

## SOCIO-DEMOGRAPHIC DETERMINANTS OF OCCUPATIONAL HAZARDS AMONG TAXI DRIVERS IN RIVERS STATE

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### Cite this article:

Ogbuehi & Onyekwere (2024),  
Socio-Demographic Determinants of  
Occupational Hazards among Taxi  
Drivers in Rivers State. International  
Journal of Physical, Health and  
Human Kinetics Studies, 1(1), 15-32.

DOI: [10.13140/RG.2.2.28402.72641](https://doi.org/10.13140/RG.2.2.28402.72641)

### Manuscript History

Received: 7 May 2024

Accepted: 11 June 2024

Published: 14 July 2024

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### ABSTRACT

This study investigates the socio-demographic determinants of occupational hazards among taxi drivers in Rivers State, Nigeria. The objectives were to examine the influence of age, work experience, and educational status on the prevalence of occupational hazards. A descriptive cross-sectional survey design was employed, involving 600 taxi drivers selected through multi-stage sampling techniques. Data were collected using a structured questionnaire and analyzed using frequency, percentage, mean scores, and ANOVA. The findings revealed that occupational hazards were more prevalent among older drivers (31-40 years: 58.4%, >40 years: 71.4%), those with 6-9 years of experience (71.0%), and drivers with no formal education (84.6%). Significant differences were found in the prevalence of hazards based on age, work experience, and educational status. The study concludes that targeted safety interventions and educational programs are essential to mitigate occupational hazards, particularly for older, mid-career, and less-educated taxi drivers in Rivers State.

**Keywords:** socio-demographic determinants, occupational hazard, taxi drivers



## INTRODUCTION

### Background to the Study

Driving is one of the most hazardous jobs. Adherence to safety practice had been a major problem in the global community especially in industrialization which is prevalent in developing nations, Nigeria inclusive. Occupational health and safety practices deals with the expectation, acknowledgment, assessment and control of hazards emerging in or from the road that could impede safety of drivers, (Alli, et al, 2017). Occupational health and safety practices are focused on ensuring the physical, mental and social wellbeing of workers of all categories; this is achieved by controlling hazards, conditions and occurrences which might be hazardous to the driver's physical, mental or social wellbeing (Ahmad et al, 2016). Therefore, occupational health and safety is the process responsible for the development, promotion, and maintenance of the driving environment; it involves policies and programmes which not only enhance the mental, physical, and emotional wellness of not just the drivers, but also aims to keep the road relatively free from hazards which could bring about injury to the drivers (Useche, et al, 2017). Every work environment is with hazards that place the workers and company at the chances of obtaining injuries, ill health, damage among others. According to World Health Organization (2001), the potential health hazards associated are 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 occupational hazards among drivers is a global public health problem.

Agbonkhese, et al, (2013) has it that among 193 countries ranked in motor road accidents, Nigeria ranked the second highest in rate of road accidents. Conservative data available suggests that Nigeria is a country with an increasing road accidents problem and has been rated as the worst in the world (Asogwa, 1992 in Emelike et al, 2019). Road motor 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 traffic accidents in Nigeria no longer stirs any surprise. What may be shocking, however, is the magnitude of the fatality. Most of the fatal accidents are mainly among commercial drivers. Emelike et al, (2019) reports that private drivers demonstrate high level of safety practice than commercial drivers. Equally, a lot of funds are wasted yearly to reduce the trends of road accident on Nigerian roads and highways. For instance, Idoko (2010) submits that Nigeria loses three billion naira every year to road crashes and that road crashes cost Nigeria 13 percent of her Gross National Product (GNP). This loss undoubtedly inhibits economic and social development.

The age of the motorist could be a strong factor that affects their safety practices for instance, 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. Similarly, Suleman, et al (2012) worked on factors affecting self reported use of seatbelt among commercial vehicle drivers in Gusau, it was concluded that age of the motorist were 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 (drivers) 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 and Khodabakhsh (2014) indicate that 34 years of age (mean age) had increase level of safety practices.

The Educational status of the motorist may also influence good safety practice in Rivers State. This depicts that the educational level of the drivers may increases the level of safety practice while driving. Kulanthanyan, et al (2004) has it that educational level is an influencing factor in determining seatbelt use among motorist. They observed that due to the educational level of the motorists the seatbelt compliance is increased. Research conducted by Adams and Dav (2011) shows that most educated driver imbibe good safety practice than the non-educated ones, they make use of seatbelts, do not overtake recklessly, and obey traffic rules. Abiola et al, (2010) observed that education level significantly predicts good safety practice among drivers. The Educational status of the motorist is also an influencing factor towards the knowledge and practice of seatbelt use in Port Harcourt metropolis, Rivers state. This means that the educational level of the drivers increases the seatbelt rate usage. Kulanthanyan, et al, (2004) and Jazari, et al, (2018) has it that the educational level is an influencing factor in determining seatbelt use among motorist, They observed that due to the educational level of the motorists the seatbelt compliance is increased, based on this factor it is personal observed that most of the motorist are educated people, they have passed through the four walls of an institution, be it secondary, university or driving schools as the case maybe, so they are aware and have the knowledge of safety on the road. Furthermore Chika and Oladimej (2011) and Mohammadi et al, (2015) observed that many motorists had a positive attitude to use their seatbelt, 95.5% disagreed with the idea that seatbelt causes accident, while 80.5% also disagreed with the belief that seatbelt usage was for educated motorist.

