PREVALENCE OF OCCUPATIONAL HAZARDS AND SAFETY PRACTICES AMONG TAXI DRIVERS IN RIVERS STATE

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ABSTRACT

Occupational hazards are inherent in many professions, with driving being one of the most hazardous. Taxi drivers, in particular, face numerous health risks due to their work conditions. This study investigates the prevalence of occupational hazards and the safety practices among taxi drivers in Rivers State, Nigeria. A descriptive cross-sectional survey design was utilized, with a sample size of 600 taxi drivers selected through multi-stage sampling procedures. Data were collected using a structured questionnaire and analyzed using frequency, percentage, mean scores, and analysis of variance (ANOVA) at a 0.05 level of significance. The findings revealed that taxi drivers in Rivers State are significantly exposed to various occupational hazards. Physical hazards include exposure to high levels of noise, extreme temperatures, and whole-body vibrations. Chemical hazards encompass exposure to dust, fumes, and gases, while biological hazards involve infections and insect bites. The study also identified a mix of positive and negative safety practices among drivers. Positive practices included regular vehicle maintenance and adherence to speed limits, while negative practices involved speeding, disregarding traffic signals, and engaging in unofficial races. The study concludes that there is a critical need for comprehensive safety programs tailored to taxi drivers in Rivers State. These programs should focus on increasing awareness of occupational hazards, promoting safe driving behaviors, and ensuring regular vehicle maintenance. Enhanced collaboration between government agencies and transport unions is essential to implement and enforce policies that enhance road safety and protect the health of taxi drivers.

Keywords: Occupational hazards, safety practices, taxi drivers

INTRODUCTION
Background to the Study

In every occupation, there are hazards some are more hazardous than others. . Taxi, bus, and truck drivers, train conductors, and trolley and cable-car operators, among other professional drivers, have experienced musculoskeletal, psycho-physiological, gastrointestinal, cardiovascular, and other morbidities (Federal Motor Carrier Safety Administration, FMCSA, 2005). Such health ramifications, which have been predominantly attributed to workplace conditions, have negatively influenced the quality of life of many of these workers (Apostolopoulos et al, 2010). Occupational hazards among drivers are a routine occurrence on roads throughout the world. Thousands of drivers and passengers lose their lives on the roads every day. Many millions more 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 losing a breadwinner to these hazards (Awoyemi, 2019).

The advent of occupational hazards among drivers is a global public health problem. As of 2012, 756 truck drivers lost their lives in work-related incidents, while over 65,000 private sector truck drivers suffered injuries and illnesses that resulted in time away from work 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). Truck 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 stipulates that the 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 crashes 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 account for 90% of the world's fatal accidents (WHO, 2016). In 2013, WHO reported that deaths from road traffic crash in Nigeria including Rivers State in 2010 were 33.7/100,000 (Nigeria), 22.2/100,000 (Ghana) and 31.2/100,000 (South Africa).

The negligence of safety practices among motorists is one of the major factors affecting road traffic crashes. Vehicles are poorly maintained due to poverty, ignorance and corruption among enforcement agents and other stakeholders (Aderamo, 2012). Among behavioural factors, alcohol plays an important role in car crashes, and accidents involving alcohol are more likely to result in injuries and deaths than crashes where alcohol is not a factor. Among the key risk factors for road accidents are speed, drink-driving, motorcycle helmets, seat-belts and child restraints, distracted driving (WHO, 2016). However, in Nigeria, it was estimated that between the years 2011 and 2015, tire bursts accounted for 7.8% of total causes of traffic crash in Nigeria (FRSC, 2016). Kalilu in Uzuegbu-Wilson (2016) reported cases of Road Traffic Accident from 1960 up to 2006 indicate that there were 967,618 crashes with 1,159,642 casualties in Nigeria.

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.

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 occupational hazards and safety practices is often overlooked among taxi drivers, the study sought to fill the gap by investigating the preference of occupational hazards and safety practices among taxi drivers in Rivers State.

Aim and Objectives of the Study

The aim of this study was to investigate the prevalence of occupational hazards and safety practices among taxi drivers in Rivers State. Specifically, the study seeks to:

1. determine the prevalence of physical hazards among taxi drivers in Rivers State,
2. To identify the prevalence of chemical hazards among taxi drivers in Rivers State,
3. To find out the prevalence of biological hazards among taxi drivers in Rivers State,
4. determine the safety practices among taxi drivers in Rivers State,

Research Questions

The following questions were formulated to guide this study;

1. What is the prevalence of physical hazards among taxi drivers in Rivers State?.
2. What is the prevalence of chemical hazards among taxi drivers in Rivers State?.
3. What is the prevalence of biological hazards among taxi drivers in Rivers State.
4. What are the safety practices among taxi drivers in Rivers State?.

