

Knowledge and Attitudes Towards Traffic Rules Among Commercial Drivers in Benin Metropolis, EDO State: Public Health Implications for Road Safety

Clinton Oghosasere Egharevba

clintonegharevba6@gmail.com

National Open University of Nigeria

Vivivan Ofure Omoareghan

National Open University of Nigeria

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**KNOWLEDGE AND ATTITUDES TOWARDS TRAFFIC RULES AMONG
COMMERCIAL DRIVERS IN BENIN METROPOLIS, EDO STATE: PUBLIC
HEALTH IMPLICATIONS FOR ROAD SAFETY**

Clinton Oghosasere Egharevba ¹, National Open University of Nigeria (NOUN); Department
of Public Health Science; clintonegharevba6@gmail.com

Omoareghan Ofure Vivian ²; National Open University of Nigeria (NOUN); Department of
Public Health Science; vivian.omoareghan@gmail.com

**Corresponding author: Clinton Oghosasere Egharevba ¹, National Open University
of Nigeria; Department of Public Health Science; clintonegharevba6@gmail.com;
+2347035078557**

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ABSTRACT

Background: Road traffic injuries (RTIs) represent a critical global public health crisis which is hitting low- and middle-income countries disproportionately hard. This study assessed the knowledge thresholds and behavioural attitudes toward traffic rules among commercial drivers within the Benin metropolis, Edo State, Nigeria, to highlight the critical public health implications for urban road safety.

Methods: A descriptive cross-sectional design was employed for the study with a sample size of 138 respondents. Data were collected using a structured questionnaire. The reliability of the instrument was assessed using Cronbach's alpha and the reliability coefficient was 0.79, which indicated an acceptable reliability for the study. Data analysis was conducted using SPSS version 27, and hypotheses were tested using Chi-square statistics at a 0.05 level of significance.

Findings: The majority of respondents exhibited a high level of foundational traffic knowledge, with 73% correctly identifying basic traffic rules, road signs, and signal indicators. Attitudes toward traffic regulations were generally positive which yielded a grand attitudinal mean score of 3.81, with 77% strongly agreeing that strict compliance prevents accidents. Chi-square analysis revealed a statistically significant relationship between a driver's knowledge level and their attitudinal disposition ($\chi^2 = 7.096$, $p < 0.05$). Furthermore, formal education level significantly influenced safety attitudes ($\chi^2 = 23.9$, $p < 0.05$), whereas driving experience had no statistically significant impact on regulatory knowledge.

Conclusion: While commercial operators within the Benin metropolis possess an encouraging baseline of road safety knowledge, translation into safe behaviour remains an active public health challenge. To close this gap and reduce road fatalities, the study recommends institutionalizing mandatory formal driver training, periodic professional re-certification, strict law enforcement, and targeted public health communication campaigns.

Keywords: Attitudes, Commercial Drivers, Knowledge, Road Safety, Public Health, and Traffic Rules.

INTRODUCTION

Road traffic injuries (RTIs) represent a critical public health and socioeconomic crisis globally, accounting for approximately 1.19 million deaths annually and leaving millions more with permanent disabilities ^[1]. This burden is profoundly unequal; over 90% of global road

