



PREVALENCE AND PREDICTORS OF ROAD TRAFFIC ACCIDENT AMONG COMMERCIAL TAXI DRIVERS IN PORT HARCOURT METROPOLIS, RIVERS STATE OF NIGERIA

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ABSTRACT

This study investigated the prevalence and predictors of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State. Seven research questions and six hypotheses guided the study. Descriptive cross sectional survey design was used for the study as the research design. The population of the study include commercial taxi drivers in Port Harcourt Metropolis. The sample size for the study was 450 commercial taxi drivers. Multistage sampling procedure was adopted for the study. A structured questionnaire was used to collect data from the respondents. The data collected was analysed using percentages, binary logistic regression and Chi-square test. The result showed that, the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis was high (99.1%). The findings from the study showed a significant relationship between age, years of driving experience and prevalence of road traffic accident ($p < 0.05$). Conclusively, the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis was high. Age, and years of driving experience, predicts road traffic accident among commercial taxi drivers in Port Harcourt Metropolis. It was recommended among others that government should come up with driver specific schools that are subsidized to make it affordable for the drivers or the government can subsidize some existing driving schools to train driver and also There should be total enforcement of traffic rules and regulation to correct erring drivers and the Government and affected institutions should take the issue of road construction and maintenance more seriously.

Keywords: Road traffic accident, commercial taxi drivers, Port Harcourt Metropolis



INTRODUCTION

Taxi is a motor vehicle licensed to transport passengers in a given distance in return for payment of a fare and in this study, taxi has the capacity to carry maximum of four passengers. Taxi was first built by a German called Gottlieb Daimler in 1897, he called the taxi Daimler Victoria, the taxi was equipped with the newly invested taximeter on 16th June 1897. This taxi was delivered to Friedrich Greiner who was a Stuttgart entrepreneur who started the world's first motorized taxi company. The first taxi accident happened on 13th September 1899 that took the life of an American Henry Bliss who was sixty-eight years old.

Road traffic accident is an unplanned event that occurs which could lead to injury, damage to property, environment or death. The event is a hazard and a hazard is anything that has the potential to cause harm to the people, damage to equipment and the environment.

Every work environment is with hazards that place the workers and company at the chances of having accident which causes injuries, ill health, and damage among others, Samuel & Amini (2008). The potential health hazards associated with commercial taxi driving are classify as air contaminants, chemical hazards, biological hazards, physical hazards, ergonomic hazards, and psychosocial hazard all which contribute to poor job performance and poor productivity.

The advent of road traffic accident among commercial taxi drivers is a global public health problem. As of 2012, 756 commercial taxi drivers lost their lives in work-related incidents according to the U.S. Bureau of Labour Statistics (BLS) Census of Fatal Occupational Injuries (CFOI) and Survey of Occupational Injuries and Illnesses (SOII) (2012). Commercial taxi drivers, along with driver/sales workers, had a workplace fatal injury rate of 24.3 in 2012, more than 7 times higher than the overall workplace average. They further stipulate that their rate of nonfatal injuries and illnesses involving days away from work was 294.7 cases per 10,000 full-time workers, almost 3 times the rate for all private industry occupations. It is estimated that road traffic accident account for the death of about 1.25 million people each year, and it is the leading cause of death among youth between ages 15-29 years (WHO, 2016). Low and middle-income countries have about half of the world's vehicle, and yet account for 90% of the world's fatal accidents (WHO, 2016). In 2013, WHO reported that deaths from road accident in 2010 were 33.7/100,000 (Nigeria), 22.2/100,000 (Ghana) and 31.2/100,000 (South Africa).

Agbonkhese, et al., (2013) has it that among 193 countries ranked in motor road traffic accidents, Nigeria ranked the second highest in rate of road traffic accidents. Conservative data available suggests that Nigeria is a country with an increasing road traffic accidents problem and has been rated as the worst in the world, (Asogwa, 1992 in Emelike, et al., 2019). Road traffic accident is a major contributor to mortality and morbidity in Nigeria (Salako, et al., 2014). In an international comparison of road traffic accidents, Nigeria has the worse mortality and morbidity rates among industrialized nations and developing countries from Africa (Asogwa, 1978 cited in Emelike, et al., 2019).

Indeed, news of road accidents in Nigeria no longer stirs any surprise. What may be shocking, however, is the magnitude of the fatality. Most of the fatal road traffic accidents are mainly among commercial taxi drivers. Personal observation shows that the high-level of contributing factors of road traffic accident among commercial taxi drivers are reckless overtaking, non-compliance to speed limit, non-use of seat belts and alcohol intake among commercial taxi drivers. Emelike, et al., (2019) reports that private drivers demonstrate high level of safety practice than commercial drivers. This may also be true among drivers in Rivers State. Equally, a lot of funds are wasted yearly to reduce the trends of road traffic accident on Nigerian roads and



highways. For instance, Idoko, (2010) submits that Nigeria loses three billion naira every year to road traffic accident and that road traffic accident cost Nigeria 13 percent of her Gross National Product (GNP). This loss undoubtedly inhibits economic and social development.