Years of experience by the motorists implies that the number of years one has driven a vehicle can either prevent the seatbelt usage or encourage the seatbelt usage among motorist in Port Harcourt metropolis, Rivers State. Some motorist have been driving for 10-20years and so the seatbelt use compliance is very low because they feel that the year of experience of a motorist should not determine the usage of seatbelt, seatbelt should be used properly despite one's year of experience in driving because when accident occurs or a sudden break is held or even a collision, there is usually injury sustenance and death sometimes which has no business with years (Ped, et al, 2015).

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

### **Statement of the Problem**

The incidence of occupational hazards among taxi drivers in Rivers State is on the increase with many loosing their lives, while others disabled and helpless. Personal observation shows that the high level of road crashes among commercial drivers is as a result of reckless overtaking, non-compliance to speed limit and non-use of seatbelts. The rate at which taxi drivers abuse alcohol proves they are psychologically disordered. Majority of accidents on the road and functions



occur due to inadequate adherence to traffic signs. One of the major issues is that usually taxi drivers often associate with exposure to varieties of hazards including physical, chemical and biological.

However, this work related hazards among taxi drivers in Rivers State may be brought about by safe work conditions and unsafe work behaviour. Normally, taxi drivers in any part of the state are expected to have the kind of sectorial-specific or industry-specific knowledge and skill required for occupational health and safety management in the practice of the profession but as commonly observed they lack adequate knowledge of occupational hazards and safety practices related to their profession. Similarly, they are expected to know how to identify workplace hazards (such as physical, chemical, biological, safety and health); they are expected to know factors that affect human performance (for instance age, work experience and level of education, and how health factor affect safety performance); and also understand how to investigate and evaluate accidents, injuries, illness and work related accidents as well as understand how to promote wellness (by discouraging harmful behaviours such as reckless overtaking, non-compliance to speed limit, non-use of seatbelts, abuse of alcohol and inadequate adherence to traffic signs) as generally observed these categories of workers lack such knowledge, skills and experience as a result, they are often exposed to occupational hazards.

In view of the observations, that the importance of knowledge of socio-demographic determinants of occupational hazards and safety practices is often overlooked among taxi drivers, the study sought to fill the gap by investigating the socio-demographic determinants of occupational hazards among taxi drivers in Rivers State.

### **Aim and Objectives of the Study**

The aim of this study was to investigate the socio-demographic determinants of occupational hazards among taxi drivers in Rivers State. Specifically, the study seeks to:

1. To investigate the occupational hazards among taxi drivers in Rivers State based on age,
2. To ascertain the occupational hazards among taxi drivers in Rivers State based on working experience,
3. To access the occupational hazards among taxi drivers in Rivers State based on educational status.

### **Research Questions**

The following questions were formulated to guide this study;

1. What are the occupational hazards among taxi drivers in Rivers State based on age?.
2. What are the occupational hazards among taxi drivers in Rivers State based on working experience?.
3. What are the occupational hazards among taxi drivers in Rivers State based on educational status?.

### **Research Hypotheses**

The following null hypotheses were tested at 0.05 level of significance.

1. There is no significant difference in the prevalence of occupational hazards among taxi drivers in Rivers State based on age.
2. There is no significant difference in the prevalence of occupational hazards among taxi drivers in Rivers State based on work experience.
3. There is no significant difference in the prevalence of occupational hazards among taxi drivers in Rivers State based on educational status.



## REVIEW OF RELATED LITERATURE

### Conceptual Framework

#### Concept of Occupational Hazard

Occupational hazard, being the main focus of this research is wholly concerned with the hazard encountered by drivers in their different fields of endeavor which can adversely affect health. It is in records of research findings that the type of occupation of an individual has a significant influence on the health of that individual (Abdusalam *et al*, 2015). Hence, the inclusion of the type of occupation on the medical history of patients. Authorities have established that health hazard factors are traceable to the specific hazards common in that occupation. Additionally, Idoro, (2011) and Awoyemi, (2002) hold the view that occupational hazard are in different categories such as a physical, chemical, biological, ergonomic occupational health hazards. Occupational hazard as a term signifies both long-term and short-term risks associated with the workplace environment and is a field of study within occupational safety and health and public health. Short term risks may include physical injury, while long-term risks may be increased risk of developing cancer or heart disease and etc.