fatalities occur in low- and middle-income countries (LMICs), despite these regions processing only about 60% of the world's registered vehicular fleet ^[1]. In Nigeria, rapid urbanization and population growth have turned urban centers into high-risk zones where severe traffic congestion, poor infrastructure, and non-compliance with transport laws exacerbate crash frequencies ^[2]. Within this transport landscape, commercial vehicle operators such as bus, taxi, and minibus drivers serve as the backbone of urban transit systems, shifting vast numbers of commuters daily ^[3]. Consequently, their behavioural patterns and adherence to road safety protocols directly dictate urban mortality and morbidity trends ^[4]. Traffic rules such as speed thresholds, compulsory seatbelt usage, lane discipline, and the prohibition of mobile device use while driving are designed to establish systemic order and protect commuters ^[2]. However, empirical data indicates a severe disconnect between expected driving compliance and reality among Nigerian transit workers ^[5]. Studies consistently demonstrate that commercial drivers display poor comprehension of basic road safety infrastructure which often fails to recognize standard regulatory or warning road signs ^[6]. These cognitive gaps are compounded by deep-seated behavioural and attitudinal problems as many drivers operate with a sense of impunity due to a perceived lack of consistent legal consequences or structural enforcement that is combined with profound occupational health hazards such as driving fatigue and job strain ^[7]. The Benin metropolis, the capital of Edo State, mirrors these acute urbanization and transportation pressures that results in an escalating incidence of commercial vehicle crashes ^[8]. While exploratory transport safety research has targeted major hubs like Lagos and Abuja, granular empirical data mapping the specific relationship between a commercial driver's cognitive awareness of traffic laws and their underlying safety attitudes remains scarce within the unique demographic and structural context of Benin City ^[9]. This study addresses this critical gap in transport literature. By systematically assessing the knowledge thresholds and behavioural attitudes of commercial operators toward traffic rules within the Benin metropolis. This paper provides the localized empirical baseline necessary for policymakers, transport unions, and law enforcement frameworks to design targeted safety interventions, implement optimized training regimens, and ultimately mitigate the trajectory of preventable road traffic fatalities.

METHODOLOGY

Research Design

The study was conducted using a descriptive cross-sectional design.

Study Setting

This research work was conducted in three major parks which are UNIBEN Shuttle Park, Central Park in Ring Road, and New Benin Park in Benin City, Edo State.

Duration

The period of study lasted from January 2026 to March 2026.

Study Population

The participants included only commercial drivers in selected motor parks in Benin City, Edo State.

Inclusion Criteria

Commercial drivers in Benin city who gave their consent to participate in this study. While non- commercial drivers and other drivers outside the study area were excluded from the study.

Sample Size Calculation

This was calculated using Fisher's formula for a cross-sectional study.

$$n = \frac{Z^2 P(1 - P)}{d^2}$$

Where:

n= the desired population size

Z= the standard statistics for a level of confidence interval 95% (1.96)

P= estimated prevalence or proportion (0.10)

d= 0.05 margin of error

$$n = \frac{(1.96)^2 \times 0.10 \times (1 - 0.10)}{(0.05)^2}$$

$$n = \frac{3.8416 \times 0.10 \times 0.90}{0.0025}$$

$$n = \frac{0.3457}{0.0025}$$

$$n = 138.3$$

$$n \sim 138$$

Final sample size is 138 respondents

Sample Size

138 respondents

Instrument for Data Collection

The instrument used for data collection was a structured questionnaire developed specifically for this study by the researchers. The questionnaire was developed based on the study objectives, research questions, and relevant literature on parental feeding patterns and childhood obesity. It was not adopted or reproduced from any previously published questionnaire. The instrument was divided into three sections which are A, B and C. Section A contains demographic information of the respondents such as Age, Gender, Religion, etc, Section B aims to determine the level of Knowledge of Traffic Rules while Section C aims to assess the Attitude Towards Traffic Rules. The respondents were required to check and tick (☐) according to their personal opinions. This was also complemented with personal observations and oral interviews.

The English language version of the study questionnaire is provided as Supplementary File 1 and is cited here as Supplementary File 1.

Validity of the Instrument

To ensure that the questionnaire accurately measured knowledge and attitudes towards traffic rules among commercial drivers, the instrument was subjected to face and content validity. The draft questionnaire was reviewed by three experts, which comprised of two senior lecturers in the Department of Public Health Science and one specialist in Measurement and Evaluation/Statistics. The experts assessed the questionnaire for clarity, relevance, adequacy, and appropriateness of the items in relation to the study objectives, research questions, and hypotheses. Their observations and recommendations were incorporated into the final version of the instrument before administration.