REVIEW OF RELATED LITERATURE

Conceptual Framework

Concept of Occupational Hazard

The concept of hazard is wide and diverse as it cuts across all facets of human endeavors. For every activity human does there is a traceable level of menace encountered. Hazard as defined by various researchers, scholars, scientist, teachers and various authorities in different field of learning. These definitions however different, complement and agrees with each other in approach and meaning. Hazard is defined as the potential to cause harm, ill health or injury, damage to property, plant, products or environment, production losses or increased liabilities (Achalu, 2000).

Faremi *et al*, (2014) stated that hazard is the way in which an object or a situation may cause harm. A hazard exists where an object, substance or situation has a built-in ability to cause an adverse effect. It is the intrinsic toxic properties of the chemical or biological material. Risk is the chance that-an adverse effect will occur. Even if a chemical or biological material has hazardous properties, any risk to human health or environment is extremely low if the chemical is handled safely under controlled conditions. Risk assessment is a management tool to determine whether, how and in what circumstances, harm might be caused. In order to assess risk, both hazard and exposure must be considered.

Prevalence of occupational hazards

A traffic accident, a traffic collision or crash occurs when a vehicle collides with another vehicle, pedestrian, animal, road barrier, or any stationary obstruction such as a tree or a utility pole. Traffic collisions may result in injury, death, vehicle damage and possession damage. A RTC is defined as an event that produces injury and/or property damage, that involves a motor vehicle in transport and occur on a traffic way or while the vehicle is still in motion after running off the traffic way (Adejugbagbe *et al*, 2015). Motor vehicle collisions cause death and disability as well as financial burden. Traffic accidents cause many losses especially of human life, property damages, and loss of resources (Mohammed, Ambak, Mosa & Syamsunur, 2019). Indeed, even in strife influenced countries such as Afghanistan, Libya, Pakistan, and Yemen, road traffic 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 traffic casualty rate 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 crashes. The 2030 Agenda for Sustainable Development has set an ambitious target of halving the global number of deaths and injuries from road traffic crashes by 2020. Road traffic crashes cost most countries 3% of their gross domestic product. More than half of all road traffic 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 injuries are the leading cause of death for children and young adults aged 5-29 years.

Concept of Safety Practice

Johannessen (2010) stated that the concept of practice is one of the key concepts in Wittgenstein's later philosophy. It partly replaces his earlier talk about the inexpressible. 'The

practice has to speak for itself, as Wittgenstein succinctly puts it. The concept of practice not only points to the ways in which the unity of our concepts are underpinned, as Gordon Baker has it, it also comprises the skills involved in handling the conceptualized phenomena, our pre-reflective familiarity with them, expressed in the sureness in our behaviour towards them, and the judgmental power exercised in applying or withholding a given concept on a particular occasion. These factors are all relevant to the establishment of knowledge, but they cannot themselves be fully and straightforwardly articulated by verbal means. Nevertheless, they represent what we go by when we apply concepts and other types of rules. To follow a rule is what Wittgenstein calls a practice. The sketched analysis of this concept makes us understand better how it is possible to apply a rule without the support of another rule. It also makes us realize in what sense one is justified in talking about tacit knowledge in connection with the application of concepts and rule-following in general. Quite a lot hangs on seeing the world aright at this point.

Theoretical Framework
Trans-theoretical Model (TTM)
This model was propounded by Prochaska and Di-demente in 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 workers 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.

This theory relates to the present study in that, untrained driver may be unaware of hazards and could not attend to inculcate any safety measures. The cases of accidents and near misses on the road will send a signal to the individual on the way forward to curb the menace of danger. 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 behaviour change that will minimize the exposure to occupational hazards by accepting PPE (seatbelts) at all times. This stage enhances individual sustainability of action, behaviour and to achieve the degree of protection and maintain a hazard-free workplace.

