Causes and Strategies for Reducing Road Traffic Accidents in the Bongo District of Ghana

ABSTRACT

AIM: This study intends to assess drivers' state of knowledge on the main causes and the best strategies capable of reducing road traffic accidents in the Bongo District of Ghana.

Study design: The study was a descriptive design.

Place and Duration of Study: The study was conducted in the Bongo District of the Upper East Region of Ghana between July 2023 and August 2023.

Methodology: The researcher conducted a survey involving 100 drivers who were randomly selected from a driver population of 120 in the Bongo District. The data were analyzed using Microsoft Excel [Version 19]. The results of the data analysis were presented as tables and charts.

Results: The study found that the main causes of road traffic accidents emanate from human error such as low driving skills, excessive speeding, and poor vision of driver. Also, road conditions like bad road networks, no lane markings, and no speed limit signs were found as causal factors of road traffic accidents. Faulty vehicles with causative factors such as defective tyres, brakes, and lights were noted to be also responsible for road accidents. Nevertheless, the least factor was environmental conditions such as bad weather conditions and stray animals being enumerable as environmental conditions which cause road accidents. The study further found that the best strategies for curbing road traffic accidents were enforcement of traffic laws, education and training of drivers, obeying traffic rules by drivers, and maintaining vehicles well.

Conclusion: The study, therefore, concluded that human factors play a central role in contributing to road accidents and curbing road traffic accidents. The research findings can be used to guide stakeholders in formulating and prioritizing interventions that are more human-centred for the curbing of road traffic accidents in the Bongo District of Ghana.

Keywords

Cause of road traffic accidents; Demographic characteristics of drivers; Road traffic accidents; Strategies for reducing road traffic accidents; Cost of Road Accidents

1 INTRODUCTION

An accident is any occurrence that leads to damage, injury, or harm to entities (people, property, and the environment). One major type of accident is a road traffic accident. A Road Traffic Accident (RTA) is any mishap that takes place on the highway resulting in injuries and/or death (Chourasia, Radhakrishna, Rautji, & K., (2019). In addition, a road traffic accident is observed as any incidence involving a motor

vehicle or a motorcyclist on a road open to public or private traffic leading to the loss of precious life, injury, and /or damage to property (Das, Dasgupta, Naskar, Pal & Bandopadhyay, 2020). Most often accidents on the road usually involve a road vehicle colliding with another road vehicle, animal, or pedestrian (Tilaye, 2021) or in some situations with a cyclist, or motorcyclist; road debris or a tree, utility pole or building leading to fatalities, injuries, disabilities, and hospitalizations (Kataria & Jain, 2018). Such accidents usually involve side-impact collisions, rear-ending collisions, head-on collisions, vehicle rollovers, single-car accidents, sideswipe collisions, and multiple-vehicle pile-ups (Mohammed, Ambak, Mosa, & Syamsunur, 2019). An in-depth understanding of the dynamics of road traffic accidents is key in informing decision-making on how to prevent these events from occurring in our lives.

Studies on road traffic accidents over the years have tried to explain the dynamics of road traffic accidents such as the causes, economic burden, and strategies needed to curb road traffic accidents (Mohammed, Ambak, Mosa, & Syamsunur, 2019, Tilaye, 2021; Jia & Fan, 2014). Dharmaratne, Jayatilleke, and Jayatilleke (2015) noted that the basic causes of road traffic accidents are the use of different tyres on the same vehicle, poor road infrastructure, inadequate enforcement of traffic laws, and the low commitment to executing road safety policies. Leidman et al. (2016) identified driver errors such as overspeeding, low level of education, young age, and alcohol intake to be some of the causes of road traffic accidents. Anebonam (2019) further stated that human factors, speed violations, loss of vehicle control, and dangerous driving are factors contributing to road traffic accidents. In Ghana, the factors contributing to road traffic accidents are absent-mindedness, uneasiness, low perception of accident risks, and beliefs on the ineffectiveness of seat belts in mitigating injury during accidents. Other factors are drunken driving, motor vehicle failure, and over-speeding (Agyemang, 2013). Blankson and Lartey (2020) further enunciated that the common factors of road accidents in Ghana are lack of adherence to traffic rules and regulations, bad road infrastructure and maintenance; over-speeding and reckless driving, driving under the influence of alcohol and/or substance abuse; distracted driving (i.e., driving while using a mobile phone), insufficient enforcement of traffic laws, and lack of proper vehicle maintenance and roadworthiness. Furthermore, Adedejia, Feikieb, Dzogbewuc, and Mostafa (2021) revealed that traffic control systems such as road markings, signs, and signals are major contributors to driver error leading to road traffic accidents. Ahmed et al (2023) identified socioeconomic status, human mistakes, vehicle speeds; drivers being busy with mobile phones while driving, and road design to be causal factors of road traffic accidents. Other causal factors of road traffic accidents are a non-signalized