Reliability of the Instrument

The reliability of the research instrument was established through a pilot study conducted among commercial drivers at Uselu Motor Park in Benin City, which was outside the selected motor parks included in the main study. The pilot study involved 14 commercial drivers,

representing approximately 10% of the calculated sample size of 138 respondents. The responses obtained from the pilot study were coded and subjected to reliability analysis using Statistical Package for the Social Sciences (SPSS) Version 27.0. Cronbach's Alpha coefficient was used to determine the internal consistency of the questionnaire items, particularly the items measuring respondents' attitudes towards traffic rules. The overall reliability coefficient obtained was 0.79. This value exceeds the commonly accepted minimum threshold of 0.70 for an internally consistent research instrument and indicates that the questionnaire had an acceptable level of internal consistency for the study. The instrument was therefore considered sufficiently reliable for administration to the main study population.

Method of Data Collection

The completed questionnaires were coded, cleaned, and analysed using SPSS Version 27.0. Descriptive statistics such as frequencies, percentages, means, and standard deviations were used to summarize the data. Knowledge scores were used to categorize respondents according to their level of knowledge, while mean scores were used to assess attitudes towards traffic rules. The Chi-square (χ^2) test was used to determine associations between knowledge, attitudes, and selected socio-demographic characteristics. Statistical significance was set at $p < 0.05$.

RESULT

SECTION A: Socio-demographic information

Table 1: Socio-demographic information of Respondents

Statement	Frequency	Percent %
Age Group		
18 - 39	52	38
44 – 59	68	49
60 and above	18	13
Mean age is 44.6 years		
Approximately 45 years		
Gender		
Male	102	74
Female	36	26
Education Level		
No formal education	14	10
Primary education	14	10
Secondary education	62	45
Tertiary education	48	35
Marital status		
Single	20	15
Married	100	72
Divorced	8	6
Widowed	10	7
Religion		
Christian	100	72
Muslin	12	9
Traditionalist	24	17
Atheists	2	2
Years of Driving Experience		
Less than 1 year	10	7
1 – 5 years	52	38
6 – 10 years	58	42
More than 10 years	18	13

Interpretation: As presented in Table 1, data revealed that the age of the respondents ranged from 18 to over 60, with an average age of 45 years. Most were aged between 44 and 59 years. Majority of the respondents were males. 45% had secondary level of education, while 35% had tertiary level of education and 10% had no primary education and primary education level. 72% of the respondents were married. 72% were Christians with only 2% atheists. 42% revealed that they had 6 – 10 years in driving experience, 38% had 1 – 5 years driving experience, 13% had more than 10 years driving experience and 7% had less than 1 year of driving experience.

SECTION B: level of knowledge of traffic rules among commercial drivers in Benin metropolis

Table 2: Level of knowledge of traffic rules among commercial drivers in Benin metropolis

S/N	Level of Knowledge	Frequency	Percent %
1	High	100	73
2	Moderate	25	18
3	Low	13	9
Total		138	100

Low knowledge-0 to 2; moderate knowledge- 3 to 5; high knowledge- 6 to 8

Interpretation: Table 2 findings revealed that a substantial proportion of the respondents possessed a high level of knowledge regarding traffic rules. Specifically, 100 respondents representing 73% of the sample, demonstrated a high level of knowledge, while 25 respondents which accounts for 18%, exhibited a moderate level of knowledge. On the other hand, only 13 respondents, which makes up 9% of the total sample, showed a low level of knowledge about traffic rules. These results suggest that the majority of respondents have a good understanding of traffic rules, with high knowledge categories.

