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Prevalence of Alcohol Impaired Long Distance Commercial Drivers in Aba and Umuahia

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Abstract:-

➢ ***Background***

Motor vehicle accidents cause significant ailments and death in our communities and driving under the influence of various psychoactive substances including ethanol (alcohol) have been associated with the incidences of vehicular crashes. In this paper a case study is presented in which the prevalence of alcohol-impaired driving is estimated for the general population of long distance commercial drivers in the cities of Aba and Umuahia.

➢ ***Methods***

Simple random sampling was used to identify drivers as such classified for this research. Random breath alcohol concentration tests were performed in the month of April, 2018 on 160 drivers.. The Chi – square statistics was used to test the hypotheses for alcohol consumption at 0.05 level of significance while the student T-test was deployed for prevalence of impairment.

➢ ***Results***

In Aba, 35% had a detectable quantity of alcohol in their breath while 8.75 percent of the drivers tested positive to alcohol but below the BAC limit set for the country, sample from 7.5% of drivers where very close to the legal drink drive limit and could be borderline. Sample from 18.75% of the drivers were at or above the legal drink limit at which drivers are recommended not to drive. In Umuahia, 35% had a detectable quantity of alcohol in their breath. The results showed that 10 percent of the drivers tested positive to alcohol but below the BAC limit set for the country while sample from 10% of drivers where very close to the drive limit and could be borderline. Samples from 15% of the drivers were at or above the legal drink limit at which drivers are recommended not to drive. There is a statistically significant relationship between age of driver and rate of alcohol consumption. None of the drivers interviewed in both cities know the Blood Alcohol Concentration (BAC) limit of the country.

➢ ***Conclusion***

The research concluded that alcohol consumption was rampant among long distance commercial drivers in the cities of Aba and Umuahia in Abia State, Nigeria while alcohol impaired drivers are not prevalent in both cities.

Keywords:- *Bac; Bra; DUI; Alcohol Intoxication; Alcohol Impairment.*

I. INTRODUCTION

The setting of maximum allowable Blood Alcohol Concentration (which refers to the percent of alcohol (ethyl *alcohol* or *ethanol*) in aperson's *blood* stream (BAC) levels is a tool for enforcement and for prevention. “In 2008, 9572 people died in road crashes in Nigeria according to police statistics. However, according to World Health Organization statistical modeling, this figure is likely to be much higher, with deaths ranging from 34,000 to 78,000 in 2007 and a mortality rate of 32.3 percent. Not only is it likely that the police data underestimate the road crash problem but it was also found that the data from the police and the Federal Road Safety Commission (FRSC) were inadequate for estimating the extent of the drink-drive problem mainly because of the lack of alcohol testing equipment (Ogazi and Edison, 2012).

The aim of this study was to gain information useful to improve traffic safety, concerning the following aspects for DUI (Driving Under the Influence): frequency, reasons, perceived risk, drivers' knowledge of the related DUI laws, perceived likelihood of being punished. It will encourage the Federal Road Safety Commission to engage in more periodic alcohol screening across the country and further encourage more researches in this area with the view to solving some of the attendant problems associated with alcohol.

The major consideration Worldwide for BAC legislation is hugely based on safety predicated on several clinical findings with social and cultural considerations. At present, there is no documented experimental work published in Nigeria that is linking the level of blood alcohol concentration with impaired driving, thus creating room for defective legislation and speculations. The probability of major

inefficiencies to legislate applicable control measures can manifest by accident with resultant health or fatal implications. It is against this background that this research was contrived and will help address the need to provide empirical evidence of the extent of abuse and risk posed by the menace of alcohol impairment on Nigerian roads.

❖ *The Breath Alcohol Testers*

Breath alcohol testing devices were first developed for use by police in the 1940s. The Breathalyzer was invented by Dr. Robert Borkenstein of the Indiana State Police in 1954.

There are four types of breathalyzers (Camping Survival 2005):

1. Semiconductor Model (breathalyzer)
2. Fuel Cell Model (alcosensors)
3. Infrared (IR) Spectroscopy Model (intoxilyzers)
4. Gas Chromatography (GC) Model (intoximeter)

➢ *Semiconductor Model (Breathalyzer):*

The Breathalyzer consists of a breath sampling system, two glass vials containing two identical chemical mixtures (sulfuric acid, potassium dichromate, silver nitrate and water) and a photocell system hooked to a meter for measuring the color change due to the chemical reaction. The breath sample is bubbled through one vial, in which Sulfuric acid absorbs the alcohol from the air (David Tin Win, 2006).