According to Awoyemi (2002) occupational hazard is any source of potential damage, harm, or adverse health effects on someone under certain conditions at work. In his study, he noted that hazard is referred to as being the actual harm or the health effect caused rather than the hazard. For example, the disease pulmonary tuberculosis (TB) is categorized as a biological hazard. The International Labour Organization (2012) estimates that 160 million people across the world suffer from work-related diseases such as musculoskeletal diseases and mental health problems, whereas 270 million fatal and non fatal work-related accidents result in over 350,000 casualties and over 2 million work-related deaths each year which are all attributable to occupational hazards, hazards.

#### Determinants /causes of occupational hazards

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 accidents classified into three: the road (including climate), the vehicle and the road user (Odero *et al*, 2009). This study attempts to describe how different factors (human, vehicular and environmental) contribute to 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). Previously, 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.

**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 traffic, 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 accident rates using accident data made available by the Ontario Ministry of transportation derived from police reports for all accidents.





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

### **Theoretical Framework**

#### **Health Belief model**

The Health Belief model was propounded in 1950 in the United States Public service by Irving Rosenstock. The theory states that health behaviour of a person is a reflection of an individual's belief about a health problem and that the probability of taking action to prevent the illness depends on the perceived seriousness or severity of the disease. For instance, if a person believed that a disease is serious and that he can catch it, the person is more likely to take necessary action to protect him/herself. That is to treat him/herself. This theory is by implication indicates the consciousness people have towards health habits which helps them make voluntary changes in their behaviour towards health.

The Health Belief Model is important to analyze the probability or likelihood that a person will make changes to improve or prevent diseases putting into consideration the social and environmental factors that affect the learning of the new health behaviour. Thus, the Health Belief Model is a paradigm used to predict and explain health behaviour as a guide to the development and selection of health interventions. The model has four main components: perceived susceptibility, perceived severity, perceived benefits and perceived barriers and two modifying variables which are clues to action and self efficacy.

This theory relates to the present study in that identifying the complications of road traffic crash by following prescribed road signs, spelt out speed limits and used of seatbelt is a swift response of their consciousness that severity of accident could result to death of the expectant passengers and drivers. Thus, there is need that drivers consciously follow road driving guides, carry out routine check on cars to identify any abnormality that may prevent a healthy life during driving.

#### **Empirical Review**

Naqvi and Tiwari (2017) researched on factors contributing to motorcycle fatal crashes on national highways in India. The objectives of the study are to analyse fatal crash patterns, and to identify the factors contributing to motorcycle fatal crashes. Fatal crash data, i.e., First Information Reports (FIRs) for the studied stretches of NHs are collected for the past five years from the respective police stations. In India, the respective state police department report crashes in FIRs. The fatal crash FIR data fields include crash date/day, time of crash, location of crash, brief description of crash, etc., and the inputs for data fields are obtained from the fatal crash victim's relative/friend or eyewitness. An attempt is made to establish relationship between motorcycle versus non-motorcycle fatal crashes and probable contributory factors for three National Highways in India using binomial logistic regression. The distribution of victims' mode by striking vehicles shows that per cent share of striking vehicles as truck against the victims' vehicles, i.e., motorcycle are 44%, 52% and 37% on two-lane, four-lane and six-lane NHs respectively. The results of the model (motorcycle versus non-motorcycle fatal crashes) show that for variable "collision type", likelihood to occur rear-end, sideswipe and head-on collision are forty-two times, thirty-five times and twenty-five times more than hit pedestrian respectively; for variable "number of vehicle", likelihood is thrice as "single vehicle" than "two or more vehicles"; and, for variable "number of lane", probability is more on two-lane NH than four-lane



NH. To reduce the likelihood of motorcycle fatal crashes especially head-on, rear-end and sideswipe collisions on NHs, it is recommended that riders including pillion riders' use properly. This study relates to the present study because both concentrated on hazards associated with driving.