The age of the motorist in Port Harcourt metropolis could be a strong factor of the non-use of seatbelt such that with younger age the use of seatbelt is not high because they feel, they are experts due to their youthfulness and so can be safe without restrains but the elderly ones use it because of many years of experience and have been involved or sustained injuries that seatbelt use would have reduced. Bendaks, (2013) reported that young people aged 18-20years are non-users of seatbelt and they lack the knowledge of safety in seatbelt usage. These affect their wearing habits and perceptions, Similarly Suleman, et al., (2012) worked on factors affecting self-reported use of seatbelt among commercial taxi drivers in Gusau, it was concluded here that age of the motorist was significantly associated with the use of seatbelt, innovative public health education approaches with enforcement could mitigate the low level of use. Furthermore, one of the socio-demographic factors that would predict safety practices is age of workers. Construction workers who are older may likely consider safety practices on daily basis as compared with younger ones who may be loosed at work. Studies of Kiani & Khodabakhsh, (2014) indicate that 34 years of age (mean age) had increase level of safety practices.

An understanding of safety practice among commercial taxi drivers can be a positive effort towards mitigating road accident and contribute to the overall incremental gains in road safety. Rivers State being one of the major commercial states in the South-South Region of Nigeria has a very high rate of road accident on daily basis and as such it is necessary to unravel the prevalence and predictors of road accident among commercial taxi drivers. This study therefore aimed at investigating prevalence and predictors of road accident among commercial taxi drivers in Port Harcourt Metropolis.

Statement of the Problem

Road traffic accident among commercial taxi drivers is a routine occurrence on roads throughout the world. One unfaithful day in Rumuokwuta and Rumuokoro routes in Port Harcourt, Rivers State of Nigeria I witness a serious fatal commercial taxi driver's road traffic accidents that took the lives of two passengers each including the drivers, leaving other passengers with permanent disabilities and some with injuries. Thousands of commercial taxi drivers and passengers in Port Harcourt Metropolis, Rivers State lose their lives on the roads every day. Many are left with disabilities or emotional scars that they will carry for the rest of their lives while others are left helpless and hopeless as a result of losing a breadwinner to these hazards. The road traffic accident among commercial taxi drivers is on the increase with many losing their lives, while others disabled and helpless. An increasingly large proportion of these burdens were due to car accident, many of which were used for commercial commuting.

A number of factors increase the likelihood of road traffic accident among commercial taxi drivers, not only among young people but also in the general population. These include over speeding, lack of seat-belt usage, use of mobile phones while driving, improper child restraint use, drinking alcohol while driving, and not obeying road safety signs, bad weather, condition of road and use of faulty vehicle. Interventions to address these specific risk factors have been promoted through the World report on road accident injury prevention. Strategies to protect children on the road can include modifications to the environment and to vehicles and changes in behaviour. Reckless driving, lack of concern for road signs by commercial taxi drivers and disregard of motorcyclists by pedestrians are a common occurrence within the state. These



predispose the commercial taxi drivers, passengers and pedestrians to road traffic accident such as bruises, lacerations, dislocations and even fractures in severe situation.

The researcher observed that most commercial taxi drivers are exposed to road traffic accident on daily basis in Nigeria including Rivers State. If government and other non-governmental agencies could identify these problems come up with policies and strategies to curtail the level of road traffic accident occurrence as to protect pedestrians and motorists by modifying the environment that will be a welcome development. It is therefore vital in this study to investigate prevalence and predictors of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis.

Aim and Objectives of the Study

The aim of this study is to investigate the prevalence and predictors of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State. Specifically, the study sought to:

1. Determine the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.
2. Find out if age predicts road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.
3. Examine if work experience predicts road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.

Research Questions

The following questions were formulated to guide this study;

1. What is the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State?
2. Does age predict road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State?
3. How does work experience predicts road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State?

Hypothesis

The following null hypotheses were tested at 0.5 level of significance.

1. There is no significant relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.
2. There is no significant relationship between work experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.
3. There is no significant relationship between educational qualification and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.