1. Alcohol CH_3-CH_2-OH reacts with potassium dichromate KCr_2O_7 producing chromium (III) sulfate $Cr_2[SO4]_3$, potassium sulfate K_2SO4, acetic acid CH_3COOH and water H_2O.
2. The silver nitrate $AgNO_3$ is a catalyst that accelerates the reaction. Color wise, the reddish-orange dichromate ion $Cr_2O^-_7$(where chromium oxidation state is 7+) changes to green chromium ion Cr_3+(where chromium oxidation state is 3+). The degree of this color change (caused by the change in chromium oxidation state from 7+ to 3+) is directly related to alcohol amount in expired air. For alcohol determination in exhaled air, the reacted mixture in the first vial is compared (using the photocell system) to the other vial containing the un-reacted mixture in the photocell system, which produces an electric current that causes the needle in the meter to move from its resting place. The operator then rotates a knob to bring the needle back to the resting place and reads the level of alcohol from the knob; the more that the operator must turn the knob to return it to rest, the greater the level of alcohol (David, 2006).

➢ *Fuel Cell Model (Alcosensors):*

The sensor consists of a porous acid- electrolyte material sandwiched between two platinum electrodes. The platinum oxidizes alcohol molecules in exhaled air flowing past one side of the fuel cell producing acetic acid, protons and electrons. Two free protons and two free electrons are released from the ethanol molecule when it is oxidized to acetic acid. The two electrons flow through a wire connected to the platinum electrode of the sensor, into an electrical- current meter and then to the platinum electrode on the other side of the cell. The two protons move through the lower portion of the fuel cell and combine with oxygen and the above electrons, to form water. The electrical current produced depends on the number of free electrons, which in turn depends on the amount of breath alcohol oxidized. A microprocessor measures this electrical current, computes the total Blood Alcohol Concentration (BrAC) and converts it to equivalent BAC (David, 2006).

➢ *Infrared (IR) Spectroscopy Model (Intoxilyzer):*

These units are extremely accurate and specific. They are often used as evidential testers in police stations. It consists of a lamp that generates a broadband IR beam containing many wavelengths. The IR beam passes through the sample chamber and a lens focuses it onto a spinning filter wheel made of narrow-band filters that are specific for the alcohol wavelengths. The photocell detects the light passing through each filter and converts to an electrical pulse, which is relayed to the microprocessor that interprets the pulses and gives the BAC, based on the IR absorption. (David, 2006)

➢ *Gas Chromatography Model (Intoximeter):*

These are based on the chromatographic separation principle. Alcohol peak is detected and its intensity is determined (Gomley 2004). They are called intoximeters (David, 2006).

II. MATERIALS AND METHODS

➢ *Study site/Subject selection/Study design*

The cross-sectional survey was conducted using Alcosense digital breathalyzer at various main long distance commercial motor parks in Umuahia, and Aba both in Abia State, South East Region of Nigeria. Locations were selected based on availability of the targeted population. The study was cleared by the Ethical Committee of the Federal Medical Centre, Umuahia and permission was also obtained from the transport unions (National Union of Road Transport Workers (NURTW) and Road Transport Employers Association of Nigeria (RTEAN) of each motor park. Names of participants were not included in the information requested. A structured questionnaire was administered consecutively in each of the selected motor parks to 180 consenting long distance commercial drivers by the researcher. Simple random sampling was used to select the required number of participants till the required number of willing participants was recruited. The questionnaire contained sections including auto-accident history as well as information about the consumption of alcohol/liquor. The data collected through the questionnaire were statistically analyzed using Statistical Package for the Social Sciences (SPSS) for windows version 20.0 software. Frequency counts were generated for all variables and statistical tests of significance was performed with chi square test. Significance was fixed at $P < 0.05$ and highly significant if $P < 0.01$.