Similarly, Johnson and Bassey (2017) researched on road safety practices among private motorists in state secretariat, Uyo, Nigeria using a descriptive cross sectional survey design. Multi-stage sampling procedure was adopted to select a sample of 400 drivers. A semi-structured questionnaire was used to collect data and was analysed using the Statistical Package for the Social Sciences (SPSS) version 20. The result is as follows: The mean age of respondents was  $37.67 \pm 8.27$  years with male to female ratio of 1.75:1. Majority, 83.2% had tertiary education. Only 179 (46.1%) learnt how to drive in driving schools. The prevalence of road traffic injuries was 22.7%. Majority, 342 (88.1%) possessed driving licenses, out of which only 168 (49.1%) underwent driving tests. Level of knowledge of road signs ranged from 6.2% for "no stopping" to 67% for "no parking". Lifetime consumption of alcohol was 55.7%. Eighty two (21.1%) of the respondents sometimes or never used seatbelts. The most common reason given by 65.9% was discomfort. Use of seat belt by back passengers was 15.7%. The average speed on highway was  $106.9 \pm 24.2$  km/hour. Awareness of existence of speed limit in Nigeria was 63.7% and 156 (40.2%) admitted to making or receiving calls while driving. There was a statistically significant association between making or receiving calls and occurrence of road traffic injuries. It was concluded that Awareness campaigns to improve knowledge of highway codes and other traffic regulations are advocated for this study population and other private motorists in the study area. Safety practices among motorists relates this study and the present study.

Related study conducted by Tezera, et al, (2017) on the self-reported, safety practices, and associated factors among employees of Dashen brewery share company, Gondar, Ethiopia: A cross-sectional study. The study aims at assessing safety practices and associated factors among employees. Institutional based cross-sectional survey study was carried out from February to March 2016 among workers. The sample size of 415 participants was selected using stratified sampling technique. Data was elicited using structured interview questionnaire and observational checklist. Data was entered via Epi info version 7 and analyzed using SPSS version 20.0. The result of the study showed that 74% of the participants were male and 60% aged 14-29 years mean age  $X \pm SD$  of  $28.18 \pm 8.67$  years. Only 207(49.9%) have diploma, 50% are married, 69.9% have permanent employment status, 58.8% have at least 5 years working experience. However, 87.2% (362) have good level of safety practices and also 357 (86%) had at least one personal protective equipment (PPE) at work. Lack of PPE account for 155(37.39) and feeling discomfort (15.7%) were the excuses for not using PPE. Regarding the predictors of safety practice based on socio-demographic variables, age or workers 14-29 years were almost 7.2 times more likely to indicate good safety practices than older counterpart (AOR: 7.2; 95%, CI: 1.9-26), marital status indicated a significant association with safety practices ( $P = 0.001$ ). Single workers were almost 86.% less to show good safety practice than married workers of the company (AOR: 0.1, 95%; CI: 0.04 – 0.4). Employment status found statistically significant association with safety practice that permanent workers 5.35 times more likely to show good safety practice as compared with casual workers (AOR 5.5; 95%, CI: 1.3 – 21.5). Workers with positive attitude regarding safety practice are 20.2 times more likely to show safety practice as compared with those with poor attitude (AOR = 20.2, 95%; CI: 5.8 – 71.1), workers with management support are likely to report good safety practice (11.9 times) more than those who



have support from the management (AOR = 12.0: 95%; CI: 3.4 – 41.9). Construction workers with training in health and safety were 4.5 times likelihood to report safety practice (AOR = 4.5; 95%, CI: 1.2 – 16.3). The study concluded that level of safety practice was good regarding the study. The relationship between the previous one and the current findings was due to variables such as age, marital status, employment status, and training, among others.

Awosan et al, (2017) researched on knowledge and safety practices related to exposure to physical and chemical hazards among welders in Sokoto, Nigeria. A cross-sectional descriptive study was conducted among 280 welders selected by systematic sampling technique. Data were collected with a set of standardized, semi-structured, self-administered questionnaire, and analyzed using the IBMSPSS Version 20 statistical computer software package. The analysis showed that the mean age of the respondents was  $30.98 \pm 9.42$  years, and all of them were males. Although, most of the respondents reported observing the various preventive measures against welders' workplace hazards, accidents and injuries, consistent use of personal protective equipment (PPE) was poor, and this was majorly attributed to non-availability. Almost all the respondents (99.3%) have experienced workplace accidents and injuries, with the most common injuries sustained being cut injuries to the fingers and other parts of the body (86.1%), burns from fire or explosions (86.1%), and eye injuries due to sparks (78.6%). It was concluded that the low utilization of PPE and the correspondingly high prevalence of accidents and injuries. Safety practices, physical and chemical hazards relates this study to the present study.

