World Journal of Advanced Research and Reviews
eISSN: 2581-9615 CODEN (USA): WJARAI
Cross Ref DOI: 10.30574/wjarr
Journal homepage: https://wjarr.com/

(RESEARCH ARTICLE)

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Risk behavior on road traffic accident among commercial vehicle drivers in Jalingo Metropolitan, Taraba State, Nigeria

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World Journal of Advanced Research and Reviews, 2022, 14(03), 241–247

Publication history: Received on 06 May 2022; revised on 09 June 2022; accepted on 11 June 2022

Article DOI: https://doi.org/10.30574/wjarr.2022.14.3.0529

Abstract

The study investigated the risk behaviours on road traffic accident among commercial vehicle drivers in Jalingo Metropolitan, Taraba State**.** The descriptive survey research design was adopted for the study. The population was 2,000 commercial vehicle drivers registered with National Union of Road Transport Workers (NURTW) proportional sampling technique was used to sample 160 commercial vehicle drivers. Out of 160 copies of the questionnaire administered, 148 copies of questionnaires were returned for data analysis. The null hypotheses were tested at 0.05 level of significance. Therefore, the study recommend that Government and other relevant agencies such as National Road Safety Corps, vehicle inspection officers (VIO) should organize periodic workshop/ enlightenment programme in order to educate commercial vehicle drivers on the behaviours that predispose them to road accidents. Also commercial vehicle park owners should not only employ qualified drivers, but as well ensure that their drivers do not indulge in risky behaviour that are capable of causing road accident. Finally commercial vehicle drivers caught engaging in risk behaviour while on duty should be severely punished in order to deter others from the acts.

Keywords: Risk Behaviour; Road; Traffic; Accident; Commercial Vehicle Driver

1. Introduction

Around the world, road traffic injuries pose a major public health challenges that requires concerted efforts to reduce through effective and sustainable method of preventions. An estimated 1.3 million people are killed through road accident annually around the world and as many as 50 million people suffer injuries (Interstate.statejournals.com/year2011). The World Health Organization (WHO) believes that this figure will increases to 1.9 million if concrete action is not taking by the end of 2020, especially in developing country such as Nigeria (Road Safety Nigeria, June 2009 and the Nigerian Tribune march 13th, 2009).

From the foregoing, the meaning of road accident vary not only in the definitions, nature of the causative agent (human and nonhuman) and state or statues, but also the extent of damage and the degree of response needed input to reducing the effect. In substances they all convey that never ending process of sudden or impromptu incident of collision which calls for careful and mindful road users, dedicated law enforcement agencies, and the like as to reduce loss of live and properties.

Physical inactivity or sedentary lifestyle is another risk behaviour that can cause road traffic accident among drivers. Physical inactivity or sedentary lifestyle has become a major public health concern because it is the second leading single cause of death in the United States, trading only tobacco use (Lopez and Murray, 2006). The authors defined sedentary lifestyle as a condition which is characterized by sitting or remaining inactive for most of the day with little or no exercise. According to Healey and Owen (2008), physical inactivity is also associated with increased risk of

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morbidity or worsening of many chronic diseases and health condition such as cardiovascular disease, cognitive heart failure, stroke, certain cancers, osteoporosis, obesity, type2 diabetes, and hypertension. Healey and Owen (2008) further stated that lack of exercise cause muscle atrophy, that is, shrinking and weakening of the muscles, and accordingly increase susceptibility to physical injury. Additionally, physical fitness is correlated with immune system function because a reduction in physical fitness is generally accompanied by a weakening of the immune system. From the above literatures, sedentary lifestyle can lead to conditions that are capable of affecting the health of commercial drivers, and invariably affect their effectiveness on the road which can lead to accidents. A commercial vehicle driver that is hypertensive or diabetic may not be able to meet the demands of driving such as; mental alertness, ability to make quick decisions and rational judgment, etc, thereby endangering his life, the passengers and others making use of the road. And this may be one of the causes of accidents among commercial vehicle drivers in Jalingo LGA of Taraba state. In the opinion of Vlahos (2011), unhealthy habits (sedentary lifestyle and alcohol consumption) increase fatigue in drivers which is a major cause of accidents. Fatigue is uncomfortable and unpleasant for most, for drivers it could be deadly, therefore, it is imperative that drivers are well-rested and able to respond quickly and effectively while on the road Vlahos, (2011).

