

Crash Helmet Usage among Commercial cyclists across Rural-Urban divide in Kwara State Nigeria: A preliminary investigation

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Abstract

There are various regulations and safety rules guiding commercial motorcycle operations in Nigeria. The commercial cyclists often violate these rules with impunity causing road crashes and eventually leading to loss of lives and properties. The objective of this paper is to examine the use of crash helmet among commercial motorcycle riders in Kwara state Nigeria. The study used structured questionnaire administered to 1,197 randomly selected commercial cyclists across the rural-urban divide in Kwara State. Descriptive statistics was used to analyse the data. The results revealed that 96.93 percent of the commercial cyclists comply with the rule of safety helmet usage while 3.1 percent do not comply with the rule in the urban areas. The noncompliance and compliance rates of rural commercial motorcycle operators stand at 14 percent and 86 percent respectively. Results from the survey showed further that all the commercial motorcyclists in Kwara State, Nigeria are males. This indicates that women are not into commercial motorcycle business probably due to the nature of the job. Okada riders who operate on full-time basis constitute 62.19 percent of the total respondents while the rest operate on part-time basis. Commercial cyclists who have secondary education are in the majority. The study therefore recommends that road safety enforcement agents should educate the rural riders in order to enforce compliance.

Keywords: Commercial Cyclist, Crash Helmet, Kwara state

Jel Classification Codes: R1,R4

1. Introduction

The use of crash helmet by both the rider and passengers of commercial motorcyclists is a way of preventing head injuries in case of accidents (Solagberu et al., 2006; Abori, 2019). The law guiding the usage of crash helmet by commercial motorcycle operators is contained in page B199 of the National Road Traffic Regulation of Nigeria, 2004. The law states that “both the rider and the passenger shall wear safety crash helmets while on motion. The objective of this paper is to examine the use of crash helmet among commercial cyclists across rural-urban divide in the Kwara State. Every year, road traffic crashes result in 1.25 million deaths worldwide and between 30-50 million non-fatal injuries. Motorcyclists comprise between 5 percent and 18 percent of road traffic injury deaths in high-income countries. However, this percentage is higher in most low and middle-income countries (Ndango, 2019). The World Report on road traffic injury prevention recommends all countries, to follow many good practices, including “setting and enforcing laws requiring riders of bicycles and motorized two-wheelers to wear helmets”. Head injuries account for around 75 percent of deaths among motorized two-wheelers in Europe, while it is estimated to be 88 percent in low and middle

countries. Wearing a motorcycle helmet has been shown to decrease the risk and severity of injuries by about 72 percent, likelihood of death by up to 39 percent. The social costs of head injuries for survivors, their families and communities are high, in part because they frequently require specialized or long-term care. Head injuries also result in much higher medical costs than any other type of injury. Therefore, these road traffic head injuries place a higher burden on a country's health care costs and the economy (Abori, 2019). The paper is divided into four parts. Following the introductory part, section two presents brief literature review; section three contains the methodology; discussion of results is in section four; while section five is made up of conclusion and policy recommendation.

2. Literature Review

In low and middle-income countries, motorcycles and bicycles are a major means of transport. Motorcyclists constitute a large proportion of those injured or killed on the roads. Compared with other vehicles, motorcycles and bicycles have a higher risk of being involved in a crash. This is because they often share the traffic space with fast-moving cars, buses and trucks, and because they are less visible (Kissalita, 2020). In addition, their lack of physical protection makes the riders particularly vulnerable to being injured if they are involved in a collision. The technical expertise behind the design of high-quality helmets is based on an understanding of what happens during the event of a motorcycle crash. Therefore, it is essential to produce or import high-quality helmets manufactured per international standards (Richard et al., 2019).

A preliminary investigation on commercial motorcycle and the use of number plates was conducted by Arosanyin (2007) in Ilorin, Kwara State, Nigeria. The study used physical examination and inspection to generate the data. Descriptive statistics and weighted rank analysis were used as tools of data analysis. The study showed that operators between the age brackets of 18-40 years violate the rule of number plate more than those above 40 years. The rate of number plate violation was higher on the part of literate commercial motorcyclists compared to the illiterate operators. And that cyclist who works on full-time basis are likely to operate without number plates more than the part-time operators. The results reveal further that licensed commercial motorcyclists violate number plate rule more than the un-licensed Okada riders. The study concluded that number plate violation will translate to revenue loss to the government.