Kiteywo (2016) researched on crash characteristics and injury patterns among commercial motorcycle users attending Kitale county referral hospital, Kenya 2013. This descriptive cross sectional study sought to determine crash characteristics and injury patterns among motorcycle users attending Kitale county referral hospital, Kenya. Purposive sampling technique was used to select three hundred and seventy-one commercial motorcycle crash victims for the study. Data collection was done using a semi structured, interviewer administered questionnaire. The mean age of the motorcycle crash victims was 30.7 years (range 3-80 years). Males were 269 (70.1%) and females 115 (29.9%). Motorcycle traffic injuries accounted for 39.4% of all traffic crashes. The most common mechanism of motorcycle crash injury involved motorcycle versus vehicle 175 (45.6%). Majority of the injured patients 240 (69.9%) were assessed as having Glasgow coma scale (GCS) of 9-12, 26% Glasgow coma scale of 13-15 and 7% Glasgow coma scale of 3-8. Pattern of injuries sustained by victims included; head and neck injury 147 (39.9%), lower extremity injury 147 (39.9%) and chest injury 30 (8.2%). Higher proportions of motorcycle riders had severe injuries as compared to passengers ( $2=127.649$ ,  $P<0.01$ ). Majority of motorcycle riders 167 (45.1%) and passengers 149 (38.9%) who did not have a helmet during the crash injury sustained head injuries. This was statistically significant ( $2=106.944$ ,  $P<0.001$ ). Among the motorcycle riders 62.3% had no formal training and this was statistically significant ( $2=5.72$ ,  $p<0.001$ ). Head injuries and lower extremity injuries accounted for the major proportion of injuries sustained by motorcycle users. Non helmet use was associated with increased risk of head injuries. Morbidity can be mitigated by encouraging use of protective gear like helmets and wearing of reflective clothing. Occupational hazards associated with driving relates this study to the present study.

Tumwesigye et al, (2016) factors associated with injuries among commercial motorcyclists: evidence from a matched case control study in Kampala city, Uganda. The study was matched case-control with a case being a boda-boda rider that was seen at one of the 5 major city hospitals with a road traffic injury while a control was a boda-boda rider that was at the parking





stage where the case operated from before the injury. The sample size was 289 riders per arm and data collection took 7 months. A structured questionnaire was used to collect data on background and exposing factors. Being matched case-control data conditional logistic regression was used in the analysis. The results revealed that factors independently associated with injury among motorcyclists were younger age group, being a current alcohol drinker (OR = 2.30, 95%CI: 1.19–4.45), lower engine capacity (<100cc)(OR = 5.03, 95%CI: 2.91–8.70), riding experience of less than 3 years, not changing a motorcycle in past 1 year (OR = 2.04, 95%CI: 1.19–3.52), riding for a longer time in a day (OR = 6.05, 95%CI: 2.58–14.18) and sharing a motorcycle (OR = 8.25, 95%CI:2.62–25.9). This study is related to the present study because both concentrated on hazards associated with driving.

### METHODOLOGY

The area of the study is Rivers State. It has 23 local government areas, and one of the 36 states of Nigeria, and the descriptive cross sectional survey design was used for the study as the research design. The population of this study include all taxi drivers in Rivers State. According to Nigeria Union of Road Transport Workers Rivers State Chapter (2020) there are about 12,450 taxi drivers in Rivers State amidst the unregistered ones. The sample size for the study consisted of 600 taxi drivers which was determined using Taro Yamene's formula which yielded a sample size of 400 and then increased to 600 by the researcher in order to have representative of the total population through multi-stage sampling procedures. A multi-stage sampling procedure was adopted for the study comprising cluster sampling technique, simple random sampling technique, stratified sample technique and purposive sampling technique.

**Stage one:** At stage one, the cluster sampling procedure was used to divide Rivers state into three (3) clusters based on the senatorial districts in the State.

**Stage two:** the second stage simple random sampling technique was used to select two (2) local government areas each from the selected senatorial districts which gave rise to 6 (six) LGAs. At the final stage purposive sampling technique was used to select 100 taxi drivers from each of the selected LGAs making a total of 600 respondents.

**Stage three:** the third stage used stratified sampling technique to stratify the population into formal and non formal education. This is for better representation of each strata and purposive sampling techniques was used to ensure that only LGA's that are appropriate for the study were selected.

The instrument used for data collection was a structured questionnaire tagged "Socio-Demographic Determinants of Occupational Hazards Questionnaire (SDDOHQ)". The questionnaire was made up of three (3) sections A, B and C. Section A was designed for socio-demographic data, section B contained items on occupational hazards while section C contained items on safety practices. To ensure the validity of the instrument, the instruments were reviewed by the researcher's supervisor, and two other experts from the department of Human Kinetics, Health and Safety Studies. Suggestions made were used to make some modifications and used to produce the final version of the instrument that were used for data collection. The validated questionnaire titled "Socio-Demographic Determinants of Occupational Hazards Questionnaire (SDDOHQ)" was administered on 30 taxi drivers in Bayelsa State that is homogeneous to the study area. After an interval of two weeks, the same instrument were re-administered to the same respondents, at a later date agreed upon, the two responses were correlated using the Pearson Product Moment Correlation (r). The values of 0.82 was obtained for physical hazards, 0.76 for