road network, geometric structure of the road, inexperienced drivers, mechanical failure of vehicles; a lack of communication skills, distraction, and the visual or cognitive impairment of road users (Megnidio-Tchoukouegno & Adedeji, 2023).

These accidents are noted to have an enormous economic burden. On the global front, more than 60% of road traffic fatalities are among children and young persons under 35 years of age (Hesse CA, & Ofosu JB., 2014). In South Asia, traffic injuries are projected to increase due to rapid urbanization and motorization connected with economic growth. Road traffic injuries have a significant economic burden on households in low and middle-income countries (LMICs) with higher medical expenses per member, principally on drugs and hospitalization expenses (Alam & Mahal, 2016). It is estimated that reducing road traffic injuries (RTIs) by 50% over a 24-year timeframe can generate an additional flow of income equivalent to 22.2% of GDP in Thailand, 15% in China, 14% in India, 7.2% in the Philippines, and 7.1% in Tanzania (Ashok et al., 2019). At a country level, Ghana loses a huge sum of money which is over 230 million dollars annually due to vehicular collisions on the roads, representing 1.6% of its Gross Domestic Product (GDP) annually. In conservative terms, Ghana loses about 2% of its GDP annually to road accidents (Brew et al., 2018). This loss stems from the fact that Ghana contributes approximately 1,600 deaths each year to global road traffic accidents, highlighting the severity of the problem. This results in a 3:1 death ratio between economically independent and dependent populations (Ossei et al. 2019). In Ghana, 72 people out of every 100,000 population, suffered from serious bodily injury, and near to 8 of the same population died from Road Traffic Accidents (RTAs) over the past decade (Blankson & Lartey,2020). Households in Ghana spend an average of US$ 1687.65 in direct and indirect costs on severe injuries associated with road crashes, while many suffer substantial degrees of psychological agony (Blankson, Nonvignon, Aryeetey & Aikins, 2020).

To curb road traffic accidents worldwide, various studies have found some measures. Among them include the sensitization and enforcement of safe road rules among commercial vehicles and car drivers. Governments at country levels should implement robust policies aimed at plummeting the speed of vehicles on roads. Apart from these, training and orientation of drivers on road signs and rules before issuing driving licenses is paramount (Anebonam, 2019). Ahmed et al (2023) are of the view that driver education and training, campaigns, infrastructure development, law enforcement, partnerships, and community engagement are strategies that could be implemented to reduce road traffic accidents. Agyapong and Ojo (2018) noted that firm enforcement of road traffic rules and penalties for drivers who

are unruliness on the road can help lessen road traffic accidents in Ghana. They further cited the provision of dedicated lanes for pedestrians and cyclists, the use of lane dividers, adequate parking spaces in market centres, and public education campaigns to raise awareness on road safety coupled with enforcing mutable speed limits based on traffic conditions to control traffic flow and diminish the risk of accidents. Opoku (2019) asserted that constant upgrading and maintenance of road conditions involving road surfaces, markings, and safety signs coupled with active road engineering strategies at the design stage like providing proper footpaths for pedestrians, pedestrian crossings at intersections, and separate lanes for slow-moving and fast-moving vehicles will curtail road accidents in Ghana.

