

## Substance and alcohol utilization among commercial drivers and its interrelationship with road traffic accident

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### Abstract

**Background:** Substance and Alcohol abuse is a major public health issue that has taken a deep root in our society. This study aims to assess substance and alcohol utilization among commercial drivers and how it affects road traffic crashes.

**Methods:** A descriptive cross sectional study of 358 commercial drivers in Lagos, Nigeria.

**Results:** All the respondents were males. The majority were aged 40years and below; married and had at least secondary education. 212 (59.7%) of the respondents drove because there was no other job and 195 (54.5%) drove daily for at least 10 hours. The majority 282 (78.8%) knew that behavioural changes, mental illness 233 (65.1%), accident 232 (64.8%) and death 214 (59.8%) are effects of substance utilization. The substances mostly used were analgesics (76%). 105 (29.3%) used alcohol, 81 (22.6%) abuse cannabis and 36 (10%) took stimulants. The reason for substance abuse given by most (83.4%) of the respondents was that they wanted to feel fine. 149 (44.9%) have had a road traffic crash. Drivers who took cannabis are more likely to have an accident. The occurrence of accidents reduced with increasing education and the association between the level of education and road traffic crash was statistically significant. Road traffic crashes increased with increasing driving hours and years of experience.

**Conclusion:** Level of education, cannabis utilization and number of driving hours are associated with road traffic accidents. Government should strengthen existing laws and policies on substance and alcohol abuse.

**Key Words:** Alcohol Abuse; Cannabis; Road Traffic Accidents; Substance;

### Introduction

Before the beginning of human history and even now, people have found ways to alter their bodies and their consciousness by taking substances such as herbs, alcohol and drugs<sup>1</sup>. Substance abuse is the immoderate use and dependence of a drug and chemical leading to effects that are detrimental to the person's physical and mental health or the welfare of others<sup>2</sup>. Substances of abuse are primarily psychoactive substances. Psychoactive drug, psychopharmaceutical or psychotropic drugs is a chemical substance that crosses the blood brain barrier and acts primarily on the central nervous system where it affects the brain function resulting in changes in perception, mood, consciousness, cognition and behavior<sup>3</sup>.

There are more than 50 million habitual users of heroin, cocaine and synthetic drugs worldwide. Fifty five percent of adults consume alcohol globally, 140 million people are suffering from alcohol dependence and 2.5 million die yearly<sup>4</sup>. Substance and alcohol abuse can cause financial strain on the economy of the country and the world at large. The effects of specific drugs of abuse differ depending on their mechanisms of action, the amount consumed, the history of the user, and other factors<sup>5</sup>. Initially for most people, the decision to abuse drug is voluntary, but over time with changes in brain structure and function, caused by repeated abuse of drug, a person's self-control and ability to make decisions can be affected<sup>6</sup>. People who abuse drugs are at risk of drug dependence (psychological and physiological) and tolerance. It can impair personal relationship. It can cause occupational and social problems, armed robbery, cultism, kidnapping and violence, medical and psychiatric illnesses. These drug abusers are parents or potential parents; it thus increases the risk of child neglect, abuse, health and behavioral problems<sup>7</sup>. The emerging drug problem of injecting drug users raises fear of high prevalence of human immunodeficiency virus/ acquired immune deficiency syndrome (HIV/AIDS) and other blood

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related diseases<sup>8</sup>.

Alcohol is the world's third largest risk factor for premature mortality, disability and loss of health. It also causes harm far beyond the physical and psychological health of the drinker as it harms the people around the drinker; the harmful impact is deep into society.<sup>9</sup> Drugged driving is a public health concern because it puts not only the driver at risk but also passengers and others who share the road. Research has shown that overall, marijuana is the most prevalent illegal drug detected in impaired drivers, fatally injured drivers, and motor vehicle crash victims<sup>10</sup>.

Driving under the influence (DUI) of any drug that acts on the brain could impair one's motor skills, reaction time, judgment, perception, cognition, attention, balance, coordination and other faculties required for safe driving. Drug abuse in Nigeria cuts across different age group, sex, profession and socio-economic classes; In Nigeria, most people use drugs to stay awake (kolanut and coffee), to stay alert throughout the day (cigarettes, cannabis), as a way to relax (alcohol) and to reduce pain (aspirin)<sup>11</sup>.

Road traffic accidents are the world's leading cause of death for individuals between the ages of 15 and 29 years. Globally, every year, about 1.3 million people are killed in motor vehicle crashes and 20–50 million more are seriously injured. By 2020, motor vehicle crashes are expected to become the third most serious threat to human health in the world<sup>12</sup>.