Poor nutrition is also a health risk behaviour among drivers which can cause accidents. According to Jarvholm and Silverman (2003), food is the fuel that regulates energy and mood, both of which can significantly affect one's focus. This also involves the ability of commercial drivers to focus on their movement on the road. Walter and Stampfer (2003) defined nutrition as the science that interprets the interaction of nutrients and other substances in food in relation to maintenance, growth, reproduction, health, and disease of an organism. In the opinion of Suber, Robinson, Bordsay and Sweeny (2004) driver error is one of the major contributors to vehicle crashes which is not only due to the reckless disregard for the rules of the road, but also other factors such as drivers tiredness, poor feeding and failure to remain focused behind the wheel. Turner and Reed (2011) identified effective nutrition as an important component in the ability of long distance truck drivers to remain fit and alert behind the wheel. This implies that good nutrition aids drivers, including commercial drivers, to be alert, focused and fit enough to meet the demands of moving their vehicles on the road, without which accident may occur. Turner and Reed (2011) asserted that as far as road driving is concerned, drivers have a tendency to choose junk foods to snack on, which can cause discomfort and can be diet disaster. Generally, discomfort on the road can lead to accidents among drivers, being that when a driver (including commercial drivers) is uncomfortable while driving as a result of food consumed, there is a possibility of loss of concentration and alertness, thereby, leading accident and loss of lives and goods.

Commercial vehicle drivers are drivers involved in carrying individuals and goods from one place to another. According to Tuchen, Roepstorff and Krause (2006), commercial drivers are drivers who have possessed additional testing to qualify them to drive vehicles for carrying goods or passengers. They are all individuals, whether paid or volunteer, who operate commercial motor vehicles Venderbitt, (2008). In general, commercial drivers are those that are qualified to carry goods or passengers from one destination to the other. There are different kinds of commercial vehicle driver which is dependent on the nature of their driving or the vehicle they drive. Venderbitt (2008) stated that there are drivers that are employed privately which are chauffeur; there are ones that drive trucks; there are ones that convey people and goods from one place to another called commercial vehicle drivers; and there are those that drive trains called the coachmen. The present study will be concerned with commercial vehicle drivers because they are the ones that mostly use the road thereby, are more vulnerable to road traffic accidents. WHO (2004) in a report estimated that the number of deaths due to traffic accident will increase by 65% between the years 2000 and 2020, with this figure expected to be as high as 80% in developing countries. Nigeria is among the developing countries stated above in the report. Pepple and Adio (2014) reported that in Nigeria, commercial vehicle drivers are more vulnerable to road traffic accident as a result of deplorable habits of commercial drivers from alcohol intoxication, inattentiveness and poor knowledge of traffic regulations. Other peculiar factor that can causes accident are lack of skill, knowledge of road code, over speeding, recklessness, sleeping, bad road, and obstacles on the road such as animals.

There are socio-demographic variables that influence accident causation among commercial motorcycle drivers. However, this study will test level of education as factors that influencerisk behaviours of commercial vehicle drivers in the area of the study.

This study was carried out in Jalingo, which is the capital of Taraba state. Taraba state is located at the northern part of Nigeria. People of the local government area patronize commercial drivers as means of transportation and conveying of goods round the locality.

The purpose of the study was to ascertain the health risk behaviours associated with accident causation among commercial vehicle drivers in Jalingo Metropolitan of Taraba State. Specifically, the study seeks to ascertain if;

- Physical inactivity is a factor of accident causation among commercial vehicle drivers in Jalingo L.G.A.
- Poor nutrition is a factor of accident causation among commercial vehicle drivers in Jalingo L.G.A.

1.1. Research Questions

- How is physical inactivity a factor of accident causation among commercial vehicle drivers in Jalingo L.G.A?
- How is poor nutrition a factor of accident causation among commercial vehicle drivers in Jalingo L.G.A?

1.2. Hypothesis

One null hypotheses was postulated to guide the studies and tested at .05 level of significance.

There is no significant relationship between risk behaviours of accident causation and level of education of commercial motorcycle drivers.