LITERATURE REVIEW

Prevalence of Road Traffic Accident

A road traffic accident is a collision or crash that occurs when a vehicle collides with another vehicle, pedestrian, animal, road barrier, or any stationary obstruction such as a tree or a utility pole. Road traffic accident may result in injury, death, vehicle damage and possession damage. An RTA is defined as an event that produces injury and/ or property damage, that involves the collision of one or more vehicles on the road either in motion or stationed, Adejugbagbe, et al., (2015). Vehicle collisions cause death and disability as well as financial burden. Road traffic accidents cause many losses especially of human life, property damages, and loss of resources,



Mohammed, et al., (2019). Indeed, even in strife influenced countries such as Afghanistan, Libya, Pakistan, and Yemen, road accidents remain the most common cause of fatal injuries, causing between two and eight times more fatalities than war and lawful mediation. The World Health Organization (2013) assessed the casualty rate of road accident in the Eastern Mediterranean Region (EMR) to be the second most elevated rate universally after the African Region and extending a few other countries in the region. Recently, WHO (2020) reports that: Approximately 1.35 million people die each year as a result of road traffic accident.

The 2030 Agenda for Sustainable Development has set an ambitious target of halving the global number of deaths and injuries from road traffic accident by 2020.

Road traffic accident cost most countries 3% of their gross domestic product.

More than half of all road accident deaths are among vulnerable road users: pedestrians, cyclists, and motorcyclists.

93% of the world's fatalities on the roads occur in low- and middle-income countries, even though these countries have approximately 60% of the world's vehicles.

Road traffic accident injuries are the leading cause of death for children and young adults aged 5-29 years.

They further state that between 20 and 50 million more people suffer non-fatal injuries, with many incurring a disability as a result of their injury. Road traffic accident cause considerable economic losses to individuals, their families, and to nations as a whole. These losses arise from the cost of treatment as well as lost productivity for those killed or disabled by their injuries, and for family members who need to take time off work or school to care for the injured. Road traffic accident cost most countries 3% of their gross domestic product. In spite of the fact that low- and middle-income countries (LMICs) have just 48% of the total number of registered vehicles worldwide, the WHO estimates that 90% of the fatalities from RAs occur in LMICs; the case fatality rates in LMICs are about 21.5 per 100,000 and 19.5 per 100,000 respectively but for high income countries, it is about 10.3 per 100,000 populations.

Predictors of Road Traffic Accidents

Road Traffic Accidents are not usually the result of a single causal factor (i.e., not having a single cause) but each would usually have several causative factors. The causes of road traffic accidents classified into three: the road (including climate), the vehicle and the road user, Odera, et al., (2009). This study attempts to describe how different factors (human, vehicular and environmental) contribute to road traffic accidents.

Human factors: The human factors responsible for RTAs include demographic characteristics like age, sex, occupation, marital status, driving skills, speed, alcohol use, defective eyesight, distractions, fatigue, and disease condition. A review summarized studies on the epidemiology of motor vehicle accidents in developing countries showed that male casualties in RTAs were consistently more than females, Jha, et al., (2014). Another study by Vorko-Jović, et al., (2013) conducted in Zagreb Croatia found that the risk of involvement in fatal rather than injured outcomes was higher among males than among females. Another study conducted in Nigeria reported that an increased risk of injury was associated with male gender among those aged 18–44 years, with a relative risk of 2.96 when compared with women in the same age range 8 Accident rates were 4.9 times higher in males than females, Doherty, et al., (2008).

In Ontario Canada, road traffic accident involvement rates of 16–19-year-old drivers were higher than those of 20–24 and 25–59-year-olds. Age group 16–19-year-olds accounted for only 4.9% of the total yearly travel by 16–59-year-olds but were involved in more serious road traffic



accidents (13.7% of the drivers involved in fatal road traffic accidents were in this age group), Violanti, and Marshall (2011).

A case-control study by Van-Schoor, et al., (2010) designed to assess the presence or absence of risk factors among persons who had road traffic accidents and those who had not had accidents found that the major factors independently associated with an increased risk of road traffic accidents were; years of driving experience, motor and cognitive activities, and cellular phone use time. The study also noted that talking more than 50 minutes per month on cellular phones in a vehicle was associated with a 5.59-fold increased risk in a road traffic accident. Assessment of the combinations of cellular phone use time and other driver inattention factors found that the combination of cellular phone use time and drinking a non-alcoholic beverage, or with drinking an alcoholic beverage, with driving without a hand on the steering wheel, and with lighting a cigarette or cigar all resulted in a significant increase in the odds of having road traffic accident, Violanti, and Marshall, (2011).