SECTION C: The attitude towards traffic rules among commercial drivers in Benin metropolis

Table 3: Attitude towards traffic rules among commercial drivers in Benin metropolis

S/N	Statement	Strongly Agree	Agree	Neutra l	Disagree	Strongly Disagree
1	Following traffic rules helps prevent accidents.	106 (77%)	30 (22%)	2 (1%)	0	0
2	Traffic signs are important for maintaining road safety.	74 (54%)	60 (43%)	4 (3%)	0	0
3	Obeying speed limits, is cowardly.	4 (3%)	12 (9%)	8 (6%)	58 (42%)	56 (40%)
4	Traffic signs easy to understand and follow.	50 (36%)	60 (43%)	16 (12%)	8 (6%)	4 (3%)
5	Smart people could break traffic rules provided they are not caught.	16 (12%)	30 (22%)	12 (9%)	44 (32%)	36 (26%)
6	Sometimes it is good to ignore traffic signals when there are no police around.	4 (3%)	12 (9%)	8 (6%)	58 (42%)	56 (41%)
7	Road signs help reduce confusion while driving.	60 (44%)	62 (45%)	6 (4%)	6 (4%)	4 (3%)
8	Following road markings such as lane dividers and pedestrian crossings is not wise.	12 (9%)	8 (6%)	8 (6%)	62 (45%)	48 (34%)

9	Wearing a seatbelt is necessary, even for short trips.	62 (45%)	56 (41%)	6 (4)	10 (7%)	4 (3%)
10	Pedestrian signals are important and should be respected.	64 (46%)	58 (42%)	4 (3%)	4 (3%)	8 (6%)
11	People who pay attention to warning signs like 'School Zone' or 'Slippery Road' are stupid.	4 (3%)	4 (3%)	10 (7%)	50 (36%)	70 (51%)

Interpretation: Table 3 data revealed that 77% strongly agreed that following traffic rules help prevent accidents, 22% agreed and 1% was neutral. Traffic signs are important for maintaining road safety: the data revealed that 54% strongly agreed, 43% agreed and 3% was neutral. Obeying speed limits is cowardly: the data revealed that 42% disagreed, 40% strongly disagreed, 9% agreed, 6% was neutral and 3% strongly disagreed. Traffic signs are easy to understand and follow: the data revealed that 43% agreed, 36% strongly agreed, 12% was neutral, 6% disagreed and 3% strongly disagreed. Smart people break traffic rules provided they are not caught: the data revealed that 32% disagreed, 26% strongly disagreed, 22% agreed, 12% strongly agreed and 9% was neutral. Sometimes it is good to ignore traffic signals when there are no police around, the data revealed that 42% disagreed, 41% strongly disagreed, 9% agreed, 6% was neutral and 3% strongly agreed. Road signs help reduce confusion while driving: the data revealed that 45% agreed, 44% strongly agreed, 4% disagreed and 3% strongly disagreed. Following road markings such as lane dividers and pedestrian crossing is not wise: the data revealed that 45% disagreed, 34% strongly disagreed, 9% strongly agreed and 6% agreed. Wearing a seatbelt is necessary, even for short trips: the data revealed that 45% strongly agreed, 41% agreed, 7% disagreed and 3% strongly disagreed. Pedestrian signals are important and should be respected, the data revealed that 46% strongly agreed, 42% agreed, 6% strongly disagreed and 3% disagreed. People who pay attention to warning signs like school zone or slippery road are stupid: the data revealed that 51% strongly disagreed, 36% disagreed, 7% neutral and 3% was strongly agreed and agreed.

The data revealed an overall positive attitude, with a grand mean score of 3.81 (above the benchmark mean of 3.00), indicating that most respondents have positive attitude about traffic rules.

Hypotheses testing

Ho₁: There is no significant relationship between the knowledge of traffic rules and the attitude towards traffic rules amongst commercial drivers within Benin metropolis.

Table 4: chi-square on the relationship between the knowledge of traffic rules and the attitude towards traffic rules amongst commercial drivers

Knowledge Level	N	DF	LS	Calculated X2 valued	Table X2 value	Contingency Coefficient(cc)	Remark
High	100	1	0.05	7.096	3.84	0.22	Ho ₁ rejected
Moderate	25						
Low	13						
Total	138						

Interpretation: Table 4 revealed calculated chi-square of 7.096 is greater than the table of value of 3.84 at the 0.05 level of significance. Hence, the hypothesis is rejected meaning that there is significant relationship between the knowledge of traffic rules and the attitude towards traffic rules amongst commercial drivers within Benin metropolis.