Statistical method: The Slovin Formula was used to determine the sample size and e = margin of error (MoE), e = 0.05 with an estimated population of about 300,

The sample size n is thus calculated as;

$$n = \frac{N}{(1 + Ne^2)}$$

$$N = \frac{300}{(1+300 \times (0.05)^2} = 171$$

➢ *Procedure for Data Collection*

At each park visited, Subjects were instructed on how to draw their samples by blowing air into the straw/mouthpiece attached to the breathalyzer. For individual sample, each subject was given a new mouthpiece while the used ones were discarded. A minimum of 2 minutes were given for a blank surrounding air test before the breath samples are drawn and a minimum of two breath samples collected from the subject who were instructed to blow into the mouthpiece for approximately 10 seconds. A long steady beep determined when to stop drawing the breath sample. A minimum interval of 5 minutes were given for the next step to be conducted which gives time for the alcohol level inside the lungs to normalize.

III. RESULTS AND DISCUSSION

➢ *Demographics of Drivers*

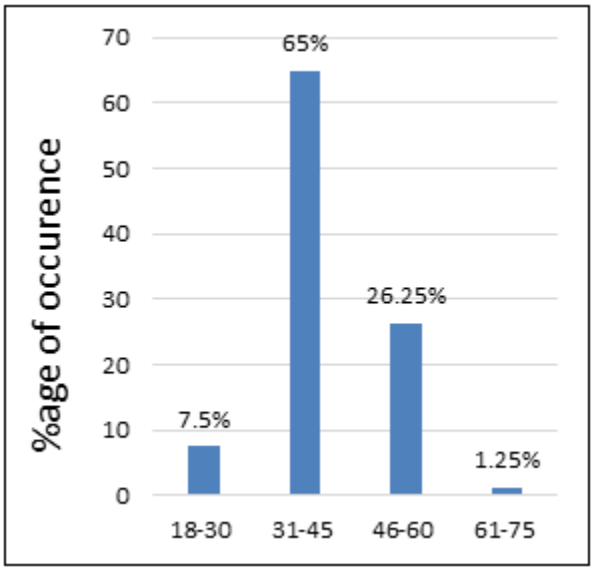

Fig 1:- Percentage of occurrence of the age range of long distance commercial drivers in Aba

In the analysis of the age data of drivers in Aba shown in figure 1, participants ages ranged between 18 and 65 with the highest frequency falling between 31-45 years. The data for this analysis are further illustrated in the Appendix.

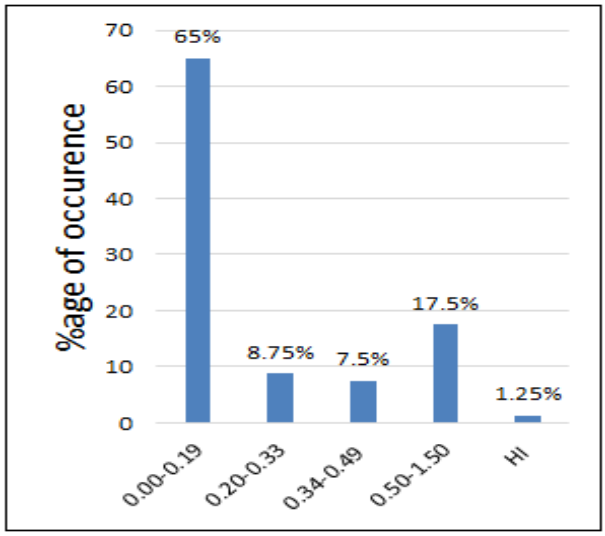

Fig 2:- shows the analysis of the pattern of alcohol consumption among long distance commercial drivers in Aba Metropolis.

65% of the drivers had no alcohol or a quantity below the detection capacity of the device used in analysing their breath samples while 35% had a detectable quantity of alcohol in their breath. The figure also shows that 8.75% of the drivers tested positive to alcohol but below the BAC limit set for Nigeria while sample from 7.5% of drivers where very close to the legal drink drive limit of 0.5 and could be borderline. Sample from 18.75% of the drivers were at or above the legal drink limit at which drivers are recommended not to drive.