Environmental factors: The environmental factors are sometimes known as road factors. These factors responsible for RTAs include road design, construction and surfacing, number of lanes, separation of pedestrians and cyclists from road accident, availability of lighting, climatic conditions (cloudy, rain, fog) (Jha, et al., 2014). Study by Violanti and Marshall (2011) where secondary data was used to examine the influence of passengers, time of day and day of week on road traffic accident rates using road traffic accident data made available by the Ontario Ministry of transportation derived from police reports for all road traffic accidents. Road Traffic Accident rates were found to be similar from Monday to Thursday and higher on Fridays and Saturdays; also, accident rates for all driver groups were found to gradually increase towards the evening, peaking between the late-night hours of midnight and early hours of dawn; this was similar to the findings that more fatal road traffic accidents occurred during night hours and that more deaths than injuries occurred during weekend, Jha, et al., (2014). It however differed from another set of findings, in a study that interviewed 494 victims of whom about a quarter mentioned that the road was wet at the time of RTA (representing 107 vehicles) involved in road traffic accident during wet road conditions, that the highest number of RTAs took place on Sundays followed by Tuesdays and Thursdays with the least number of RTAs occurring on Mondays ; the peak time for RTAs were highest number of RTAs occurring from 4 PM to 5 PM and from 6 PM to 7PM, Doherty, et al., (2008).

Vehicular factors: The Vehicular factors responsible for RTAs include mechanical defects (of brakes, tyres, steering, exhaust system and lights), type and design, Van-Schoor, et al., (2010). They further reveal that road traffic accident reports, found that tyres and brakes were the main contributors to mechanical failures resulting in road traffic accidents in the Pretoria. Few studies, however, address vehicular factors which is one of the factors this study considered.

Theoretical Framework

Trans-theoretical Model (TTM)

This model was propounded by Prochaska and Di-demente, (1979). This theory is also called stages of change model which attend to explain how individual or organization integrates new behaviours or lifestyles, goals, and programme at various levels. According to the theorists, behaviour change is a process and not an event or static states in which the person either engages in a particular behaviour. TTM also outlined different level of stages of individual readiness to change or attempt to change towards healthy behaviour. In regard to the current study, this model



examined how worker's behaviour or lifestyle reduce the exposure to occupational hazard and inculcate safety practices as means of escaping from risk of danger. The theorists in 1992 Prochaska and DeClemente, identifies five stages of behaviour change.

The readiness to key into safety rule and regulation is the major concern of the individual especially while driving on the highway. Launching into safety action is a behavior change that will minimize the exposure to occupational hazards by accepting PPE (seatbelts) at all times. This stage enhances individual sustainability of action, behavior and to achieve the degree of protection and maintain a hazard-free

Review of Empirical Studies

Study by Zeleke, (2017) on factors associated with road accident death and victim's social crisis in east Gojjam Zone, Amhara National Regional State, Ethiopia using a cross-sectional survey design. The RTA data recorded from 2013 to 2015 were reviewed from East Gojjam zone or wereda Traffic police Office and Triangularly Primary Data was collected from persons who were faced to car accident earlier through FGD and IDI techniques. 384 cases of victims were randomly reviewed. The association of explanatory variables with car accident death were determined using Logistic regression model; its social crisis was analysed, through qualitative analysis approach. The result revealed as there were 120 (31.25%) road traffic accident death rate in east Gojjam zone and majorities were Males, aged between 18 years to 30 years old and farmers have more contribution. Road users' factors such as sex, age, educational level, farm occupation, driver's ownership title on vehicle, pedestrians' movement on road, and drivers' lack of willingness to give priority for pedestrians, driver's driving experience, training, speed management, and overweight were significant determinant factors of road accident death in east Gojjam zone, Ethiopia. Similarly, road factors such as main road, curved and straight road characters, were found significant positive association with road traffic accident while Illumination was associated negatively. Victim's social discrimination, psychological disorder, burden on their family, need to depend on others and being in monotonous life quality were drawn as social crisis of car accidents. Formal Road Safety Training Programs were suggested to change road users' knowledge, Attitude and Practice (KAP) toward Sustainable Road Accident Safety, in Ethiopia by stakeholders generally.

Asefa, et al., (2015) worked on prevalence and factors associated with road traffic accident among taxi drivers in Mekelle Town, Northern Ethiopia using a cross-sectional survey design. Systemic sampling technique was used to select 761 drivers. A semi structured questionnaire was used to collect data and was analysed using multivariate logistic regression. The results showed that among the 712 taxi drivers, 26.4% (n = 188) of them reported involvement in a road traffic accident within the past 3 years. Drivers who listened to mass media had decreased likelihood of road traffic accident involvement (AOR = 0.51, 0.33–0.78), while speedy driving (AOR = 4.57, 3.05–7.44), receipt of a prior traffic punishment (AOR = 4.57, 2.67–7.85), and driving a mechanically faulty taxi (AOR = 4.91, 2.81–8.61) were strongly associated with road accident involvement. Receiving mobile phone calls while driving (AOR = 1.91, 1.24–2.92) and history of alcohol use (AOR = 1.51, 1.00–2.28) were also associated with higher odds of road traffic accident involvement. It was concluded that taxi drivers in Mekelle habitually place themselves at increased risk of road traffic accident by violating traffic laws, especially related to speedy driving, mobile phone use, and taxi maintenance.