Empirical Review
Balami and Sambo (2019) worked on road traffic accidents, near-misses and their associated factors among commercial tricycle drivers in a Nigerian city. The cross-sectional survey design was adopted for the study with a sample of 300 respondents' selected using multi-stage sampling Procedure. Instrument for data collection was a structured questionnaire and was subjected to bivariate and multivariate analysis. The prevalence of road accidents and near misses were 46% and 50.3% respectively. Only six (3.9%) of respondents who had experienced a near-miss mentioned that they occurred while they were fully awake; during clear weather; and on a smooth, broad, and non-congested road. All the others had experienced the near miss under an unfavourable weather, road, and/or while feeling sleepy. In the bivariate analysis, only psycho-active substance use ($\chi2=3.941$; df=1; p=0.047) and having experienced more than one near miss ($\chi2=31.807$; df=1; p<0.001) were significantly associated with having an accidents. However, in

the multivariate analysis, having experienced more than one near miss was the only factor which significantly predicted having an accident (OR=2.89 95% CI: 1.64-5.09; p<0.001). This study relates to the present study as both work focused on occupational hazards.

Salaudeen et al, 2019) worked on practice of safety measures among inter-city commercial vehicle drivers in Kwara State, Nigeria. A descriptive cross-sectional survey was adopted for the study. A sample of 410 respondents were selected for the study using a multi-stage sampling technique. Structured questionnaire was used to collect data and were analysed using EPI INFO version 3.5.1 software package. Level of significance was < 0.05 at 95% confidence level. The results showed that more than eighty per cent of the respondents practiced safety measures and checked their vehicles before embarking on a journey. More respondents who practiced safety measures carried out driving test before issuance of license compared with those who did not (p = 0.001). Some respondents tested positive for alcohol with mean blood alcohol concentration of 23.28 ± 23.32 μg/dl. About a third of the respondents had road traffic crashes in the past. It was concluded the drivers demonstrated good safety measures and practices before embarking on a journey. Safety practices were influenced by driving test before issuance of license. Sensitization and orientation of drivers on relevance of driving test before issuance of driving license should be promoted by all stakeholders in road safety. The enforcement of laws by government is critical to addressing challenges of road safety and security by ensuring appropriate driving test before licensing. This work relates to the present work due to the design, sampling technique and method of data collection among others.

Emelike, et al, (2019) worked on assessment of tire safety knowledge among private and commercial motor vehicle drivers in Nigeria using a cross-sectional survey design on a sample of 454 drivers selected using a simple random sampling technique. A well structure questionnaire was used for data collection and was analyzed using percentages and chi-square. The analysis revealed evidence supporting a relationship between driver s category and possession of tire safety knowledge. It was concluded that private vehicle drivers in Nigeria are more likely to have adequate tire safety knowledge than commercial vehicle drivers. This study relates and relevant to the current findings because both focused on driving and safety practices.

Similar studies of Han et al, (2019) on the investigation of demographic factors in construction employees' safety perceptions. Questionnaire was used to collect data from the respondents at the construction site. Reliability coefficient of 0.65 was obtained using Cronbach Alpha methods for the study. The data was analyzed using SPSS version 20.0. The result of finding states that gender has a significant influence on safety perception of employees (P = 0.0001); the educational level of the employees does not influence safety perception towards safety hazards/accidents, (P>0.0001). Employees aged 37 – 46 years old do not consider safety risk commonly suffered for hazards. The study concluded that there should be safety training for new comers in the construction company. This study is related and more relevant to the current findings due to variables like gender, age, educational level among others.

Ranjan, et al, (2018) carried out a cross sectional study to assess the knowledge, attitude and practice towards road traffic safety among adolescent students of a selected Pre-University college in Raichur city. A semi structured questionnaire was used to collect data from a sample of 372 respondents' selected using purposive sampling technique. Data was analyzed using percentages and chi-square. The results showed that Mean age of the participants was 16.68±0.75. 196 participants (52.8%) had adequate knowledge on the road safety rules and regulations. Only 25 participants (7.7%) were driving with a valid driving license. The most

common reason for motor vehicle accidents was high speed. Knowledge adequacy about road safety rules and regulations had statistically significant association with age and gender. It was concluded that mere knowledge does not necessarily translate into improved traffic behaviour as was seen in this study. School/college is the basic institution where we can formulate interventions. Continuous reinforcement and education reminding them of traffic rules can bring about a positive change and motivate them to strictly adhere to the traffic norms and help reduce the morbidity and mortality regarding road traffic accidents. This study focused on safety practices as it relates to the present study.