2. Methodology

The descriptive survey research design was adopted for the study. The population for the study comprised all the commercial vehicle drivers in all parks in the Jalingo local government area. The population is 2,000 commercial vehicle drivers with registered with National Union of Road Transport Workers (NURTW). The distribution is as follows; A.J. Awoniyi main motor park (cars, 250), A.J. Awoniyi main motor park (buses, 210), A.J. Awoniyi main motor park (heavy trucks, 278), Taraba transport corp. motor park (buses, 265), Old timber motor park (taxi, 125), Nassrawo garage (tipper, 220), Jalingo main market park (taxi, 308), and Tashan Kabiru motor park (cars, 225).(Source: Office of NURTW Taraba State, 2015). The sample sizes were 160 commercial vehicle drivers. Using proportional sampling technique, 20 commercial vehicle drivers were selected each out of the 8 commercial parks in order to ensure that all types of commercial vehicle drivers are used for the study.

Researcher-structured questionnaire called Structured questionnaire called Risk Behaviour on Road Traffic Accident among Commercial Vehicle Drivers Questionnaire (RBRTACVDsQ) was used for data collection in the study. Two research experts validated the instruments. The questionnaire (RBRTACVDsQ) was rated on a four point scale ranging from Strongly Agree (SA) = 4, Agree (A) =3, Disagree (D) = 2 and strongly disagree (SD) = 1. The null hypotheses were tested at 0.05 level of significance and appropriate degree of freedom (df). Data were analyses using answered using mean, with 2.50 as the criterion mean. The responses was considered positive if the grand mean score was equal to or above 2.50, and considered negative if less than 2.50. While mean scores were used to answer research questions and linear regression statistics was used to test the null hypothesis respectively. The statistical package for social sciences (SPSS version 21) was used for data analysis.

3. Results

3.1. Research Questions

- How is physical inactivity a factor of accident causation among commercial vehicle drivers in Jalingo L.G.A?

Table 1 Physical inactivity as a factor of road traffic accident {n=148}

Item statements	$\bar{\times}$	SD
Physical inactivity causes depression and anxiety among drivers.	3.25	0.52
Physical inactivity leads to high blood pressure among drivers.	3.24	0.52
Physical inactivity causes cardiovascular diseases among drivers.	3.28	0.54
Fatigue leads to accident among drivers	3.26	0.53
Tiredness leads to slowed reaction among drivers	3.28	0.53
Cluster Mean ($\bar{\times}$)	3.26	0.53

Criterion Mean ($\bar{\times}$) = 2.50

A factor = Cluster ($\bar{\times}$) > Criterion ($\bar{\times}$)

Therefore, 3.26 > 2.50

Data in Table 1 Shows that the highest score was by, physical inactivity causes cardiovascular diseases among drivers ($\bar{\times}$ = 3.28, SD = 0.54), followed by, tiredness leads to slowed reaction among drivers ($\bar{\times}$ = 3.28, SD = 0.53), fatigue leads to accident among drivers ($\bar{\times}$ = 3.26, SD = 0.53) while, physical inactivity causes depression and anxiety among drivers ($\bar{\times}$ = 3.25, SD = 0.52) and the least score of ($\bar{\times}$ = 3.24, SD = 0.52) was by, physical inactivity leads to high blood pressure among drivers. All the items scored above the criterion mean ($\bar{\times}$) of 2.50 and cluster mean ($\bar{\times}$) of 3.26 which shows that physical inactivity is associated with accident causation.

3.2. Research Questions

- How is poor nutrition a factor of accident causation among commercial vehicle drivers in Jalingo L.G.A?

Table 2 Poor nutrition as a factor of road traffic accident {n=148}

Item statements	$\bar{\times}$	SD
It reduced immunity	3.34	0.51
It increase susceptibility to disease	3.44	0.56
It makes drivers impaired physical and mental development	3.20	0.49
It reduced productivity	3.20	0.54
Poor feeding leads to poor concentration while driving	3.22	0.51
Cluster Mean ($\bar{\times}$)	3.28	0.51

Criterion Mean ($\bar{\times}$) = 2.50

A factor = Cluster ($\bar{\times}$) > Criterion ($\bar{\times}$)

Therefore, 3.29 > 2.50

Data in Table 2 Shows that the highest score was by, it increase susceptibility to disease ($\bar{\times}$ = 3.44, SD = 0.56), followed by, it reduced immunity ($\bar{\times}$ = 3.34, SD = 0.51), poor feeding leads to poor concentration while driving ($\bar{\times}$ = 3.22, SD = 0.51) while, it reduced productivity ($\bar{\times}$ = 3.20, SD = 0.54) and the least score of ($\bar{\times}$ = 3.20, SD = 0.49) was by, it makes drivers impaired physical and mental development. All the items scored above the criterion mean ($\bar{\times}$) of 2.50 and cluster mean ($\bar{\times}$) of 3.28 which shows that poor nutrition is associated with accident causation.