Ho₂: There is no significant difference in the knowledge of traffic rules amongst commercial drivers based on their level of experience in Benin metropolis.

Table 5: Chi- square on the difference in the knowledge of traffic rules amongst commercial drivers based on their level of experience

Driving Experience	N	DF	LS	Calculated X2 valued	Table X2 value	Contingency Coefficient(cc)	Remark
Less than 1 year	10	3	0.05	5.70	7.81	0.20	Ho ₂ accepted
1 – 5 years	52						
6 – 10 years	58						
More than 10 years	18						
Total	138						

Interpretation: Table 5 shows the calculated chi-square of 5.70 is lesser than the table of value of 7.81 at the 0.05 level of significance. Hence, the hypothesis is accepted meaning there is no significant difference in the knowledge of traffic rules amongst commercial drivers based on their level of experience in Benin metropolis.

Ho₃: There is no significant difference in the attitude towards traffic rules amongst commercial drivers based on their level of education within Benin metropolis.

Table 6: Chi-square on the difference in the attitude towards traffic rules amongst commercial drivers based on their level of education

Education Level	N	DF	LS	Calculated X2 valued	Table X2 value	Contingency Coefficient(cc)	Remark
No formal education	14	3	0.05	23.90	7.81	0.40	Ho ₃ rejected
Primary education	14						
Secondary education	62						
Tertiary education	48						
Total	138						

Interpretation: Table 6 revealed calculated chi-square of 23.90 is greater than the table of value of 7.81 at the 0.05 level of significance. Hence, the null hypothesis was rejected which indicates that there was a statistically significant difference in attitude towards traffic rules among commercial drivers based on their level of education.

DISCUSSION

Level of Knowledge of Traffic Rules Among Commercial Drivers

In assessing the first core objective, the findings revealed that a substantial majority of the commercial drivers possessed high traffic rule knowledge (73%), while only 9% demonstrated low knowledge. This high level of regulatory literacy contradicts older local paradigms but aligns with contemporary evaluations of road safety communication. For example, ^[10] evaluated traffic safety campaigns in Nigeria and discovered a significantly high level of awareness and comprehension regarding institutional safety messages that achieved up to 99.5% awareness for road signs and 91.9% for driver distraction parameters among transport operators. Also, ^[11] found that 81.5% of drivers correctly identified major traffic signs and road safety regulations, whereas 18.5% had inadequate knowledge. Although the proportion of knowledgeable drivers in their study was slightly higher than the 73% reported in the present study, both findings indicate that awareness of traffic rules among drivers is relatively high. However, ^[11] emphasized that adequate knowledge alone does not necessarily result in compliance with traffic regulations, as behavioural and enforcement factors also influence road safety. The present finding also agrees with ^[12], who reported that 71.8% of commercial drivers in Kaduna metropolis correctly interpreted road safety signs. The close similarity between their findings and the present study further demonstrates that commercial drivers in Nigeria

generally have satisfactory knowledge of traffic regulations. Nevertheless, the authors recommended continuous road safety education and periodic retraining to improve drivers' understanding and compliance with traffic rules.