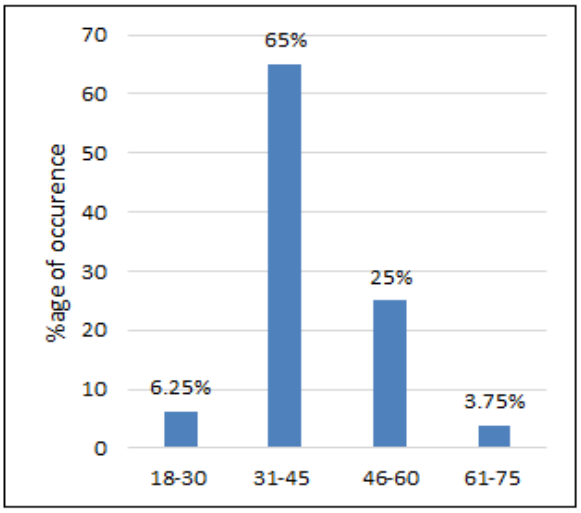

Fig. 3:- Percentage of occurrence of the age range of long distance commercial drivers in Umuahia.

In the analysis of the age data of drivers in Umuahia, Fig. 3 shows that, the ages of the drivers range from 18-65 years with the highest frequency occurring between ages 31 and 45.

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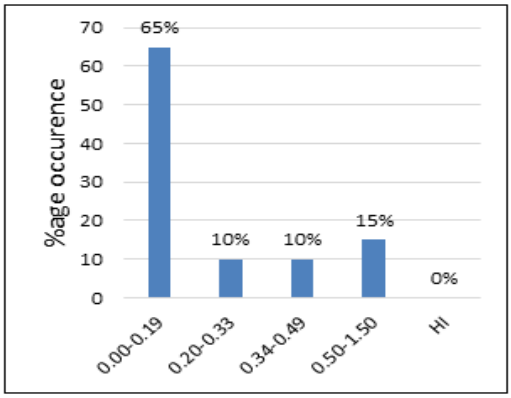

Fig 4:- Percentage distribution of the BAC of commercial long distance drivers in Umuahia.

The data showing of the pattern of alcohol consumption among long distance commercial drivers in Umuahia metropolis are in fig. 4. The figure shows that 65% of the drivers had no alcohol or a probable quantity below the detection capacity of the device used in their breath samples while 35% had a detectable quantity of alcohol in their breath. It also shows that 10% of the drivers tested positive to alcohol but below the Blood alcohol concentration limit set for Nigeria while sample from 10% of drivers where very close to the drive limit and could be borderline. Sample from 15% of the drivers were at or above the legal drink limit at which drivers are recommended not to drive.

SN	Question	Response	Frequency	Percentage	Total
1	Do you know the BAC limit in your country?	Yes	0	100	100
		No	80	0	
2	In your opinion, is operating a motor vehicle after consuming alcohol dangerous?	Yes	59	73.75	100
		No	3	3.75	
		Don't know/unsure	18	22.5	
3	In your opinion, does the consumption of alcohol before operating a motor vehicle increase the risk of causing a road crash?	Yes	59	73.75	100
		No	4	5	
		Don't know/unsure	17	21.25	
4	Have you consumed alcohol before operating a motor vehicle in the past?	Regularly	0	0	100
		Occasionally	22	27.5	
		No	34	42.5	
		Don't know/unsure	24	30	
5	Have you travelled as a passenger in a motor vehicle with someone who has consumed alcohol before driving?	Regularly	0	0	100
		Occasionally	35	43.75	
		No	18	22.5	
		Don't know/unsure	27	33.75	
6	In your opinion, what is the likelihood of being stopped by the traffic police on suspicion of drinking and driving?	High	1	1.25	100
		Moderate	10	12.5	
		Low	14	17.5	
		Don't know/unsure	55	68.75	
7	Reason for the use of alcohol	Recreational	5	6.25	100
		Alertness	17	21.25	
		Enhance driving	3	3.75	
		Not sure/habit	55	68.75	
8	Source of alcohol	Park neighborhood	6	7.5	100
		At home	29	36.25	
		In bars	6	7.5	
		Not sure	39	48.75	
9	Had any experience of road crash in the past 10 years?	Yes	18	22.5	100
		No	48	60	
		Don't know/unsure	14	17.5	
10	Have you had any previous hazardous experience while driving you think is related to alcohol impairment?	Yes	52	65	100
		No	28	35	
		Don't know/Not sure	0	0	

Table 1:- Sample community survey on drink and driving (Aba) Result of the community survey among commercial drivers in Aba Metropolis, data presented in Table 1 shows that none of the 80 drivers interviewed knew the Blood Alcohol Concentration (BAC) limit of Nigeria.