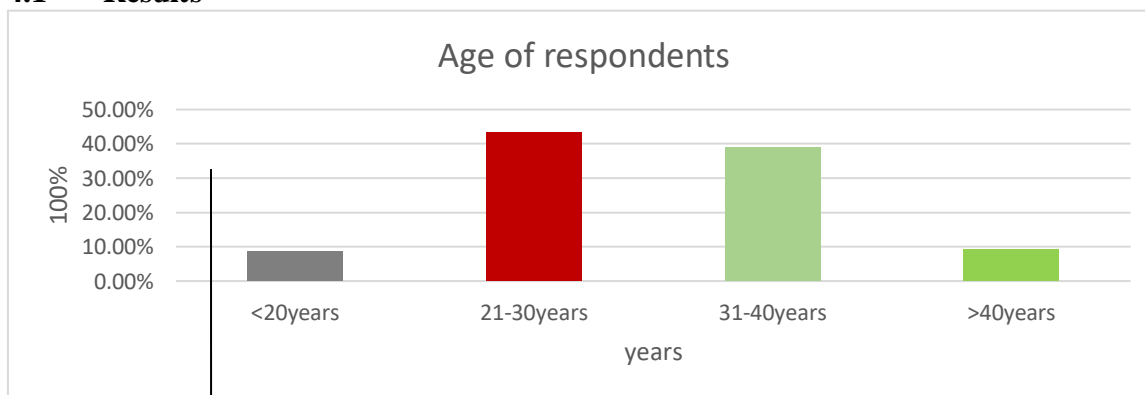


chemical hazards, 0.78 for biological hazards and 0.79 for safety practices which indicated that the instrument was reliable.

To guarantee the return of the questionnaire from the respondents, the researcher used the direct delivery method to administer the instrument. A letter of introduction was collected from the head, Department of Human Kinetics, Health and safety studies, Ignatius Ajuru University of Education, Port Harcourt which was delivered to the chairman of drivers association within the selected local government area in Rivers State to solicit and facilitate cooperation of respondents. With the help of three research assistants 600 copies of the validated questionnaire was administered to the respondents (taxi drivers) in the various clusters and ensure that the field copies were collected on the spot. At the end of the exercise, only 586 copies were returned respectively. The return rate of 97.6% was finally use for the study. The completed copies of the questionnaire were collected, coded and analysed using frequency and simple percentage for questions 1, 3 and 5. While mean scores were employed in answering questions 2, 4 and 6 and analysis of variance (ANOVA) were used to test the hypotheses at 0.05 level of significance.

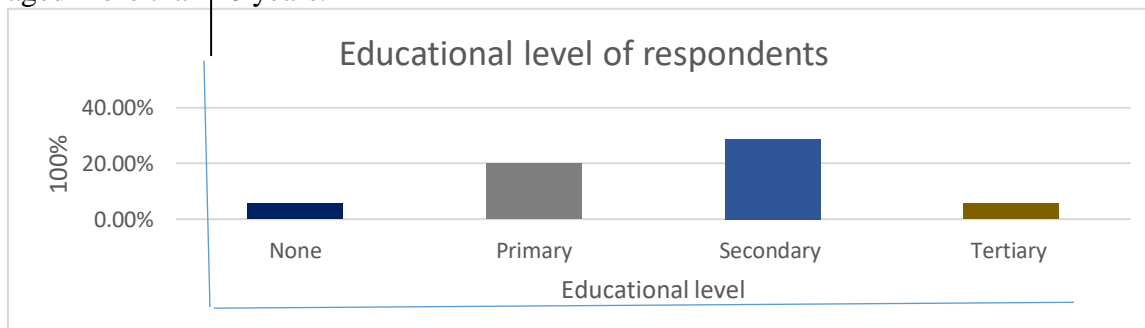
## RESULTS AND DISCUSSION

### 4.1 Results



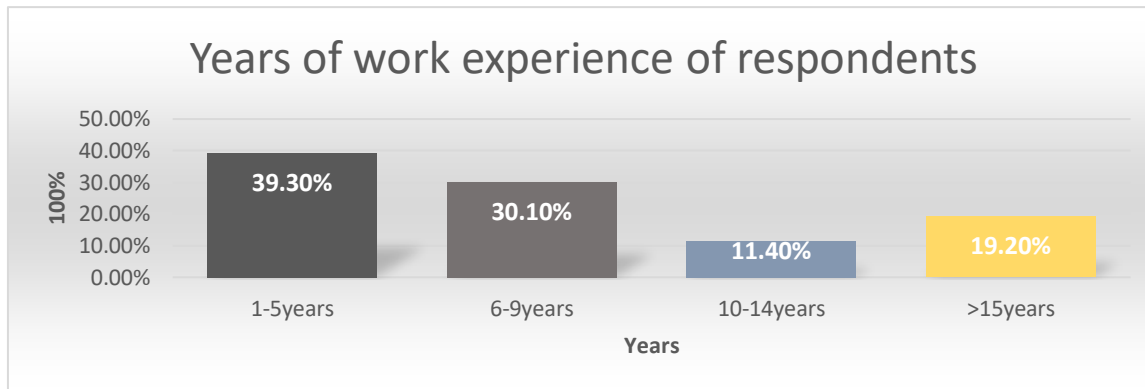
**Fig 4.1: Age distribution of respondents**

Fig 4.1 showed that 40(8.7%) of the respondents were less than 20 years, 198(43.2%) were within the age range of 21-30 years, 178(38.9%) were aged 31-40 years while 42(9.2%) were aged more than 40 years.