Jazari et al, (2018) studied prevalence of self-reported work-related illness and injuries among building construction workers, Shiraz, Iran. The purpose of this study was to investigate the prevalence of self-reported work related illness and injuries among construction workers in Shiraz, Iran. 850 randomly selected workers from 2450 construction sites completed a self-statement questionnaire regarding the prevalence of self-reported work-related illness and injuries (WRIIs), in Shiraz, Iran was used to collect data. The association of WRII with demographic variables were studied. Data was analyzed using frequency distribution, mean, standard deviation and percentage were reported for each variable. While Chi-square and Pearson parametric tests were used to determine factors associated with WRII. The odds ratio (OR) was also presented with a 95 % confidence interval (CI) for significant variables. The overall prevalence rate of occupational injuries was 31 %. Musculoskeletal disorders (53.3 %), eye diseases (34.1 %) and skin diseases (30.1 %) have been the most prevalent work-related illnesses among construction workers, respectively. The prevalence of WRIIs among construction workers was significantly associated with age, education, marriage, work experience, safety training programs and number of workers in the workplace as well as employment status. Considering the high prevalence of WRIIs among construction workers, more stringent occupational safety and health interventions are recommended in construction workplaces. This study relates to the present study due to variables like age, work experience and educational status among others.

Study by Zeleke (2017) on factors associated with road traffic 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 analyzed, 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 traffic road, and drivers' lack of willingness to give priority for pedestrians, driver's driving experience, speed management, and overweight were significant determinant factors of road traffic 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 Traffic Safety, in Ethiopia by stakeholders generally. This study relates to the present study because both focused on occupational hazards.

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 unregister 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 to 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 "Occupational Hazards and Safety Practices Questionnaire (OHSPQ)". 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 "occupational hazards and safety practices questionnaire (OHSPQ)" 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.
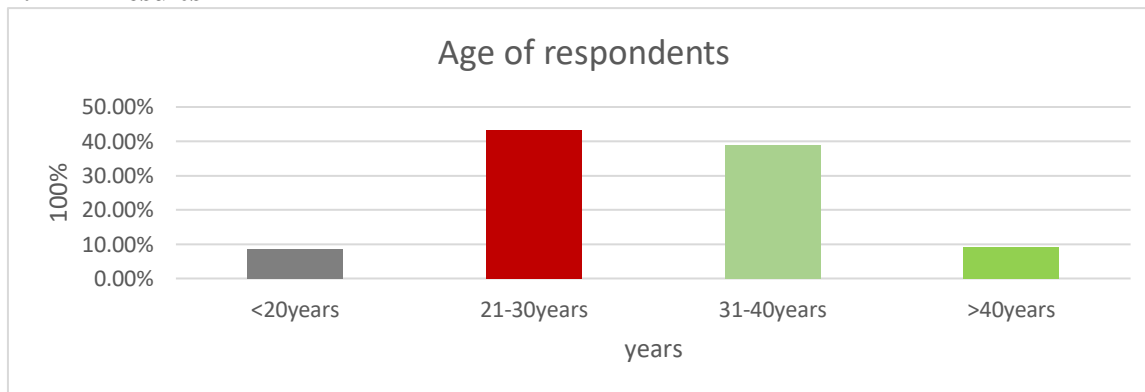
RESULTS AND DISCUSSION

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.
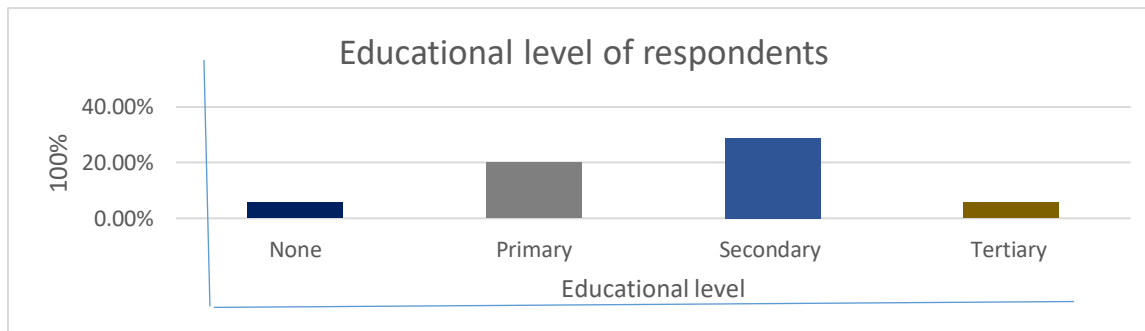