A majority of 73.75% of drivers agreed that alcohol consumption before driving has detrimental effects while 3.75% disagreed. In any case, 27.5% of the drivers admitted to occasionally consuming alcohol before driving while 42.5% denied ever drinking before driving in the past. 43.75% of the drivers said they had been in a vehicle in the past with someone who has consumed alcohol, 22.5% said no while 33.75% were not sure. The likelihood of being stopped by traffic police on suspicion of drinking and driving is very low as 68.75 said they were not sure of it ever happening and have never witnessed it and 17.5% said it was low. Regarding the reasons why drivers drink and drive 6.25% of the drivers drink for recreational purposes 21.25% of the drivers drink to stay alert, 3.75% drink to enhance driving while 68.75% of the drivers drink habitually or could not give any reason for their drinking behaviour. This is further potentiated by 7.5% of the drivers who agreed that they get their drinks from the motor park neighborhood, 7.5% get theirs from bars while 48.75% either said they had no specific place they get their drinks.

On exposure to hazards due to alcohol consumption, the data suggests that accident due to the influence of alcohol is prevalent amongst drivers given the 65% of the drivers who admitted that they have had previous hazardous experience(s) while driving that can be linked with alcohol impairment, 35% said they have not had such experience while 7.5% could not determine whether they have had any such experience that can be linked to alcohol impairment.

SN	Question	Response	Frequency	Percentage	Total
1	Do you know the BAC limit in your country?	Yes	0	100	100
		No	80	0	
2	In your opinion, is operating a motor vehicle after consuming alcohol dangerous?	Yes	76	95	100
		No	4	5	
		Don't know/unsure	17	0	
3	In your opinion, does the consumption of alcohol before operating a motor vehicle increase the risk of causing a road crash?	Yes	67	83.75	100
		No	12	15	
		Don't know/unsure	1	1.25	
4	Have you consumed alcohol before operating a motor vehicle in the past?	Regularly	0	0	100
		Occasionally	42	52.5	
		No	35	43.75	
		Don't know/unsure	3	3.75	
5	Have you travelled as a passenger in a motor vehicle with someone who has consumed alcohol before driving?	Regularly	1	1.25	100
		Occasionally	44	55	
		No	27	33.75	
		Don't know/unsure	8	10	
6	In your opinion, what is the likelihood of being stopped by the traffic police on suspicion of drinking and driving?	High	3	3.75	100
		Moderate	3	3.75	
		Low	31	38.75	
		Don't know/unsure	43	53.75	
7	Reason for the use of alcohol	Recreational	22	27.5	100
		Alertness	30	37.5	
		Enhance driving	4	5	
		Not sure/habit	24	30	
8	Source of alcohol	Park neighborhood	50	62.5	100
		At home	4	5	
		In bars	26	32.5	
		Not sure	0	0	
9	Had any experience of road crash in the past 10 years?	Yes	37	46.25	100
		No	42	52.5	
		Don't know/unsure	1	1.25	
10	Have you had any previous hazardous experience while driving you think is related to alcohol impairment?	Yes	9	11.25	100
		No	64	80	
		Don't know/Not sure	7	8.75	

Table 2:- Sample community survey on drink and driving (Umuahia)

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Result of the community survey among commercial drivers in Umuahia Metropolis, data presented in Table 2 shows that none of the 80 drivers interviewed knew the Blood Alcohol Concentration (BAC) limit of Nigeria.. A majority of 83.75% of drivers agreed that alcohol consumption before driving has detrimental effects while 15% disagreed. In any case, 52.5% of the drivers admitted to occasionally consuming alcohol before driving while 43.75% denied ever drinking before driving in the past. 56.5% of the drivers said they had been in a vehicle in the past with someone who has consumed alcohol, 33.75% said no while 10% were not sure. The likelihood of being stopped by traffic police on suspicion of drinking and driving is low as 53.75 said they were not sure of it ever happening and have never witnessed it and 38.75% said it was low. Regarding the reasons why drivers drink and drive, 27.5% of the drivers drink for recreational purposes 37.5% of the drivers drink to stay alert, 5% drink to enhance driving while 30% of the drivers drink habitually or could not give any reason for their drinking behavior. This is further potentiated by 62.5% of the drivers who agreed that they get their drinks from the motor park neighborhood, 32.5% get theirs from bars.