**Fig 4.2: Bar Chart showing Percentage distribution of the educational level of respondents**

Fig 4.2 showed that 26(5.7%) had no formal education, 92(20.1%) had primary education, 208(45.4%) had secondary education while 26(28.8%) had tertiary education.



**Fig 4.3: Bar chart showing the percentage distribution of the years of work experience of respondents**

Fig 4.3 showed that 180(39.3%) had 1-5 years of work experience, 138(30.1%) had 6-9 years, 52(11.4%) had 10-14 years while 88(19.2%) had more than 15 years work experience.

**Research Question 1:** What is the prevalence of prevalence occupational hazards among taxi drivers in Rivers state based on age, working experience, educational status?1

Table 4.1: Analysis of the prevalence of occupational hazards among taxi drivers in Rivers state based on age, working experience, educational status

Demographic factors	Occupational Hazards		Total
	No	Yes	
	F(%)	F(%)	
<b>Age</b>			
<20 years	16(40.0)	24(60.0)	40(100)
21-30 years	112(56.6)	86(43.4)	198(100)
31-40 years	74(41.6)	104(58.4)	178(100)
>40 years	12(28.6)	30(71.4)	42(100)
Total	214(46.7)	244(53.3)	458(100)
<b>Years of work experience</b>			
1-5 years	88(48.9)	92(51.1)	180(100)
6-9 years	40(29.0)	98(71.0)	138(100)
10-14 years	28(53.8)	24(46.2)	52(100)
≥15 years	58(65.9)	30(34.1)	88(100)
Total	214(46.7)	244(53.3)	458(100)
<b>Educational status</b>			
None	4(15.4)	22(84.6)	26(100)
Primary	42(45.7)	50(54.3)	92(100)
Secondary	120(57.7)	88(42.3)	208(100)
Tertiary	48(36.4)	84(63.6)	132(100)
Total	214(46.7)	244(53.3)	458(100)

Table 4.5 showed the prevalence of occupational hazards among taxi drivers in Rivers state based on demographic factors. The result showed that occupational hazard was more prevalent among those aged 31-40 years (58.4%) and those aged >40 years (71.4%). Based on the years of work



experience, it was more among those who have worked for 6-9 years (71.0%) while based on education, those having no formal education had the highest prevalence (84.6%).

### Testing of Hypotheses

**Hypothesis 1:** There is no significant difference in the prevalence of occupational hazards among taxi drivers in Rivers State based on age.

Table 4.2: ANOVA test showing difference in the prevalence of occupational hazards among taxi drivers in Rivers State based on age

Source of variance	Sum of Squares	Df	Mean Square	F-value	p-value	Decision
Between Groups	3.955	3	1.318	5.438	.001	Rejected
Within Groups	110.054	454	.242			
Total	114.009	457				

#### \*Significant. (P < 0.05)

Table 4.7 shows the One-way analysis of variance of difference in prevalence of physical hazards among taxi drivers in Rivers state based on age. The result showed that there was a significant difference [ $F(3,454) = 5.438$ ;  $p = 0.001$ ] between the prevalence of Physical Hazards based on age. Thus, the null hypothesis which stated that there is no significant difference in the prevalence of Physical Hazards among taxi drivers in Rivers state based on age was rejected. The post hoc test of multiple comparison showed that there was a significant difference in all the groups as the calculated p-value is less than the tabulated ( $P < 0.05$ ), except for those aged less than 20 years. Physical Hazards was higher within the age less than 20 years.

**Hypothesis 2:** There is no significant difference in the prevalence of occupational hazards among taxi drivers in Rivers state based on years of work experience.