Fig 4.2: Bar Chart showing Percentage distribution of the educational level of respondents
Fig 4.2 showed that 26(5.7%) had no formal education, 92(20.1%) had primary education, 208(45.4%) had secondary education while 26(28.8%) had tertiary education.
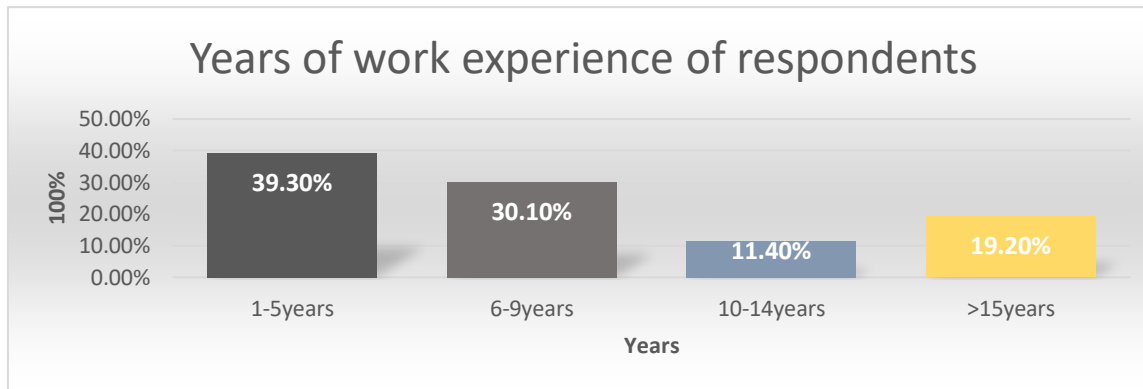
Fig 4.3: Bar chart showing the percentage distribution of the years of work experience of respondents

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 physical hazards among taxi drivers in Rivers state?

Table 4.1: Analysis of the prevalence of physical hazards among taxi drivers in Rivers state

SN	Items	Mean	Std Dev	Decision
	Physical Hazards			
1	High level of noise	3.21	0.59	Agree
2	Sunlight	3.40	0.59	Agree
3	Exposure to extremely hot temperature	3.14	0.66	Agree
4	Exposure to extremely cold temperature	2.87	0.78	Agree
5	Severe of mild burns on the body	2.72	0.89	Agree
6	Cramps, pressure and bad circulation in the legs and buttocks	2.74	0.82	Agree
7	Long-term potential of spinal disc and disc herniation	2.71	0.88	Agree
8	Whole body vibration	2.61	0.92	Agree
	Grand mean	**2.92**	**0.76**	Agree

Criterion mean = 2.50

Table 4.1 showed that items 1-8 have positive response rates. Since their weighted mean are all greater than the criterion mean of 2.50. this result implies that for item 1-5 with mean of 3.21, 3.40, 3.14, 2.87, 2.72, 2.74, 2.71 and 2.61 respondents agreed that Taxi Drivers in Rivers State are exposed to physical hazards.

Research Question 2: What is the prevalence of chemical hazards among taxi drivers in Rivers State

Table 4.2: Analysis of the prevalence of chemical hazards among taxi drivers in Rivers state

Items	Mean	Std Dev	Decision
These is exposure to dust daily	3.00	0.92	Agree
Presence of fumes and gases trucks	3.17	0.95	Agree
presence of soots, fog and smog from air pollution	3.22	0.83	Agree
presence of explosions, from containers carried in the taxes	2.64	0.93	Agree
Addition of a chemical wrongly in the taxi	2.46	0.93	Agree
Grand mean	**2.90**	**0.92**	**Agree**

Criterion mean = 2.50

Table 4.2 showed that items 1-4 have positive response rates. Since their weighted mean are greater that the criterion mean of 2.50. This result implies that for items 1-4 with mean of 3.00, 3.17, 3.22 and 2.64 respondents agreed that Taxi Drivers in Rivers State are exposed to chemical hazards.

Research Question 3: What is the prevalence of biological hazards among taxi drivers in Rivers State

Table 4.3: Analysis of the prevalence of Biological hazards among taxi drivers in Rivers state

Items	Mean	Std Dev	Decision
Exposure to infections in the park	2.51	0.87	Agree
Contact infections from passengers	2.70	0.82	Agree
Exposure to infections from goods/materials conveyed	2.65	0.85	Agree
Bitten by insect (sun fly and mosquitoes)	2.89	0.92	Agree
Contact infection from food	2.52	0.97	Agree
Grand mean	**3.04**	**0.89**	**sAgree**

Criterion mean = 2.50

Table 4.3 showed that items 1-5 have positive response rates. Since their weighed mean are all greater that the criterion mean of 2.50. This result implies that for items 1-5 with mean of 2.51, 2.70, 2.65, 2.89 and 2.52 respondents agreed that Taxi Drivers in Rivers State are exposed to biological hazards

Research Question 4: What are the safety practices among taxi drivers in Rivers State