The Motorcycle Crash Characteristics in Lagos, Nigeria, was examined by Oni, Fashina, & Olagungu (2011). The study empirically examined riders' and passengers' perception on the use of commercial motorcycles with the administration of 1,400 questionnaires on riders and 1,550 questionnaires on passengers. The study used descriptive statistics to analyze the data generated. The results revealed that a great percentage of the riders are male and graduates (married) who earned above five hundred naira a day and that their activities are characterized by overloading, over speeding, and non-use of crash helmets. Passengers, both the rich and the poor, use commercial motorcycles purposely to beat traffic congestion, save time and enhance accessibility. The study is urban focused and it did not clearly indicate the level of compliance with road safety regulations.

A study on the use of crash helmet among motorcyclists in Thailand was carried out by Penprapa et al. (2012). The study used primary data while descriptive statistics was used to analyse the data. The results showed that 42 percent and 72.5 percent of the motorcyclists and

motorcycle passengers do not use crash helmet during Sonkran festival in Thailand respectively. Yakubu (2015) conducted a study on passenger capacity compliance among commercial cyclists in Kwara state. The result revealed that factors such as license holding, age, mode of operation, education, location and earnings determine compliance with passenger capacity.

Akinleye et al.(2015) opined that there are increasing fatalities and injuries among users of motorcycles, with head injuries being a major concern. Motorcycle helmets are effective both in preventing head injuries and in reducing the severity of injuries sustained by riders and passengers of motorcycles.

Ogene (2018) conducted a study on the use of safety helmet in Benin City Edo State, Nigeria. The study used primary data generated through the use of questionnaire administered to 230 commercial cyclists selected randomly. The data collected were analysed using descriptive statistics. The results from the study showed that about 40 percent of the commercial motorcycle riders comply with the use of safety helmet while on motion. The remaining 60 percent violate the safety helmet use rule in the state. This study is urban focused.

Helmet use among commercial motorcycle riders in Accra Ghana was examined by Richard andAtteh(2019). The data for the study was collected through observation of 21,108 motorcycle riders and questionnaires were administered to 1,182 motorcycle riders selected through random sampling technique. The result indicated that most of the motorcycle riders were carrying passengers and both of them were not wearing helmets while on motion. Results from the study revealed further that, youths were found to be in the majority of riders who do not use safety helmets. The study concluded that the low level of education among the commercial cyclists accounts for the high noncompliance rate with safety helmet use rule. This study did not take into consideration the rural commercial cyclists in the study area as well.

Ndango (2019) examined the use of crash helmet among boda-boda operators (commercial motorcyclists) in Kampala, Uganda. The results of the study showed that 45.9 percent of the operators use safety helmet during operation while 54.1 percent of the riders do not use crash helmet. This study is also urban focused.

Kamuta (2019) contends that, when involved in a crash while not using a helmet, the risk of injury increases along with the increased severity of the injury and increased risk of death. Helmets are designed to reduce the occurrence of head, brain, and facial injuries. They are not designed to prevent injuries to other parts of the body. A motorcyclist not wearing a helmet is 31 times as likely to be killed as a car occupant for the same distance of travel. The rapid growth in the use of two-wheeled vehicles in most low and middle-income countries has been accompanied by a significant increase in road injuries and fatalities. In the last two decades, the use of motorcycles has grown rapidly in developing countries like Nigeria.

3.0 Methodology

The data for the study was majorly primary. This was generated using a comprehensive and structured questionnaire aimed at sourcing for vital information on commercial motorcycle business from the operators in Kwara State. A total of 1,197 commercial motorcyclists

representing 10 percent of 11,972 registered motorcyclists were surveyed across the 16 LGAs of Kwara State, Nigeria. The operators were selected using random sampling technique. This sampling method was used to give equal chance to all the Okada (commercial motorcycle) riders in the target population to participate in the survey. The study used descriptive statistics to analyse the data.

3.1 The Study Area

Kwara State is located at North Central geopolitical zone in Nigeria. It was created on the 27th May, 1967. The population of the state stood at 2.6 million going by 2006 National Population Census. It shares boundary with the Republic of Benin to the west, Niger State to the North, Kogi State to the east, Oyo, Osun and Ekiti States to the south. The population is made up of Yoruba, Batonu, Bokobaru, Hausa/Fulani and Nupe tribes who are mainly farmers, businessmen, petty traders, artisans, and civil servants. The State is made up of 16 local government areas

4.0 Discussion of Results

Table 1 reveals that the compliance rate of the commercial motorcyclists with crash helmet usage during operation is 90.99 percent while the noncompliance rate stands at 9.02 percent in the rural areas. This is encouraging in terms of safety because head injuries will be reduced in case accidents happen. However, considering the urban motorcyclists, the compliance rate with helmet usage during operation was estimated at 96.93 percent against 3.1 percent of noncompliance rate. The overwhelming usage of crash helmet at 96.93 percent makes the adoption of logistic binary analysis not feasible. The statistics show further that 86 percent of the commercial cyclists in the rural areas comply with crash helmet usage during operation while the noncompliance rate is 14 percent. Relatively, the noncompliance rate with crash helmet usage is higher in the rural areas than the urban centers. This may be as a result of the presence of traffic law enforcement agents in the cities that ensure compliance.