Attitude Towards Traffic Rules

The present study revealed that commercial drivers in Benin metropolis had a positive attitude towards traffic rules, with an overall grand mean of 3.81, which is above the benchmark mean of 3.00. Specifically, 99% of the respondents agreed that following traffic rules helps prevent accidents, 97% agreed that traffic signs are important for maintaining road safety, while 86% agreed that wearing seat belts is necessary even for short trips. These findings indicate that the majority of commercial drivers have favourable attitudes towards traffic regulations and recognize their importance in promoting road safety. The finding is consistent with ^[13], who reported that 72.6% of commercial drivers in Ibadan North demonstrated a positive attitude towards road signs and traffic regulations, while 27.4% exhibited negative attitudes. The similarity between the two studies suggests that commercial drivers generally appreciate the importance of complying with traffic rules, although differences in attitude may be influenced by enforcement and individual driving behaviour. Similarly, ^[11] found that 74.6% of drivers exhibited positive attitudes towards traffic rules and regulations, whereas 25.4% showed unfavourable attitudes. The authors noted that drivers with positive attitudes were more likely to obey speed limits, respect traffic signs, and practise safer driving behaviours. This finding corroborates the present study and emphasizes that positive attitudes are essential for reducing traffic violations and road traffic crashes. Evaluating behavioural attitudes using the Motorcycle and Driver Behaviour Questionnaire, ^[14] noted that an unfavourable attitude toward speed limits was prevalent among younger cohorts, with 56.2% of operators admitting to intentional speeding violations when they believed law enforcement was absent. This stands in contrast to the Benin cohort, where a strong majority (combined 82%) disagreed or strongly disagreed with the premise that obeying speed limits is cowardly. A study by ^[15] regarding urban commercial transit operators revealed that driver attitude is heavily moderated by perceived enforcement legitimacy. According to the study, approximately 71.3% of drivers who maintained a positive attitude toward traffic regulations did so because they viewed road signs as active safety aids rather than operational hindrances. This mirrors the 77% of drivers in the Benin metropolis who view traffic rules as a direct mechanism for accident prevention.

Knowledge vs. Attitude (Ho₁)

The rejection of the first null hypothesis ($\chi^2 = 7.096$, $p < 0.05$) confirms that a statistically significant relationship exists between a commercial driver's level of knowledge and their corresponding attitude toward traffic rules. This underscores the premise that safety education alters cognitive behaviour. Individuals who understand the operational meaning of regulatory signs are structurally predisposed to respect them, reducing instances of risky driving behaviours ^[14].

Impact of Driving Experience on Knowledge (Ho₂)

The acceptance of the second null hypothesis ($\chi^2 = 23.9$, $p < 0.05$) implies that driving experience does not cause a statistically significant difference in traffic rule knowledge among commercial operators in Benin city. This suggests that novice drivers (less than 1 year of experience) and veterans (more than 10 years of experience) possess relatively uniform levels of baseline traffic literacy. While this ensures a standard level of safety competency across groups, it deviates slightly from international findings such as ^[15], which indicated that drivers with more extended on-the-road experience significantly outperformed their less experienced peers in situational handling assessments.

Impact of Education Level on Attitude (Ho₃)

The analysis for the third hypothesis yielded a calculated chi-square value $\chi^2 = 23.9$ that exceeded the critical table value (7.81). The statistical text notes the acceptance of the null

hypothesis regarding the lack of difference in attitude based on education. This uniform positivity suggests that the overarching road safety culture and regional enforcement strategies affect all commercial drivers similarly, neutralizing variations that might otherwise stem from individual formal educational attainment.

Conclusion

Road traffic injuries remain a major public health concern, particularly in low- and middle-income countries such as Nigeria. This study found that the majority of commercial drivers in Benin metropolis possessed a high level of knowledge of traffic rules and demonstrated positive attitudes towards traffic regulations. A significant relationship was also established between drivers' knowledge and their attitudes towards traffic rules which highlighted the importance of knowledge in promoting safe driving behaviour. However, knowledge alone may not be sufficient to ensure consistent compliance with traffic regulations. From a public health perspective, improving drivers' knowledge and fostering positive attitudes through continuous road safety education, behavioural change interventions, and effective enforcement of traffic laws are essential strategies for reducing road traffic crashes, injuries, disabilities, and deaths. Strengthening these interventions among commercial drivers will contribute to safer roads, protect the health of commuters and other road users, and support national and global road safety initiatives aimed at reducing the burden of road traffic injuries.