Bekibele, et al., (2007) assessed risk factors for road traffic accidents among drivers of public institutions in Ibadan, Nigeria. The study aimed to examine the prevalence and risk factors for self-reported RA among drivers of educational institutions and make suggestions to promote safer driving. The study was a cross-sectional survey design. A structured questionnaire was used to collect data from a sample of 99 drivers selected using cluster sampling technique and were analysed using means, standard deviations and odd ratios. The analysis revealed that the prevalence of self-reported RTA was 16.2%. The cause of road traffic accidents included, mechanical fault (50%), bad road (12.5%). RTA prevalence was higher among older drivers (OR=1.7, 95%CI=0.5-5.9; $P>0.05$), drivers who had part time jobs (Odds ratio 2.6, 95% CI 1.1-6.3; $X^2=4.5$, $P=0.03$), and drivers with visual impairment (OR=1.6, 95% CI=0.9, $X^2=0.49$, $P>0.05$). The prevalence of RTA was lower amongst drivers who did not take alcohol, cola nut and other CNS stimulants while driving (OR 0.9, 95% CI=0.3-2.3, $P>0.05$). It was deduced that regular maintenance of official vehicles and examination of drivers' eyes are recommended. Drivers should be discouraged from drugs and part jobs so as to ensure that they have enough time to rest and therefore prevent fatigue related RTA.

Abledu, et al., (2014) researched on predictors of work-related musculoskeletal disorders among commercial minibus drivers in Accra Metropolis, Ghana. The study adopted the cross-sectional survey design among 200 commercial minibus drivers selected using simple random sampling technique. Data was collected using a questionnaire and analysed with Statistical Package for Social Sciences. The results showed that of the 148 drivers, 116 (78.4%) reported having WMSDs during the previous 12 months. The prevalence of the various WMSD domains was low back pain (58.8%), neck pain (25%), upper back pain (22.3%), shoulder pain (18.2%), knee pain (14.9%), ankle pain (9.5%), wrist pain (7.4%), elbow pain (4.7%), and hip/thigh pain (2.7%). Multiple logistic regression analysis adjusted for possible confounders showed that less physical activity (OR = 4.9; 95% CI = 1.5– 16.5; $P = 0.010$), driving more than 12 hours per day (OR = 2.9; 95% CI = 1.1–7.8; $P = 0.037$), and driving at least 5 days per week (OR = 3.7; 95% CI = 1.4–9.4; $P = 0.007$) were significantly associated with WMSDs among this cohort of drivers. It was concluded that these modifiable factors may be targets for preventive strategies to reduce the incidence of WMSDs among occupational minibus drivers in Ghana.

Similarly, Adejugbagbe, et al., (2015) carried out a cross section study on epidemiology of road traffic accident among long distance drivers in Ibadan, Nigeria. Cluster sampling technique was used to select 594 consenting commercial long-distance drivers from the motor parks in Ibadan. A pretested interviewer-administered semi-structured questionnaire was used to collect data from the respondents on their characteristics, psychoactive substance uses in their life time, life time and one-year history of RTCs including place and time of occurrence of the last crash in the previous one year before the study, and analysed using SPSS version 16 with the level of significance set at 0.05. Respondents (592) were males, with median age of 42.0 years (range 22.0-73.0 years). Secondary education was the highest level of education attained by 38.0%. About 34.0% reported current use of alcohol. The life-time prevalence of crashes was 35.3% (95% CI= 31.5-39.2%) and 15.9% (95% CI=13.1-19.0%) reported having had at least one episode of crash in the last one year preceding the study. The crash occurred mainly on narrow roads [32/94 (34.0 %)] and bad portions of tarred roads [35/94 (37.2 %)] with peak of occurrence on Saturdays 18/94 (19.1 %). Significantly higher proportions of drivers aged ≤ 39 years (23.4%) versus >39 years (11.7%), those with no education (29.9%) versus the educated (13.8%) and those who reported alcohol use (21.9%) versus non users (12.8%) were involved in



crashes in the year preceding the study. Significant predictor of the last episode of crashes in the last one year were age (OR=2.2, 95% CI=1.4-3.5), education (OR=2.7, 95% CI=1.5-4.6) and alcohol use (OR=1.8, 95% CI=1.2-3.0). It was deduced that road traffic accident occurred commonly on bad roads, in the afternoon and during weekends, among young and uneducated long-distance drivers studied. Reconstruction of bad roads and implementation of road safety education programmes aimed at discouraging the use of alcohol and targeting the identified groups at risk are recommended.