BAC of drivers (mg/l)	Frequency	Percentage (%)
0.00-0.19	52	65
0.20-0.33	7	8.75
0.34-0.49	6	7.5
0.50-1.50	14	17.5
HI	1	1.25
Total	80	100

Table 3:- Chi-square analysis of the BAC of drivers in Aba to determine the significance of drink driving among drivers.

From the result of the Chi-square test, χ^2 calculated (20.0) is more than χ^2 tabulated (0.22) suggesting that the problem of drink driving is significant in Aba.

BAC of drivers (mg/l)	Frequency	Percentage (%)
0.00-0.19	52	65
0.20-0.33	8	10
0.34-0.49	8	10
0.50-1.50	12	15
HI	0	0
Total	80	100

Table 4.4.Chi-square analysis of the BAC of drivers in Umuahia to; determine the significance of drink driving among drivers.

From the result of the Chi-square test, χ^2 calculated (15.0) is more than χ^2 tabulated (0.241) suggesting that the problem of drink driving is significant in Umuahia

Age range	(BAC) 0.00-0.19	(BAC) 0.20-0.33	(BAC) 0.34-0.49	(BAC) 0.50-1.50	(BAC) HI
18-30	4	0	1	1	0
31-45	34	5	5	7	1
46-60	14	2	0	5	0
61-75	0	0	0	1	0
Total	**52**	**7**	**6**	**14**	**1**

Table 4.5. Chi square analysis of the influence of age on the use of alcohol by long distance commercial drivers in Aba.

From the result of the Chi-square test, χ^2 calculated (8.0) is more than χ^2 tabulated (0.238) suggesting that age is associated with the use of alcohol in Aba.

Age range	(BAC) 0.00-0.19	(BAC) 0.20-0.33	(BAC) 0.34-0.49	(BAC) 0.50-1.50	(BAC) HI
18-30	2	1	1	1	0
31-45	32	7	6	8	0
46-60	15	0	1	4	0
61-75	2	1	0	0	0
Total	**51**	**9**	**8**	**13**	**0**

Table 4.6. Chi square analysis of the influence of age on the use of alcohol by long distance commercial drivers in Umuahia

From the result of the Chi-square test, χ^2 calculated (12.0) is more than χ^2 tabulated (0.213) suggesting that age is associated with the use of alcohol in Umuahia.

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	Frequency	Percentage	Mean	Standard Deviation	Standard Error
Drivers with alcohol impairment	15	18.75	3.75	3.00	1.50
Total Number of drivers	80	-	-	-	-
	T	**Df**	**Sig. (2-tailed)**	**Mean Difference**	**95% Confidence Interval of the Difference lower**
Drivers with alcohol impairment	2.20	3	0.12	3.75	-1.67

Table 4.7. T-test analysis of the BAC of drivers in Aba to determine the prevalence of impaired drivers amongst long distance drivers in Aba.

From the T-test result on the prevalence of impaired drivers in Aba, P = 0.12 > 0.05 supports the null hypothesis that alcohol impaired drivers are not prevalent in Aba.

	Frequency	Percentage	Mean	Standard Deviation	Standard Error
Drivers with alcohol impairment	13	16.25	3.25	3.59	1.80
Total Number of drivers	80	-	-	-	-
	T	**Df**	**Sig. (2-tailed)**	**Mean Difference**	**95% Confidence Interval of the Difference lower**
Drivers with alcohol impairment	1.81	3	0.17	3.25	-2.47

Table 4.8. T-test analysis of the BAC of drivers in Umuahia to determine the prevalence of alcohol impaired drivers amongst long distance drivers in Umuuahia.

From the T-test result on the prevalence of impaired drivers in Umuahia, P = 0.17 > 0.05 supports the null hypothesis that alcohol impaired drivers are not prevalent in Umuahia.