Recommendations

1. The Federal Road Safety Corps (FRSC) and relevant stakeholders should organize regular road safety education and awareness programmes for commercial drivers.
2. Periodic refresher training should be conducted to improve drivers' knowledge and compliance with traffic rules.
3. Traffic laws should be strictly enforced to discourage violations and promote safer driving practices.
4. Commercial transport unions should promote regular road safety education among their members.
5. Further studies should be conducted in other locations using larger sample sizes to improve the generalizability of the findings.

Strengths of the Study

1. The study provides recent, location specific evidence on the knowledge and attitudes towards traffic rules among commercial drivers in Benin metropolis, which is an area where localized evidence on road safety remains limited.
2. The study included commercial drivers from three major motor parks which are UNIBEN Shuttle Park, Central Park in Ring Road, and New Benin Park, thereby, capturing respondents from different commercial transport settings within the metropolis.
3. The study identified a significant relationship between knowledge of traffic rules and attitudes towards traffic regulations that provided useful evidence for designing targeted road safety education and behavioural interventions among commercial drivers.

Limitations of the Study

1. The sample size was relatively small, comprising 138 commercial drivers, which may limit the statistical power of the study and the generalizability of the findings to the wider population of commercial drivers in Edo State or Nigeria.
2. The study was conducted in three selected motor parks within Benin metropolis; therefore, commercial drivers operating in other motor parks or transport settings may have different levels of knowledge and attitudes that were not captured.

3. The study was conducted within a limited period from January to March 2026; therefore, seasonal or temporal variations in driving practices and road safety conditions may not have been fully captured.

Suggestions for Further Studies

Future studies should employ larger sample sizes and include commercial drivers from multiple motor parks across different local government areas and states to improve the generalizability of findings. Longitudinal studies are also recommended to examine whether improvements in traffic-rule knowledge and attitudes result in sustained changes in driving behaviour and compliance. Further research should incorporate direct observational assessments of driving practices such as speeding, seatbelt use, adherence to road signs and markings, mobile phone use while driving, and other risky behaviours. Intervention studies should also evaluate the effectiveness of structured driver education, periodic refresher training, behavioural change communication, and enforcement strategies in improving compliance with traffic regulations and reducing road traffic crashes among commercial drivers.

DECLARATIONS

Ethical Declaration

Ethical approval was obtained from the Edo State Ministry of Health Research Ethics Committee before commencement of the study with approval No.: HA/737/26/D/05121912. The study was conducted in accordance with the ethical principles of the Declaration of Helsinki.

Consent for publication

Not Applicable.

Availability of data and materials

The datasets generated and/or analysed during the current study are available from the corresponding author upon reasonable request.

Competing interests

The authors declare that they have no competing interests.

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Clinical trial number

Not applicable.

Human Ethics and Consent to Participate declarations

Written informed consent was obtained from all participants prior to data collection. Confidentiality, anonymity, and voluntary participation were ensured throughout the study.

Authors' contributions

Clinton Oghosasere Egharevba (C.O.E.) conceived and designed the study, developed the research protocol, coordinated data collection, performed the statistical analysis, interpreted the findings, drafted the manuscript, and revised the manuscript for important intellectual content. **Vivian Ofure Omoareghan (V.O.O.)** critically reviewed the manuscript for important intellectual content, and contributed to manuscript revision, study design and participated in data collection and interpretation. Both authors read and approved the final version of the manuscript.

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Order and Affiliation of author

1. **Clinton Oghosasere Egharevba (C.O.E)**
National Open University of Nigeria (NOUN); Department of Public Health Science.
2. **Vivian Ofure Omoareghan (V.O.O)**
National Open University of Nigeria (NOUN); Department of Public Health Science.

Corresponding author: Clinton Oghosasere Egharevba, National Open University of Nigeria; Department of Public Health Science; clintonegharevba6@gmail.com

City and Country of Affiliation

1. **Clinton Oghosasere Egharevba (C.O.E)**
Benin city, Nigeria.
2. **Vivian Ofure Omoareghan (V.O.O)**
Benin city, Nigeria.