Table 4.4: Analysis of the safety practices among taxi drivers in Rivers State

SN	Items	Mean	Std Dev	Decision
	Negative Practices			
1	Droved close to the car in front as a signal to its driver to go faster or get out of the way	2.36	0.94	Disagree
2	Crossed a junction knowing that the traffic lights have already turned red	2.65	0.95	Agree
3	Disregarded the speed limits late at night or early in	2.87	0.90	Agree

	the morning			
4	Disregarded the speed limit on a motorway	2.85	0.96	Agree
5	Got involved with unofficial races with other drivers	2.80	0.87	Agree
6	Sounded the horn to indicate annoyance to another driver	2.42	0.88	Disagree
7	Violated give way signs and narrowly avoid colliding with traffic having right of way	2.56	0.85	Agree
8	Failed to notice that pedestrians are crossing when turning into a side street from main road	2.69	0.97	Agree
9	Applied sudden breaks on a slippery road, or steer wrong way in a skid	2.67	0.93	Agree
10	Got into the wrong lane when approaching a round-about or a junction	2.79	0.94	Agree
11	Misread the signs and exit from the round-about on the wrong way	2.88	0.98	Agree
12	Drove in to beat traffic lights	2.69	0.95	Agree
	Positive Practices			
13	Obeyed traffic lights	2.83	0.93	Agree
14	Became patient with a slow driver	3.01	0.85	Agree
15	Did not disregard the speed limit on a motor way	3.05	0.88	Agree
16	Took necessary precaution when driving	3.04	0.88	Agree
17	Did not got into wrong lane when approaching a roundabout	2.99	0.88	Agree
18	Changed brake pads regularly	3.20	0.81	Agree
19	Changed car fluids regularly	3.10	0.83	Agree
20	Did not misread road signs	3.16	0.90	Agree
21	Maintained reasonable distance from a car ahead of me	3.12	0.87	Agree
22	Attended regular training on safe driving	2.95	0.91	Agree
	Grand mean	**2.84**	**0.90**	

Table 4.4 showed the safety practices among taxi drivers in Rivers State. The result showed that the grand mean of 2.84±0.90 was greater than the criterion mean of 2.50 indicating the good safety practices among the respondents. The safety practices included: regarding speed limit while driving (2.87±.90), not getting into wrong lane when approaching a round-about or a junction (2.79±.94), obeying traffic lights (2.83±.93), took necessary precautions when driving (3.04±.88), and maintaining reasonable distance from a car ahead (3.12±.87).

Discussion of findings
The Prevalence of occupational hazards among taxi drivers in Rivers State.
The findings of this study showed that taxi drivers are exposed to occupational hazards. This findings may not be surprising because hazards are inherent in every occupation including driving. However, the findings is in keeping with that of Biswas, et al (2016) where it was recorded that drivers are exposed to different physical, chemical, biological, mechanical, and psychosocial hazards during their daily working scheduled. The findings of the study also agree with that of Boschman, et al (2011) where physical and psychological hazards were recorded among respondents. The finding of this study is similar to that of Hedidor and Bondinuba (2017);

and the Bureau of Statistics (2015) where physical hazards were found among workers. The finding of this study is also similar to that of Tam and Fung (2008) more than 50% of the respondents agreed the existence of physical hazards. The finding of this study is similar to that of Awosan et al. (2017) which showed the exposure of the respondents to chemical hazards including explosive chemicals and biological hazards including injuries which could be from insect bites also such as was found in the present study. The finding of this study give credence to the finding of Edic and Osei (2011) where the respondents complained of customers using abusing words on them. The findings of this study corroborate that of Owaidat and Hamdi (2000) where factors such as inadequate payment were found to aggravate health challenges among the workers.

The findings are in consonance with that of occupational safety and administration (OSHA, 2020), who identified some hazards such as chemical hazards (solvents, adhesives, paints, toxic dust, petrol, diesel and some gases). Physical hazards (noise, radiation and heat). Biological hazards (infectious diseases, virus, bacteria, protozoa, helminths, animals, insects and plants). Ergonomic risk factors (heavy liftings) repetitive motions, vibrations).

On relationship among socio-demographic factors of respondents such as age, years of work experience and educational status were significantly associated with knowledge of hazards and safety practices. This is in agreement with the findings of Tziaferi et al (2011) where was concluded that level of education influences level of knowledge in health and safety issues. According to world health organization (2012), the rational model of health promotion believed high knowledge will translate to positive attitude and subsequently good behaiviour through reality, this transition is not straight forward but depends on several factors. The variance found between this study and the previous study might be due to the difference in study locations. Also the reason attributed to the similarity between these studies was that certain hazards are peculiar to specific jobs including the taxi drivers.