In Nigeria, Federal Road Safety Corps (FRSC) statistics indicated 5,157 lives were lost in road traffic accidents in three years out of 18,303 reported accidents<sup>13</sup>. Most of the accidents occur because of bad driving and unnecessary haste. The case of road users in urban cities like Lagos has become even more critical. In 2008, Lagos was declared the most dangerous city in road accidents<sup>14</sup>.

Commercial vehicles are the oldest and most common means of transportation in the world. The involvement of these commercial drivers in drug and alcohol abuse has put many commercial vehicle users, non-users and other vehicle users in danger, accidents injury and even death<sup>8,15</sup>. We therefore, determined the prevalence of drug abuse among commercial drivers in Lagos, Nigeria and its association with road traffic accidents.

### Materials and Methods

This was a descriptive cross sectional study involving commercial drivers in three motor parks (Isheri-Oshun, Iyana/Isheri and Kudebu junction parks) of Igando-Ikotun local council development area of Alimosho LGA in Lagos, Nigeria. Data collection was done over a period of four weeks from 1<sup>st</sup>-28<sup>th</sup> May, 2011 during the waiting periods of the drivers for passengers using a self-administered pre-tested questionnaire consisting mainly of closed-ended questions. The questionnaire was designed to elicit information on biodata, knowledge of effect of

substance and alcohol use, substance and alcohol usage and reasons their abuse.

The data obtained from commercial drivers was analyzed using Epi-Info 2005 statistical software version 3.5.1 and SPSS version 19. The investigator held a meeting with the commercial drivers association and the consent of the leaders and members was obtained for the study.

### Results

All the 372 commercial drivers at the identified parks during the period of the study were interviewed; of which 358 completed the questionnaires. All the respondents were males. The majority of respondents were aged 40 years and below (61.4%); married (67.9%); of Yoruba ethnicity (58.9%); had at least secondary education (58.4%) and were Christians (58.7%).

Table 1. Association between substance use and occurrence of road traffic accident among commercial drivers in Lagos, Nigeria

| Variable            | Ever had accident |             | Total | p       |
|---------------------|-------------------|-------------|-------|---------|
|                     | Yes<br>n (%)      | No<br>n (%) |       |         |
| Alcohol             | 45 (45.9)         | 53 (54.1)   | 98    | 0.13    |
| Cannabis            | 54 (69.2)         | 24 (30.8)   | 78    | <0.0001 |
| Other stimulants    | 11 (34.4)         | 21 (65.6)   | 32    | 0.09    |
| Age Range (years)   |                   |             |       |         |
| <30                 | 30 (38)           | 49 (62)     | 79    | 0.24    |
| 31-40               | 59 (47.6)         | 65 (52.4)   | 124   |         |
| 41-50               | 38 (42.2)         | 52 (57.8)   | 98    |         |
| >50                 | 22 (56.4)         | 17 (43.6)   | 40    |         |
| Education           |                   |             |       |         |
| Primary             | 63 (57.8)         | 46 (42.2)   | 109   | 0.01    |
| Secondary           | 61 (39.9)         | 92 (60.1)   | 153   |         |
| Tertiary            | 12 (30)           | 28 (70)     | 40    |         |
| Arabic              | 7 (63.6)          | 4 (36.4)    | 11    |         |
| None                | 6 (37.5)          | 10 (62.5)   | 16    |         |
| Married             | 96 (44)           | 122 (56)    | 218   | 0.46    |
| Driving hours       |                   |             |       |         |
| 0-3                 | 11 (22.9)         | 37 (77.1)   | 48    | <0.0001 |
| 4-6                 | 37 (44)           | 47 (56)     | 72    |         |
| 7-9                 | 41 (56.9)         | 31 (43.1)   | 72    |         |
| ≥10                 | 57 (46)           | 67 (54)     | 124   |         |
| Years of experience |                   |             |       |         |
| <1                  | 11 (22.9)         | 37 (77.1)   | 48    | <0.0001 |
| 2-3                 | 37 (44)           | 47 (56)     | 84    |         |
| 4-5                 | 41 (56.9)         | 31 (43.1)   | 72    |         |
| >5                  | 57 (46)           | 67 (54)     | 124   |         |

The majority (59.7%) of the respondents were driving because there was no other job, only 91 respondents (25.6%) had driving as their profession. Slightly above a half, (195 respondents) drove for at least 10 hours

daily. More than a third (38.7%) had been driving for at least six years, however 54 (15.3%) had driven for less than a year.