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COMMERCIAL_DRIVERS_IN_IBADAN_NORTH_LOCAL_GOVERNMENT_O
YO_STATE

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**KNOWLEDGE AND ATTITUDES TOWARDS TRAFFIC RULES AMONG
COMMERCIAL DRIVERS IN BENIN METROPOLIS, EDO STATE: PUBLIC
HEALTH IMPLICATIONS FOR ROAD SAFETY**

QUESTIONNAIRE

Dear Respondent,

This questionnaire is designed to collect information on knowledge and attitudes towards traffic rules among commercial drivers in Benin metropolis, Edo state: public health implications for road safety. Your responses are confidential and for research purposes only.

Section A: Demographic Information

(Please tick where appropriate)

1. Age:

a. ☐ 18-39, b. ☐ 44-59, c. ☐ 60 and above

2. Gender:

a. ☐ Male, b. ☐ Female

3. Highest level of education:

a. ☐ No formal education, b. ☐ Primary education, c. ☐ Secondary education, d. ☐ Tertiary education

4. Marital status:

a. ☐ Single, b. ☐ Married, c. ☐ Divorced, d. ☐ Widowed

5. Religion

a. ☐ Christian, b. ☐ Muslim c. ☐ Traditionalist, d. ☐ Atheists

Section B: Knowledge of Traffic Rules

6. What does a red traffic light indicate?

a. ☐ Go, b. ☐ Stop, c. ☐ Slow down, d. ☐ Turn left

7. What should you do if you see a "STOP" sign?



a. ☐ Slow down, b. ☐ Stop only if there is traffic, c. ☐ Stop completely, then proceed when safe d. ☐ Horn and move on

8. What does this road sign mean?



a. ☐ Parking allowed, b. ☐ No parking, c. ☐ Pay parking, d. ☐ Parking for residents only

9. What does a flashing yellow traffic light mean?

- a. ☐ Stop immediately, b. ☐ Proceed with caution, c. ☐ Speed up, d. ☐ Turn left only

10. What does a triangular red-bordered sign usually indicate?



- a. ☐ Mandatory instruction, b. ☐ Warning or caution, c. ☐ Information, d. ☐ Parking zone

11. What should you do if an emergency vehicle approaches with lights and sirens on?

- a. ☐ Speed up to get out of the way, b. ☐ Ignore and continue driving, c. ☐ Pull over and let it pass, d. ☐ Stop in the middle of the road

12. Which of the following is not allowed while driving?

- a. ☐ Using GPS, b. ☐ Talking on a hand-held phone, c. ☐ Wearing a seatbelt, d. ☐ Using turn signals

13. What do you believe is the main purpose of a zebra crossing?



- a. ☐ To provide a safe place for pedestrians to cross the road, b. ☐ To mark a place for cars to stop at traffic lights, c. ☐ To serve as a decorative road feature, d. ☐ To indicate a pedestrian-only zone

Section C: Attitude towards Traffic Rules

No.	Statement	Strongly Agree	Agree	Neutral	Disagree	Strongly Disagree
14	Following traffic rules helps prevent accidents.					
15	Traffic signs are important for maintaining road safety.					
16	Obeying speed limits, is cowardly.					
17	Traffic signs easy to understand and follow.					

18	Smart people break traffic rules provided they are not caught.					
19	Sometimes it is good to ignore traffic signals when there are no police around.					
20	Road signs help reduce confusion while driving.					
21	Following road markings such as lane dividers and pedestrian crossings is not wise.					
22	Wearing a seatbelt is necessary, even for short trips.					
23	Pedestrian signals are important and should be respected.					
24	People who pay attention to warning signs like 'School Zone' or 'Slippery Road' are stupid.					

Supplementary Files

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- [SUPPLEMENTARYFILE1.docx](#)