Conclusions

This study has highlighted the significant prevalence of occupational hazards and the state of safety practices among taxi drivers in Rivers State, Nigeria. The findings reveal that these drivers are exposed to a myriad of physical, chemical, and biological hazards in their daily operations, which pose substantial risks to their health and well-being. The analysis shows that physical hazards such as exposure to high levels of noise, extreme temperatures, and whole-body vibrations are common among taxi drivers. Similarly, chemical hazards, including exposure to dust, fumes, and gases, and biological hazards, such as infections and insect bites, are prevalent.

The safety practices adopted by taxi drivers in Rivers State are varied, with a mixture of both positive and negative behaviors. While some drivers adhere to good practices such as maintaining a reasonable distance from other vehicles and regularly changing brake pads and car fluids, others engage in risky behaviors like speeding, disregarding traffic signals, and participating in unofficial races. This inconsistent adherence to safety practices underscores the need for enhanced safety training and stricter enforcement of traffic regulations.

The study concludes that there is a critical need for comprehensive safety programs tailored to the specific needs of taxi drivers in Rivers State. These programs should focus on increasing awareness of occupational hazards, promoting safe driving behaviors, and ensuring regular vehicle maintenance. Additionally, stakeholders, including government agencies and transport unions, must collaborate to implement and enforce policies that enhance road safety and protect the health of taxi drivers.

Addressing the occupational hazards and improving safety practices among taxi drivers will not only enhance their well-being but also contribute to reducing the incidence of road traffic accide nts, thereby saving lives and reducing the economic burden associated with road crashes.

Recommendations

Based on the findings, the following recommendations are made:

1. The government should come up with rider specific schools that are subsidized to make it aff ordable for the riders or the government can subsidized some existing driving schools to train driver.
2. Government should enforce traffic rules and regulation to correct erring drivers.

References

Achalu, E, I. (2000). Occupational health and safety Lagos Simarch publishers

Adejugbagbe, B., Fatiregun, D., Rukewe, U. & ALonge, P. (2015). Use of personal protective equipment by gas stations workers: a nursing contribution. *Texto contextenferm*, 23(1); 193-202.

Adejugbagbe, F., Fatiregun, B.,Rukewe, V., &Alonge, B. (2015). Safety and Health Practices and Injury Management in Manufacturing Industry. Retrieved from https://www.sciencedirect.com/science/article/pii/S2212567116000885

Aderamo, H.E. (2012) Concepts in occupational health and Safety technology for public health and safety professionals. Harey

Agbonkhese, B. E., Yisa, A. O., Agbonkhese, M. A., Akanbi, N., Aka, U. & Mondigha, L. O. (2013). Knowledge of occupational hazards among sawmill workers in Kwara State, Nigeria. *Nigeria Postgraduate Medical Journal,* 23(1); 25-32.

Ahmad, O. P., Sattar, S. O., & Nawaz, O. (2016). Assessment of the Knowledge, Attitudes and Perception of Potential Occupational Hazards by Automobile Workers in Makurdi, Benue State, Nigeria. *American Journal of Health Research*, 6(2); 37-43

Alli, S. (2007). A technical handbook of environmental health in the 21st century for professionals & students. Lagos: Divine Favour Publishers

Apostolopoulos, O., Sonmez, P., Shattell, S. & Belzer, H. (2010). Identifying hazards in the workplace and why it's important. Retrieved from sa

Ataro, Z., Geremew, A., & Urgessa, F.(2019). Chemical Exposure in Garage Workers and Related Health Risks on the Biochemical Levels: A Comparative Study in Harar Town, Eastern Ethiopia. Retrieved from https://pubmed.ncbi.nlm.nih.gov/31041102/

Atombo, R., Wu, G., Tettehfio, S. D. Nyamuame, J. & Agbo, M. (2016). Occupational health hazard among tanker drivers in Kampala, Uganda. *Journal of Environmental and Public Health*, 3, 518 – 523.

Awosan, P., Makusidi, K., Ibrahim, O., Suleiman, E. R., Magaji, M. & Mbatifuh, W. (2017). Knowledge and skill expectations for occupational health and safety.*Safe Health Work Journal*, 4(3);24 - 29

Awoyemi, I. (2019).Chemical hazards in workplace. Retrieved from https://blog.store4masta.com.au

Balami, A. & Sambo, E. (2019). Prevalence and response to occupational hazards among Drivers in Gaza strip, Palestine: The Role of Personal Protective Equipment and Safety Regulations. Scientific and Academic Publishing, 15(1); 32 – 38.