Table 1: Use of Crash Helmet during Operation

Variable	Total	Urban only	Rural only
use crash helmet	90.980%	96.930%	86.000%
do not use crash helmet	9.020%	3.070%	14.000%
Total	100	100	100

Source: Author's computation.

Table 2 below reveals that 7.83 percent of the cyclists has no formal education; 2.13 percent have incomplete primary education; 10.72 percent have completed primary education as their highest educational attainment. Okada riders who completed junior secondary education represent 7.83 percent of the total population while 31.83 percent of the cyclists have secondary education as their highest educational qualification. Cyclists with incomplete post secondary education constitute 6.64 percent; 18.13 percent of the Okada operators completed post secondary education. It is clear from the above that about 56.6 percent of the commercial motorcyclists has acquired the minimum educational qualification in Nigeria which is 9 years of compulsory and basic education equivalent to completed junior secondary education. This is in line with the findings of Ogunsanya and Galtima, (1993); Arosanyin, (2010); and Yakubu,

Table 2: Educational Background of Commercial Motorcycle Operators

Variable	Percent
No formal Education	7.83
Primary Education (incomplete)	2.13
Primary Education (completed)	10.72
Junior Secondary Education (incomplete)	3.15
Junior Secondary Education (completed)	7.83
Senior Secondary Education (incomplete)	8.43
Senior Sec. Education (completed)	31.83
Post Secondary Education (completed)	18.13

Source: Author's Computation.

(2012).

4.1 Further Analysis of results from the study

Age, Engine Capacity and Number Plate Compliance

The law on the compliance issues above states that (a) "it shall be an offence for a person below 18years to drive a vehicle or a motorcycle on the Highway"; (b) "the cubic capacity of motorcycle shall be 100cc and above but not more than 200cc"; and (c) "a motorcycle shall bear a local identification mark and number allocated by authority to distinguish it from non-commercial motorcycles on payment of prescribed fee". This number plate must be properly fixed at the front and back. These laws are contained in National Road Traffic Regulations of Federal Republic of Nigeria, 2004, pp. B194-B199. The statistics presented in Table 3 show the compliance rate by commercial cyclists with some road safety regulations as spelt out in the National Road Traffic Regulations 2004 by Federal Republic of Nigeria. It is evident from the statistics that the compliance rate with the minimum age requirement was 99.75 percent while the noncompliance rate stands at 0.25 percent. Under-aged commercial cyclists are few in Kwara State because this business is dominated by married men with many dependants to cater for. The compliance rate with motorcycle engine capacity was estimated at 83.02 percent against 16.98 percent noncompliance rate. Motorcycle engine capacity in Uganda is between 50cc-250cc which is contrary to the situation in Nigeria (Iga et al., 2012 and Arosanyin et al., 2012). Table 3 indicates further that the compliance rate with license holding was 32 percent while the noncompliance rate was as high as 68 percent in Kwara State. Highway Code awareness compliance rate was 32.97 percent while the noncompliance rate was estimated at 67.03 percent. The compliance and noncompliance rates of passenger permissive rule are 25.9 percent and 75.21 percent respectively. The compliance rates with license holding; passenger permissive and Highway Code awareness in the urban areas are higher than those of rural areas. This may be due to the presence of traffic law enforcement agents in the urban areas.

Table 3: Compliance Rates

Issues	Compliance rate (Total)	Compliance rate (Urban)	Compliance rate (Rural)
Age	99.7500	99.9000	99.5400
Engine capacity	83.0200	97.3400	96.9300
Number plate	93.5300	99.4300	88.6200
License holding	32.0000	64.7100	35.2900
Passenger permissive	25.9000	38.3300	13.8200
Highway Code awareness	32.9700	45.1600	23.0800

Source: Author's computation.

5. Conclusion and Policy Implication

Results from the study have some policy implications on commercial motorcycle operation in the study area. The traffic law enforcement agencies should rise up to their responsibilities and not to take the advantage of traffic offences as money making ventures. The study therefore recommends that, traffic law enforcement agents should educate and enforce compliance with crash helmet usage. To achieve this, government should establish a motorcycle inspection unit that would work in collaboration with their trade associations to ensure that the operators are properly educated on safety issues most especially the use of safety helmet. Combining information and public awareness campaigns with the sustainable enforcement of helmet use had been proven to be efficient worldwide. However, the increase in voluntary use of helmets is crucial in raising the acceptability of people about helmet use.

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