their drinking has been of concern to someone, while 185 (84.5 %) stated that their Drinking habit has not made someone concerned

Using the AUDIT tool, it was observed that 19.2 % of the respondents were positive for hazardous use of alcohol; this means that in dangerous alcohol use, there is an established pattern of use of alcohol carrying with it a high risk of future damage to health, physical or mental and, sometimes resulting in social consequences such as domestic conflicts, financial difficulties, and marital breakdown but which has not yet resulted in significant medical or psychiatric ill effects. Twelve percent (12.3 %) of the respondents were positive for alcohol dependence, and alcohol dependence is a physiological withdrawal state which includes alcohol use to relieve withdrawal

symptoms, impaired capacity to control the onset, termination, or level of service, evidence of tolerance and a strong sense of compulsion to take alcohol. Similarly, 12.3 % were positive for harmful alcohol use. Unhealthy alcohol use shows a pattern of use of alcohol which is already causing damage to health. The damage may be either physical (e.g., liver damage from chronic drinking) or mental (e.g., episodes of depressive disorder secondary to heavy drinking).

These AUDIT findings are similar to results done in Calabar<sup>6</sup>, where high proportions (84.4 %) of the drivers were alcohol users, the

## Conclusion

Forty-two (19.2 %) respondents were optimistic about the hazardous use of alcohol. Twenty-seven (12.3 %) respondents were confident about alcohol dependence. Twenty-seven (12.3 %) of the respondents were positive for the harmful use of alcohol.

## Recommendations

In line with the 9th Target of the Global Plan of Action for the implementation of the Decade of Action for road safety (2012 - 2030), which aims to halve the number of road traffic injuries and fatalities related to drivers using alcohol and achieve a reduction in those about other psychoactive substances by 2030. Drivers with alcohol use disorder will require rehabilitation and treatment for excessive intake

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majority (56.7 %) were harmless users, 23.3 % were hazardous (not fit to drive) while 20.0 % were nonusers of alcohol. Much lower values were obtained in a study done in the United States of America, a study [20]. This category of truck drivers was not fit to drive and should wait until they were treated. He presents a road safety challenge as the risk of road crashes increases with the consumption of alcohol. Thus, drivers should be discouraged from driving under the influence of alcohol, while road safety officials and transport management should conduct alcohol tests before drivers are allowed to embark on road trips.

of alcohol. Drivers with alcohol dependence should be re-posted to other jobs within the park or work areas. Commercial Long Distance Drivers and Drivers Union should have peer support and behavioral change activities to stop drinking while driving.

The government and road safety officers should discourage the sale of alcohol around the parks to prevent alcohol use and carry out rehabilitation programs for the driver's regular activities.

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