IV. DISCUSSION

Valid information on prevalence of alcohol is important input for public health policy. This study found that a significant proportion of commercial long distance vehicle drivers in Aba and Umuahia, were involved in regular consumption of alcohol. The result of this investigation indicates that drink-drivers have a prevalence of 35% in each of the cities of Aba and Umuahia. Alcohol impairment has a prevalence of 18.75% in Aba and 15% in Umuahia among the respondents. This is very similar to the 2009 Austrian and Switzerland overview of the studies in drivers suspected of driving under the influence of drugs and alcohol which reported alcohol detected to be 30% and 35% respectively. (Keller *et. al.,* 2009; Senna *et. al.,* 2010). A number of school and college surveys in Nigeria have also found alcohol usage among drivers very rampant although none has been done using alcohol testing equipment directly in the field. Opeyemi *et. al.,*(2015), reported that 20.5% of the long distance commercial drivers in Akure, Ondo state consume alcohol before/during driving. Adekoya*et.al.,*(2011), reported that 24.8% of long distance commercial drivers in Ilorin, Kwara State consume alcohol and smoke cigarette before/while driving while 11.5% were involved in daily consumption of alcoholic drinks.

The range of adverse physical consequences due to heavy use of alcohol on a single occasion is well documented. Almost similar to a survey by Abikoye, (2012) which reported that 20.8% had been involved in motor vehicle accidents over the previous 10 years, 22.5% admitted to have been involved in a road crash in the past 10 years in Aba. This though varies hugely with the46.25% reported in Umuahia. Furthermore in the report, 73.5% of the drivers agreed to the fact that driving after the consumption of alcohol is dangerous, 3.75% disagreed while 22.5 were unsure. This implies that alcohol consumption before driving has detrimental effects. 73.75% of the drivers agreed that the consumption of alcohol increases the risk of a road crash, 5% disagreed while 21.25% where unsure. This shows a significant awareness to the risks of driving after consuming alcohol and suggests that public policy implementation by the government has been impactful.

Although the sale of alcohol near the premises of motor parks is prohibited, sales have continued largely unchecked with little or no enforcement at various parks and their neighborhoods thus enhancing the availability to the drivers. This is evident in the reported 62.5% admissions by the drivers that they mostly obtain their drinks around the parks in

Umuahia. This is consistent with a similar report by Akpan and Ikorok(2014) in Uyo with 62.5% admitting getting their drinks within the park neighbourhood.

The outcome of this study is similar to a study on understanding the knowledge and attitudes of commercial drivers in Ghana regarding alcohol impaired driving which reported that majority of drivers expressed an understanding that drunk driving was a significant risk factor for crashes and concluded that there are misconceptions and deficits in knowledge that need to be addressed in subsequent educational campaigns (Asiamah *et al.,* 2002). The preventive campaigns mounted by the government have been intensified in recent years and the results suggest that these actions will be more effective, in combination with the heightened presence of traffic authorities on the roads conducting sobriety tests.

Surveys of drivers in several countries have looked at a wide range of behavioural attributes for the use of alcohol. These include recreation, a perceived sense of alertness, enhancement of driving skills etc. In the analysis of the extent of alcohol consumption among commercial drivers in Uyo Metropolis by (Akpan, 2014), drivers had many reasons for drinking. 56.25% of the drivers drink to stay awake while 9.375%) of the drivers drink to enhance driving. The report showed that drinking accounts for most of the accident. This is quite dissimilar to the observation in Aba where 21.25% of drivers consume alcohol for alertness while 3.75 drink to enhance driving. This inconsistency is also observed in the Umuahia data where 37.5% of the drivers drink to enhance driving.

Numerous evaluation research studies have found that changing certain public policies result in significant effects both on driver behaviors and on negative outcomes of alcohol consumption. This is self-evident in the majority of drivers admitting that the likelihood of being stopped by law enforcement for alcohol testing is very low. Our results seem to indicate that setting up checkpoints to test breath alcohol concentrations acts as a deterrent for drunk driving, because drivers are probably influenced by the lack of consequences of being penalized for violating traffic laws. This is true as experience had shown that drink-drivers and alcohol-impaired drivers do not use roads actively monitored by law enforcement agents in order to avoid being booked for violations at alcohol testing checkpoints.

From the result of the Chi-square analysis in Table 31, since the X^2 calculated (20.0) is more than the X^2 tabulated (0.22) (df = 16, $p < 0.50$), therefore the null hypothesis is rejected and the alternative that; the problem of drink driving amongst long distance commercial drivers in Aba is statistically significant accepted.