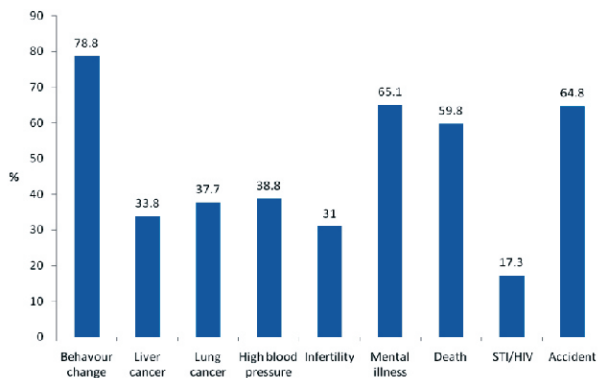


Figure 1. Knowledge of effect of substance utilization among commercial drivers in Lagos, Nigeria

The proportion of respondents who had correct knowledge of the effects of substance utilization ranged from 62 (17.3%) for STI/HIV to 282 (78.8%) for behavioural changes (Figure 1). The proportion of respondents that used substances were: alcohol (29.3%); cannabis (22.6%); other stimulants (10%). Analgesics were abused by 76% of the respondents while 58.9% abused antibiotics. Reasons for substance abuse included "wanting to feel fine" (83.4%); improvement of performance (65.1%); energy (59.2%); socialization (54.7%); to maintain wakefulness (48%) and improve sexual stamina (31%) as shown in Figure 2.

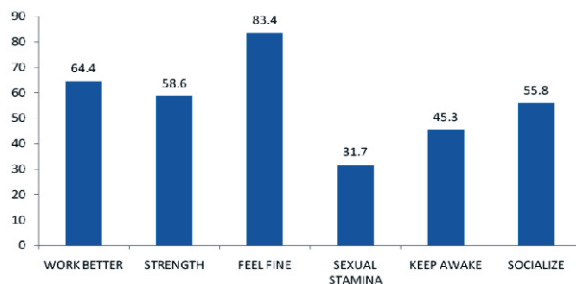


Figure 2: Reasons for substance and alcohol abuse among commercial drivers in Lagos, Nigeria

Slightly less than half of the respondents (44.9%) reported ever having had a road traffic accident. Cannabis use, level of education, duration of driving and length of experience were associated with road traffic accidents (Table 2).

## Discussion

Commercial Drivers who were interviewed were all males and the majority of the respondents were less than 40 years. This finding is similar to that of previous studies in Ibadan and Sagamu, western Nigeria among commercial drivers<sup>16,17</sup>. The majority were

driving because there was no job and drive for at least 10 hours in a day. These findings were similar to findings from another study done among commercial motorcyclist in Zaria<sup>14</sup>. Most of the drivers knew behavioural changes, mental illness, accident and death as effect of substance use. The findings are similar to that of a previous study in Ibadan which reported that psychoactive substance use cause mental illness<sup>17</sup>. The good knowledge of the effects of substance use could also be due to interaction with the other drivers who were users of these substances.

The substances mostly used in by the respondents in this study were analgesics being similar to a study done in Sagamu among commercial drivers<sup>17</sup>. The most commonly reported psychoactive substances were alcohol (29.3%), Cannabis (22.6%) and stimulants (10%) similar to that of a study in Ilorin, western Nigeria among long distance vehicle drivers<sup>19</sup>. Likewise, the reasons for substance use corroborate the findings of previous studies in Sagamu and Ghana among commercial drivers<sup>14,17,19,20</sup>.

Accidents were found to have occurred among almost half of the respondents (44.9%).

Accident occurrence was not associated with alcohol use. This is in contrast to the findings from the study in Ibadan, Sagamu and Ilorin<sup>16,17,19</sup>. However, there was a significant association between cannabis use and accident occurrence in our study while previous studies have shown no such<sup>16,19</sup>. More people who took stimulants did not have road traffic crashes (65.6%) when compared with drivers who did not use stimulant (48.3%), but the association was not statistically significant contrasting the finding of the studies in Zaria and Ibadan<sup>14,18</sup>.

Substance and Alcohol abuse no doubt is a major public health issue that has taken a deep root in our society as it affects individuals, families, communities and the nation as a whole. There is therefore a compelling need for the basic understanding of the harmful effects of substance and alcohol use, through education in schools especially driving schools and awareness campaign in the media and motor parks, continuous monitoring and surveillance to ensure compliance; penalties/ fines should be issued to offenders. Government should strengthen and heighten existing laws and policies on substance and alcohol abuse.

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