Oliveira, et al., (2012) investigated characteristics of motorcyclists involved in road traffic accidents between motorcycles and automobiles using a cross-sectional survey design. A sample of 100 motorcyclists was used for the study selected using simple random sampling technique. Data was collected using a questionnaire and were analysed using frequencies, chi-square and fisher exact test. The findings reveal that of the 100 consecutive accidents studied, 91 occurred with men and 9 with women, aged between 16 and 79 ($m = 29 \pm 11$) years. Regarding their reason for using a motorcycle, 83% reported using it for transport, 7% for work, and 10% for leisure. Most of these accident victims had secondary or higher education (47%). Of the motorcyclists who held a car driver's license, 68.3% drove the vehicle daily or weekly and held the license for more than one year. Sixty-seven percent of the road traffic accident victims used a motorcycle daily and had a motorcycle driver's license for at least one year. It was concluded that among the motorcyclists injured, most were men aged 20 years or older, with complete secondary education, and experienced in driving both motorcycles and cars, indicating that recklessness while driving the motorcycle is the main cause of road traffic accidents. workplace.

METHODOLOGY

The area of the study was carried out in Port Harcourt metropolis of Rivers State, Nigeria. Descriptive cross sectional survey design was used for the study as the research design. The population of the study include commercial taxi drivers in Port Harcourt Metropolis. According to Nigeria Union of Road Transport Workers Rivers State Chapter (2021) there are about 10,150 commercial taxi drivers in Port Harcourt Metropolis amidst the unregistered ones. The sample size for the study was 450 commercial taxi drivers. A sample size of 450 respondents was used for this study. The sample size was determined using Taro Yamane (1967) Formula for sample size determination. An additional 10% of 385 being 38.5 respondents was added to compensate for attrition rate and improperly completed questionnaire which sum up to 424 but the total sample size was 450, however 443 questionnaires were properly completed, returned and used for analysis. The selection of respondents was done using proportionate sampling procedure in which the number of total populations determines the number of respondents to be chosen. The respondents were then selected using accidental sampling technique as those that were available on the days of questionnaire administration and were enlisted, 200 respondents in Obio/Akpor, 100 respondents in Oyibo and 150 respondents in Port Harcourt respectively.

A structured questionnaire was used to collect data from the respondents. The questionnaire consisted of three sections-section A, B and C Section A elicited data on Socio-demographic variables, section B Prevalence of road traffic accident which consisted of Yes or No answers while section C Predictors of road traffic accident which also consisted of Yes or No.

To ensure the validity of the instrument, the instrument was reviewed by the researcher's supervisor, and three other experts from the department of Human Kinetics, Health and Safety Studies. Suggestions made were used to make some modifications. This move is targeted to



ensure that the instrument would satisfy its purpose by measuring what is it supposed to measure. Split-half method was used to determine the degree of internal consistency of the instrument. 30 copies of the instrument were administered at the same time to commercial drivers in Ikerre Local Government Area of Rivers State which is homogenous to the area of study. The questionnaires were numbered. All even numbers were group 1, while odd numbers were group 2. The reliability index from the two sets of questionnaires was determined using Butamide which produced co-efficient of 0.78 for section B, which focused on Prevalence of road accident and 0.80 for section C, which focused on Predictors of accident.

The researcher enlisted the help of three trained researchers to assist in the administration of the questionnaires to the respondents. A face-to-face method was adopted in the administration of the questionnaires, explaining its contents and the purpose for the study. Questions asked were answered and the respondents were told they were at liberty not to participate in the research. The questionnaires were administered to willing respondents, completed and retrieved immediately. Three days was used to administer the questionnaires in the three research locations. 443 out of the 450 questionnaires administered were retrieved and used for the study making a return rate of 98.4%. The completed questionnaires were checked for accuracy and completeness before analysis. The data was analysed using Statistical Package for Social Science (SPSS) version 23 and reported using descriptive statistical tools of simple percentages tables, mean and standard deviation. The hypotheses were tested using binary logistic regression and Chi-square test at 0.05 level of significance.

RESULTS AND DISCUSSION

4.1 Results

Research question 1: What is the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State?