From the result of the Chi-square analysis in Table 32, since the X^2 calculated(15.0) is more than the X^2 tabulated (0.241) (df = 12, $p<0.50$), therefore the null hypothesis is rejected and the alternative that; the problem of drink driving amongst long distance commercial drivers in Umuahia is statistically significant accepted.

This study showed that drink-driving was associated with age. Although a strictly monotonic relationship is not observed, it would appear that in our study population in Aba, the percentage of positives tend to decrease with age until 64 years (though the low participation of certain age groups might have affected the outcome). This is so since the X^2 calculated(8.0) is greater than the X^2 (0.238) (df = 6, $p<0.50$). This implies that age has a significant influence on the use of alcohol by long distance commercial drivers in Aba. The results also show that there is a statistically significant influence of age on the use alcohol by commercial drivers in Umuahia. This deduction is valid since the X^2calculated(12.0) is greater than the X^2 (0.213) (df = 9, $p<0.50$) tabulated and implies that age has a significant influence on the use of alcohol by long distance commercial drivers in Umuahia.

From the results in table 35, alcohol impaired drivers are found not to be prevalent amongst long distance commercial drivers in Aba. From the result of the analysis, since the $p>0.05$($p=0.12$), we accept the null hypothesis that alcohol impaired drivers are not prevalent amongst long distance commercial drivers in Aba. From the results in table 36, Alcohol impaired drivers are found not to be prevalent amongst long distance commercial drivers in Umuahia. From the result of the analysis, since the $p>0.05$ ($p=0.12$), we accept the null hypothesis that alcohol impaired drivers are not prevalent amongst long distance commercial drivers in Umuahia.

V. CONCLUSION

In Nigeria, several traffic accident prevention programs have been implemented in recent years. Some of them were alcohol-focused, designed to prevent driving under the influence and to inform the driving population about the dangers associated with this kind of risk behavior. Based on the findings recorded in the study, the following conclusions can be made: impaired drivers are not prevalent amongst long distance commercial drivers in Umuahia and Aba. The research concluded that a significant population of the respondents drink alcohol before driving even though most of them identify DUI as a significant risk behavior. Some drivers never drive under the influence, to avoid a possible accident yet, many do not see a possibility of being stopped by traffic police on suspicion of driving under the influence. There is an association between the extent of use of alcohol among commercial drivers and the age of the drivers. This study found that alcoholic beverages are also available in some motor parks notwithstanding that trading in alcohol near the vicinity of most of the motor parks is banned. Moreover,

majority of the drivers do not know the legislation regulating DUI.

RECOMMENDATION

The current level of alcohol consumption amongst long distance commercial drivers in Aba and Umuahia has been shown to be high, in order to reduce the trend, it is recommended that road traffic officers should initiate random testing in Abia to instill discipline amongst drivers with punitive measures such as fines and possible jail time for offenders and repeat offenders consecutively. Enforcement should be "intelligence-led", which requires: acknowledging and understanding the drinking and driving problem through data collection and analysis; understanding community perceptions and political commitment regarding drinking and driving as done in this work.

Crash data as it relates to times of the day, days of the week and particularly critical locations should be presented in an appropriate format that will provide the profile on high alcohol times, days of the week and locations upon which to focus police resources for maximum effect. Information as gathered from this work about the locations where drivers consume alcohol can assist with targeted enforcement and educational intervention campaigns. Blood alcohol readings of drivers admitted to hospital obtained from apprehended offenders, the toxicology reports from the hospital related to all deceased drivers, identification of high-risk user groups by age or social standing published herein, will serve as assisting strategies for targeted enforcement and specific education. Many countries that have been successful in reducing drinking and driving have dedicated alcohol intervention units within the traffic police. Nigeria should establish specific police unit responsible for the coordination of policing efforts and counter-measures relating to drinking and driving. A dedicated unit should be responsible for: integration with other road safety strategies for road trauma reduction; facilitating education campaigns and publicity; facilitating training for general police personnel; gathering statistical data and intelligence to improve enforcement and detection methods; working with industry and large organizations in the provision of education, seminars and workshops on the effects of drinking and driving.

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