Table 4.3: ANOVA test showing difference in the prevalence of occupational hazards among taxi drivers in Rivers State based on years of work experience

Source of variance	Sum of Squares	Df	Mean Square	F-value	p-value	Decision
Between Groups	7.929	3	2.643	11.312	.000	Rejected
Within Groups	106.079	454	.234			
Total	114.009	457				

#### \*Significant. (P < 0.05)

Table 4.8 showed the One-way analysis of variance of difference in the prevalence of Chemical Hazards among taxi drivers in Rivers state based on years of work experience. The result showed that there was a significant difference [ $F(3,454) = 2.643$ ;  $P < 0.05$ ] between the prevalence of chemical Hazards based on years of work experience. Thus, the null hypothesis which stated that there was no significant difference in prevalence of Chemical Hazards among taxi drivers in Rivers state based on years of work experience was rejected. The post hoc test of multiple comparison shows that there was a significant difference in all the groups except for between those who had 10-14 years and 1-5 years of work experience. It was high between those with 1-5 years experience.

**Hypothesis 3:** There is no significant difference in the prevalence of occupational hazards among taxi drivers in Rivers state based on educational status.

Table 4.4: ANOVA test showing difference in the prevalence of Occupational Hazards among taxi drivers in Rivers State based on educational status





Source of variance	Sum of Squares	df	Mean Square	F-value	p-value	Decision
Between Groups	6.483	3	2.161	9.125	.000	Rejected
Within Groups	107.525	454	.237			
Total	114.009	457				

**\*Significant. (P < 0.05)**

Table 4.9 showed the One-way analysis of variance of difference in the prevalence of Biological Hazards among taxi drivers in Rivers state based on educational status. The result showed that there was a significant difference [ $F(3,454) = 2.161$ ;  $p < 0.05$ ] in the prevalence of Biological Hazard based on educational status. Thus, the null hypothesis which stated that there was no significant difference in prevalence of Biological Hazards among taxi drivers in Rivers state based on educational status was rejected. The post hoc test of multiple comparison shows that there was a significant difference in all the groups except for between primary and tertiary. It was high among those with only primary education.

**Discussion of findings**

**Occupational hazards among taxi drivers in Rivers State based on age**

Hypothesis one sought information on occupational hazards based on age of taxi drivers in Rivers State. The result showed that based on age occupational hazard was more prevalent among those aged 31-40 years of age and those aged 40 and above with a percentage of 58.4% and 71.4% respectively.

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 predict 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 accidents. Also in line with the results is study by Shaheed (2010) which reported that age contribute to the occurrence of 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 the studies of Ogunmodede, *et al* (2012) where it was recorded that age does not significantly influence the causes of road 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.

**Occupational hazards among taxi drivers in Rivers State based on work experience**

Hypothesis two sought information on occupational hazards based on years of work experience of taxi drivers in rivers state. The findings showed that occupational hazards are more prevalent among those who have worked for six to nine years (71.0%). The findings are in keeping with that of Zeleke (2017) which reported that drivers driving experience were significant predictors of hazards among taxi drivers. Similarly, Silva *et al* (2012), stated that years of work experience contributed 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 Nyachio (2015) as he reported that age 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.

### **Occupational hazards among taxi drivers in Rivers State based on educational status**

Hypothesis three sought information on occupational hazards based on educational status of taxi drivers in rivers state. The result showed those having no formal education had the highest prevalence of OH (84.6%). The findings are in keeping with that of Yongchaitrakul et al (2013) which reported that low educational level is associated of road traffic accidents. The findings also correspond with that Adejugbagbe, et al (2015) where it was recorded that education (OR=2.7, 95% CI=1.5-4.6) predict road traffic accident among commercial drivers. Similarly Oliveira et al (2012) reported accidents among commercial drivers of secondary and higher educational status. In the same vain Zeleke (2017) also recorded that level of education significantly predict accident occurrence. However, the findings are in contrast with that of Shaheed (2010) which disclosed that educational level does not significantly predict road traffic accident. Also at variance with, is the findings of Ogunmodede, et al (2012) and Yunusa, et al (2014) where it was recorded that educational level does not significantly influence the causes of road accidents among commercial drivers in Nigeria.

### **Conclusions**

The study on the socio-demographic determinants of occupational hazards among taxi drivers in Rivers State highlights significant correlations between drivers' age, educational status, and years of work experience with the prevalence of occupational hazards. Older drivers (31-40 years and above 40 years) and those with no formal education exhibited higher rates of occupational hazards, indicating the need for targeted safety interventions in these groups. Additionally, drivers with 6-9 years of experience faced more hazards, suggesting that mid-career drivers might benefit from additional safety training and education. Overall, the study underscores the importance of socio-demographic factors in shaping occupational safety practices and outcomes, recommending focused strategies to mitigate risks for vulnerable driver categories.

### **Recommendations**

Based on the findings, the following recommendations are made:

1. Federal Road Safety Corps (FRSC) and Vehicle Inspection Officers (VIO) should direct road safety education and campaigns at vehicles owners/drivers especially women, and focused on safe driving and avoidance of risky behaviours such as use of mobile phones.
2. The Ministry of transport should make driving schools compulsory so that drivers license holders will have a full knowledge of traffic rules.

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