Table 4.1: Prevalence of road traffic accident among commercial taxi drivers

Prevalence of road traffic accident	Frequency	Percentage (%)
Ever had accident	439	99.1
Yes	4	.9
No	443	100.0
Total		
Number of times accident occurred		
Once	15	3.4
Twice	204	46.5
Many times	220	50.1
Total	439	100.0
Cause of accident*		
Careless driving	423	95.5
Influence of alcohol	359	81.8
Excessive speeding	392	89.3
Traffic violation	414	94.3
Bad road	220	50.1
Bad weather	198	45.1
Faulty taxi	330	75.2
Accident location		



Main road	310	70.6
Side road	165	37.6
At the cross road	114	26.0
Roundabout	412	93.8

*Multiple responses

Table 4.1 showed the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis. The result showed that, majority of the respondents 439(99.1%) have ever had road traffic accident. Among which about half 220(50.1%) had it many times, 204(46.5%) twice and 15(3.4%) had it only once. The causes were due to careless driving (95.5%), traffic violation (94.3%), excessive speeding (89.3%), and influence of alcohol (81.8%) among others. Therefore, the prevalence of road traffic accident among taxi drivers in Port Harcourt Metropolis was high (99.1%).

Research question 2: What is the relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State?

Table 4.2: Relationship between age and road traffic accident among commercial taxi drivers

Age	Prevalence of road traffic accident		Total	r-value	Decision
	Yes	No			
<20 years	16(100)	0(0.00)	16(100)	0.027	Low relationship
21-30 years	230(99.1)	2(0.9)	232(100)		
31-40 years	80(97.6)	2(2.4)	82(100)		
>50 years	113(100)	0(0.00)	113(100)		
Total	439(99.1)	4(0.9)	443(100)		

Table 4.2 showed the relationship between age and road traffic accident among commercial taxi drivers. The result showed that the relationship was low ($r\text{-value} = 0.027$). Thus, the relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State was low.

Research question 3: What is the relationship between years of driving experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State?

Table 4.3: Relationship between years of driving experience and road traffic accident among commercial taxi drivers

Years of work experience	Prevalence of road traffic accident		Total	r-value	Decision
	Yes	No			
0-5 years	16(100)	0(0.00)	21(100)	0.02	Low relationship
6-10 years	230(99.1)	2(0.9)	34(100)		
11-15 years	80(97.6)	2(2.4)	127(100)		
>15 years	113(100)	0(0.00)	41(100)		
Total	439(99.1)	4(0.9)	443(100)		

Table 4.3 showed the relationship between years of driving experience and road traffic accident among commercial taxi drivers. The result showed a low relationship between the two variables ($r\text{-value} = 0.02$). Thus, the relationship between years of driving experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State was low.



Test of Hypotheses

Hypothesis 1: There is no significant relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.

Table 4.8: Binary logistic regression analysis showing relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis

Age	Prevalence		Total	Df	χ^2	p-value	Odds Ratio (OR)	95% CI	
	Yes	No						Lower	Upper
<20yrs	16(100)	0(0.00)	16(100)	3	550.0	0.00*	Ref.		
21-30yrs	230(99.1)	2(0.9)	232(100)			0.00*	.01	0.01 – 0.34	
31-40yrs	80(97.6)	2(2.4)	82(100)			0.00*	.02	0.10 – 0.10	
>50yrs	113(100)	0(0.00)	113(100)			0.99	.00		

***Significant; H₀ rejected**

Table 4.8 showed the binary logistic regression of relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis. On bivariate analysis, the findings of the study showed a significant relationship between age and prevalence of road traffic accident ($p < 0.05$). The result showed that those who were older were less likely to have accident, specifically those aged 31-40 years were fifty times less likely to have accident (OR = 0.02; 95%CI: 0.10 – 0.10) compared to those aged <20 years. Thus, the null hypothesis which stated that there is no significant relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State was rejected.

Hypothesis 2: There is no significant relationship between years of driving experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State.

Table 4.9: Binary logistic regression analysis showing relationship between years of driving experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis

Years of experience	Prevalence		Total	df	χ^2	p-value	Odds Ratio (OR)	95% CI	
	Yes	No						Lower	Upper
0-5yrs	16(100)	0(0.00)	241(100)	3	259.3	0.00*	Ref.		
6-10yrs	230(99.1)	2(0.9)	34(100)			0.00*	.03	0.01 – 0.22	
11-15yrs	80(97.6)	2(2.4)	127(100)			0.00*	.01	0.00 – 0.06	
>15yrs	113(100)	0(0.00)	41(100)			0.99	.00		

***Significant; H₀ rejected**

Table 4.9 showed the binary logistic regression of relationship between years of driving experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis. On bivariate analysis, the findings of the study showed a significant relationship between years of driving experience and prevalence of road traffic accident ($p < 0.05$). The result showed that those who had more years of experience were less likely to have accident, specifically those who had 11-15 years of experience were more than 50 times less likely to have accident (OR = 0.01; 95%CI: 0.00 – 0.06) compared to those who had 0-5 years of experience. Thus, the null hypothesis which stated that there is no significant relationship between years of driving experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State was rejected.