3.3. Hypothesis

- There is no significant relationship between risk behaviours of accident causation and level of education of commercial motorcycle drivers.

Table 3 Summary of Linear regression on relationship between risk behaviours (RBs) and level of education

Model	R	R^2	Adj. R^2	Std. Er. Est.	F-value	t-value	Unstandardized Coefficients B	S.E	P-value
1	0.378	0.143	0.137	6.26216	24.364	-4.936	105.048	1.297	0.000
							-2.677	0.542	0.000

Predictors: (Constant), level of education; b. Dependent variable: Risk Behaviours RBs

Table 3 shows the Summary of Linear regression of P < 0.05 significant relationship between risk behaviours of road traffic accident and level of education. The R- square value of .143 indicates a modest relationship in that 14.3 % of the variation in health risk behaviours is explained by level of education. The F- value of 24.364 indicates that there was a significant linear relationship between health risk behaviours and level of education. This further indicates that the regression model significantly predicts health risk behaviours. The further shows that both the constant (intercept) and slope of regression line (Beta, unstandardized coefficients) are significantly different from zero at P<0.000 which is shown in the column labeled "significant". This implies that level of education predicts health risk behaviours.

4. Discussion

The findings on Table 1 shows physical inactivity was a factor for road traffic accident ($\bar{X}$ = 3.26, SD = .53). The result was expected because base on observation physical inability causes depression and anxiety among driver while driving and can cause accident due the stress in the body system and also it raises high blood pressure which affects the driver while driving causes accidents. These results are in line with that of Bowanan (2006) stated that sedentary lifestyle and lack of physical activity can contribute to or be a risk factor for; anxiety, cardiovascular disease, mortality in elderly men by 36% and double the risk in elderly women; deep vein thrombosis; depression; diabetes; colon cancer; high blood pressure; obesity; lipid disorders; frequent back and neck pain or pinched nerve. This was a negative act that should be discouraged among drivers to prevent them from accidents.

The findings on Table 2 shows poor nutrition was a factor for road traffic accident ($\bar{X}$= 3.28, SD = .51). The result was expected because poor nutrition can reduced the immunity in the body system which can lead to road accidents among drivers. The result is not agreed with that of Turner and Reed (2011) identified effective nutrition as an important component in the ability of long distance truck drivers to remain fit and alert behind the wheel. Therefore good nutrition is vital in all areas of life.

Table 3 shows that there was no significant relationship between risk behaviours of road traffic accident and level of education of commercial vehicle drivers. The finding was expected because education is systematic learning at different stages. Education plays an important role in improving knowledge and skills of individuals as seen from the literatures above and commercial vehicle drivers are not excluded. The results agree with Brick (2006) stated that level of education represents a broad section of education ladder, that is, the progression from very elementary to more complicated learning experience, embracing all fields and programme groups that may occur at a particular stage of the progression. This clearly shows that education and level of education plays vital roles in determining whether a commercial vehicle driver would engage in health risk behaviours. Furthermore, Mishra, Mishra and Sinha (2010) reported that commercial drivers with higher knowledge of the disadvantages associated with risky behaviours such as alcohol drinking and smoking while driving would avoid such behaviours, while those with low knowledge would engage in the behaviours that increases the possibility of road traffic accident.

5. Conclusion

Based on the findings of the study, the following conclusions have been drawn;

- Physical inactivity was a factor for accident causation (Table 1).
- Poor nutrition was a factor for accident causation (Table 2)
- There was significant relationship between health risk behaviours of accident causation and level of education of commercial vehicle drivers (Table 3).

Recommendations

Based on the finding and conclusion of this study, the following recommendations were drawn:

- Government and other relevant agencies such as National Road Safety Corps, vehicle inspection officers (VIO) should organize periodic workshop/enlightenment programme in order to educate commercial vehicle drivers on the behaviours that predispose them to road accidents.
- Commercial vehicle park owners should not only employ qualified drivers, but as well ensure that their drivers do not indulge in behaviour that are capable of causing road accident, this can be achieved by creating a working monitoring team.
- Also, commercial vehicle drivers who caught engaging in health risk behaviour while on duty should be severely punished in order to deter others from the acts.

Compliance with ethical standards

Disclosure of conflict of interest

No conflict of interest.

Statement of informed consent

Informed consent was obtained from all individual participants included in the study.

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