Although many of these studies are done elsewhere (outside Ghana), there are limited studies on road traffic accidents in Ghana. Yet, these limited studies in Ghana have not tried to find out how true these results obtained elsewhere are applicable in non-urban settings in Ghana against the background that more than 90% of deaths due to RTAs happen in low and middle-income countries (Pakaya & Retnowati, 2022) where greater rural dwellings occurred. Also, due to the rapidly swelling motorization rates in developing countries, they encounter higher figures of accidents and fatalities due to rapid development, population growth, and low importance attached to road safety by governments (Global Status Report on Road Safety, 2015). Hence, the goal of this study is to determine how similar these results found elsewhere are to those in the Bongo District of Ghana especially the major causes and strategies for minimizing road traffic accidents. To ascertain this goal, the study set the following objectives: To determine the demographic characteristics of drivers in the Bongo District, to ascertain drivers' views on the main causes of road traffic accidents in the Bongo District, and to find out drivers' views on the best strategies capable of reducing road traffic accident in the district. A deeper understanding of these objectives will help to inform the recommendation of cost-effective tailored measures for improving overall safety on roads in the district and accepted by all stakeholders in the district.

2 **MATERIALS AND METHODS**

2.1 Research Design

The study is descriptive research that seeks to ascertain drivers' awareness of the causes and interventions for reducing road traffic accidents in the Bongo District of Ghana. A descriptive study is an

attempt to describe the existing conditions among a group of people (Fraenkel & Wallen, 2002). The researcher's choice for this design is informed by its desirability for measuring the characteristics of people and the standardization of measurement. Apart from this, it provides the researcher the chance to sample a population, which would have been too large to study directly (Babbie, 2007). One major weakness of descriptive research is that answers do not automatically reflect respondents' behaviour. However, this weakness was mitigated by assuring respondents of the confidentiality of their responses.

2.2 Study setting

The Bongo District is one of the districts in the Upper East Region of Ghana. It was created by Legislative Instrument 1446 (LI 1446) in 1988 with Bongo as its capital. The district lies between longitudes 0.45^{o} W and latitude 10.50^{o} N and has a total land area of 414.9 km² square kilometres. The Bongo District shares boundaries with Burkina Faso to the north, Kassena-Nankana East to the west, Bolgatanga Municipal to the south-west and Nabdam District to southeast. The district lies within the Oncho-cerciasis-freed zone. The population of the district is 120,254. Females constitute 63,334 and males represent 56,920. The district has an annual population change of 3.3%. The population of the district is youthful 0-14 years (37.3%) and 15-64 years (56.1%) coupled with a fairly small number of elderly persons (6.6%) who are 65 years and older. The district has a literacy population of 43,377 and a non-literacy population of 43,224 (Ghana Statistical Service [GSS], 2021).

2.3 Study Sample

This was conducted in the Bongo district in the upper east region of Ghana involving a sample of 100 drivers out of a driver population of 120. Drivers who were in their occupation for a period of not less than eight months were included in the accessible population for sampling. This group of drivers was presumed to have some experience talking about the issues under investigation. The study sample was obtained by random sampling technique. This was done to ensure that each unit of analysis of the population had a fair chance of representation in the sample selected and to ensure that the sample characteristics reflected that of the population (Fraenkel & Wallen, 2002).

2.4 Instrument and Validation

The instrument of the study was a twelfth-item questionnaire as shown in Appendix A. It seeks to measure what drivers perceive to be the main causes and best measures capable of reducing road traffic accidents in the Bongo District. Each questionnaire has three (3) sections. Section A finds out the demographic characteristics of the drivers in the Bongo District. Section B seeks to discover the knowledge of the drivers about the causes of road traffic accidents in the district while section C seeks to find out the views of the drivers as to the best measures capable of reducing road traffic accidents in the district. However, in validating the questionnaire, the questionnaire was given to five lecturers of automobile engineering to ascertain whether the items of the questionnaire claimed to measure what they were constructed to measure. Upon a thorough review, the items were accepted to have face and content validity. Also, the questionnaires were pre-tested to find out the suitability of the questions and the instructions provided. It also tested the adequacy and completeness of the responses and how respondents understood the questions.