Discussion of findings

Prevalence of road traffic accident among commercial taxi drivers

Table 4.1 showed the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis. The result showed that, majority of the respondents 439(99.1%) have ever had road accident. Among which about half 220(50.1%) had it many times, 204(46.5%) twice and 15(3.4%) had it only once. The causes were due to careless driving (95.5%), traffic violation (94.3%), excessive speeding (89.3%), and influence of alcohol (81.8%) among others. Therefore, the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis was high (99.1%). This implies that taxi drivers experience a moderate level of RA. This may be attributed to the level of compliance with road traffic rules by taxi drivers. The findings are in keeping with that of Johnson, (2012) which reported that 68.0% of commercial drivers had been involved in road traffic accidents. The findings also correspond with that of Balami and Sambo (2019) which reported 64% prevalence of road accident. However, the results are at variance with that of Zeleke, (2017) which reported (31.25%) road traffic accident prevalent in Ethiopia. Similarly, Asefa, et al., (2015) recorded 26.4% of respondents reported involvement in a road traffic accident in Ethiopia. Bekibele, et al., (2007) also disagree with the findings reporting 16.2% prevalence of road traffic accident. Adejugbagbe, et al., (2015) also reported 35.3% prevalence of road traffic accident among commercial drivers in Ibadan. The variance in findings of the study may be attributed to location of studies and respondents.

Age and road traffic accident among commercial taxi drivers

Table 4.2 showed the relationship between age and road traffic accident among commercial taxi drivers. The result showed that the relationship was low (r -value = 0.027). Thus, the relationship between age and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State was low. This may be attributed to the fact that younger drivers are always at a high speed when consider to older ones. The findings are in consonance with that of Adejugbagbe, et al., (2015) which recorded that age (OR=2.2, 95% CI=1.4-3.5) significantly predict road traffic accident among commercial drivers. In the same vain Zeleke, (2017) also reported that age of a driver significantly predicts road traffic accident among commercial drivers. Similarly, Silva, et al., (2012) reported that age odds ratio [OR] = 1.77) was independently associated with reports of road traffic accidents. Also in line with the results is study by Shaheed, (2010) which reported that age contribute to the occurrence of road traffic accidents. In the same vain the study results agrees with the results of Tumwesigye, et al., (2016); Lerner, et al., (2011); Mohammadi, et al., (2015) which reported that age determines the occurrence of road traffic accidents. However, in contrast with the findings is studies of Ogunmodede, et al., (2012) where it was recorded that age does not significantly influence the causes of road traffic accidents among commercial drivers in Nigeria. This might be attributed to the fact that old age contributes to less road traffic accident especially amongst drivers that requires the use of the mind. However, job experience and training including proper job placement can play an important role.

Years of driving experience and road traffic accident among commercial taxi drivers

Table 4.3 showed the relationship between years of driving experience and road traffic accident among commercial taxi drivers. The result showed a low relationship between the two variables (r -value = 0.02). Thus, the relationship between years of driving experience and road traffic accident among commercial taxi drivers in Port Harcourt Metropolis, Rivers State was low. The findings are in keeping with that of Zeleke, (2017) which reported that driver's driving



experience were significant predictors of road traffic accident among drivers. Similarly, Silva, et al., (2012) reported that years of working experience contribute to road traffic accidents. Also studies of Tumwesigye, et al., (2016) also recorded that years of experience determines road traffic accidents among commercial drivers. The finding of Jazari, et al., (2018) and Berhe, et al., (2015) also disagree with the finding of the present study as it reported a significant difference between years of work experience and road traffic accident. However, at variance with the results is study of Nyachieo, (2015) does not significantly predict road traffic accident among commercial drivers. The finding of Jazari et al., (2018) agrees with the finding of the present study as it discovered a non-significant difference between years of working experience and road traffic accident. The difference in study results may be attribute to the study location and respondents.

Conclusions

Conclusively, the prevalence of road traffic accident among commercial taxi drivers in Port Harcourt Metropolis was high. Age, and years of driving experience predicts road traffic accident among commercial taxi drivers in Port Harcourt Metropolis.

Recommendations

Based on the findings, the following recommendations were made:

1. The government should come up with driver's specific schools that are subsidized to make it affordable for the drivers or the government can subsidize some existing driving schools to train drivers.
2. There should be total enforcement of traffic rules and regulation to correct erring drivers and the Government and affected institutions should take the issue of road construction and maintenance more seriously.
3. There is a need for road safety education and campaigns, by the FRSC and VIO, directed at vehicle owners and/or drivers especially women. Such road safety education should be focused on safe driving and avoidance of risky behaviors such as use of mobile phones. Reconstruction of bad roads and implementation of road safety education programs

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