Biswas, C., Bhattacharya, L. E. & Bhattacharya, O. (2016).Cultivating a workplace safety centre culture takes big picture thinking. Retrieved from https://www.grainer.com/know-how/safety/safety-ma

Boschman, L., Vander-Molen, H., Sluiter, A. A. & Frings-Dresen, K. E. (2011). Hazard as a concept. *Journal of Environmental Health*, 5(3); 112 – 120.

Button K. J. & Hensher, L. (2012). "Handbook of Transport Systems and Traffic Control" Perga mon United Kingdom.

Emelike, S., Mbanaso, S., Akunneh-Wariso, A., Enejoh, S., Adiele, E, O. & Olo, A.(2019). Health, risk and safety of petrol stations in Minna town: an overview. *World Applied Science Journal,* 32(4); 655-660

Faremi. M., Adesola, L., Mbada, C., Olarubi, R, & Ogungbemi, L. (2014) Risk perception and occupational accidents:A study of gas station workers in Southern Nigeria. *International Journal of Environmental Research and Public Health,* 2012(9); 2362-2377

Federal Road Safety Corps (2016). Precaution and safety measures.

Han, J., Fin, P., Wood, D., & Yang A. (2019). Health impact of workplace heat exposure: an epidemiological review. *Industrial Health*, 52 (2); 91-101.

Hydera, N., & Vecino-Ortiza, E. (2014).The state of occupational health and safety management framework (OHSMF) and occupational injuries and accidents in the Ghanaian oil and gas industry: Assessing the mediating role of safety knowledge. Retrieved from https://www.hindawi.com.bmri

Idoko, I. (2010). Socio-demographic factors associated with knowledge of occupational hazards and safety measures among workers in selected downstream petroleum companies in Port Harcourt, Rivers State, Nigeria. *Journal of Advance Medicine and Medical Research*, 29(11);1-12.

Jazari, R., Jahangiri, N., Khaleghi, F., Abbasi, S., Hassanipour, K., Shakerian, U., & Kamalinia, D. (2018). Occupational exposure of petroleum depot workers to BTEX compound. *International Journal Occupational Health and Environmental Medicine*, 3, 39-44

Johannessen, T. (2010). Occupational Health safety and risk analysis in textile industries of Lahore. *International Journal of Science, Environment and Technology* vol.3. Retrieved 4th May 2020 from www.ijset.net

Kemei, W. & Nyerere, P. (2016). Safe practices/safe job procedures. *International Journal of Occupational and Environmental Health*, 2(1); 18 – 21.

Mohammed, B., Ambak, D., Mosa, H. & Syamsunur, T. (2019). Awareness,of occupational hazards and utilization of safety measures among welders in Aksum and Adwa Town, Tigray, Ethiopia. *Journal of Environmental and Public Health*, 12(8); 11 – 15.

Onumbu, S. (2008). Provision of healthcare services as correlates of incidence of occupational diseases among cement factory workers in Ogun State, Nigeria. *European Journal of Applied Sciences*, 7(1); 19-26.

Salaudeen, W., Durowade, Y., Yusuf, A. & Adeyemi (2019). Health affects work and work affects health. Business and health. Managed health care executive modernm.

Sangowawa, K. E., Alagh, H., Ekanem, E., Ebong, T., Faseru, C., Adekunle, G. O. & Uchendu, B. (2010). Professional burnout, recent developments in theory and research. 5(2);55-72

Tezera, A., Chereos, I. & Dessie, W. (2017). Theories and approaches: health belief model. *Journal of Environmental Health*, 2(1); 79 – 86.

Tziaferi, S. G, Sourtzi, P., Kalokairinou, A.,Sgourou, E., Koumuol, E, and Velonakis, E. (2011). Risk assessment of physical hazards in Greek hospitals combining staff's perception, experts' evaluation objective measurements. *Safe Health Work Journal*, 2(1);260—272

U.S. Bureau of Labour Statistics (BLS) Census of Fatal Occupational Injuries (CFOI) and Survey of Occupational Injuries and Illnesses (SOII) (2012)

Useche, T., Cendales, F., Alonso, U. & Serge, K. (2017). Assessment of safety practices among taxi drivers in Ile-Ife, South Western Nigeria. *Journal of Community Medicine and Primary Health Care*;, 23(1-2); 9-15.

World Health Organization (2001). Working together for health on human resource.

World Health Organization (2015). Global Status Report on Road Safety, Geneva: Author; 1-7

Zeleke, K. (2017) .A review on Occupational Health Hazards and its consequences among Truck Drivers. *International Journal of Nursing Research and Practice*, 4(2); 28 – 36.