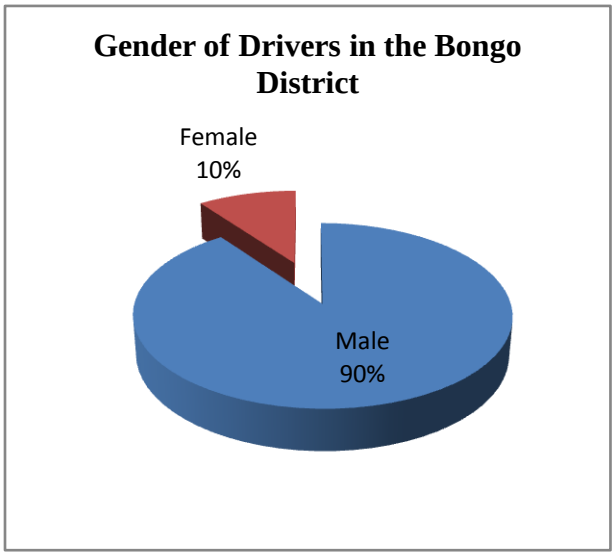
2.5 Data collection and analysis procedure

The questionnaires were distributed to respondents and collected from them by the researcher. A response rate of 100% was obtained. The data were analyzed using Microsoft Excel (version 2019). The outputs of the data analysis were presented as frequency distribution tables and pie charts. These data output formats were selected due to their ability to provide clear patterns in data distribution to allow interpretation.

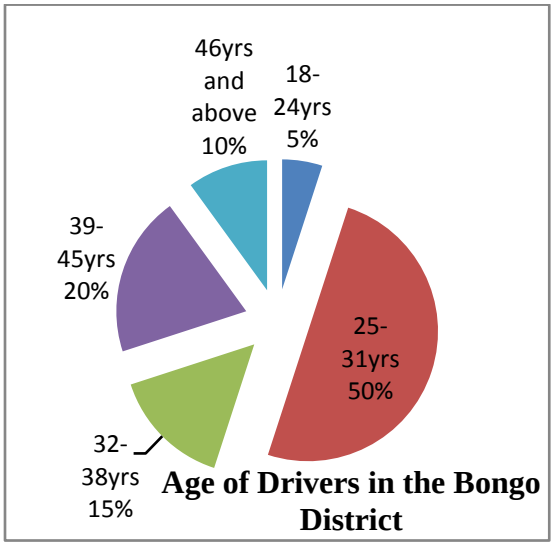
3 Results and Discussion

3.1 Demographic characteristics of drivers in the Bongo District

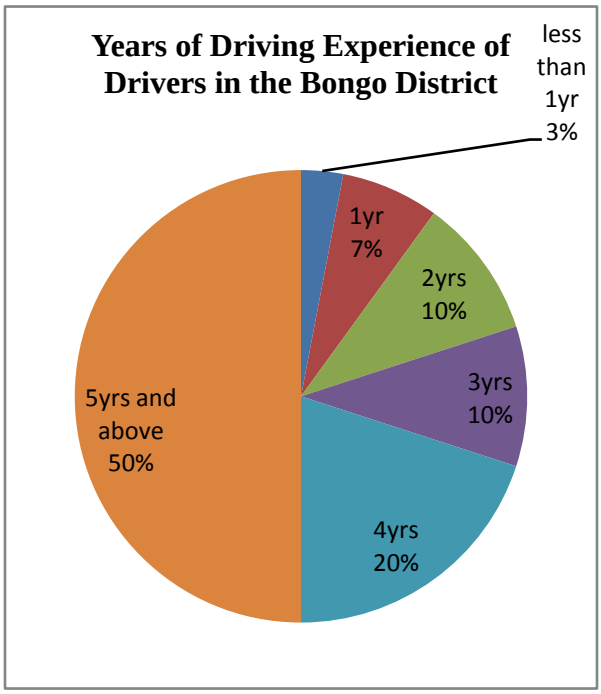
The outputs of data analysis on the demographic characteristics of drivers in the Bongo District are shown in Fig.1 a,b, c, d, e, and f.


Gender of Drivers in the Bongo District
Female 10%
Male 90%

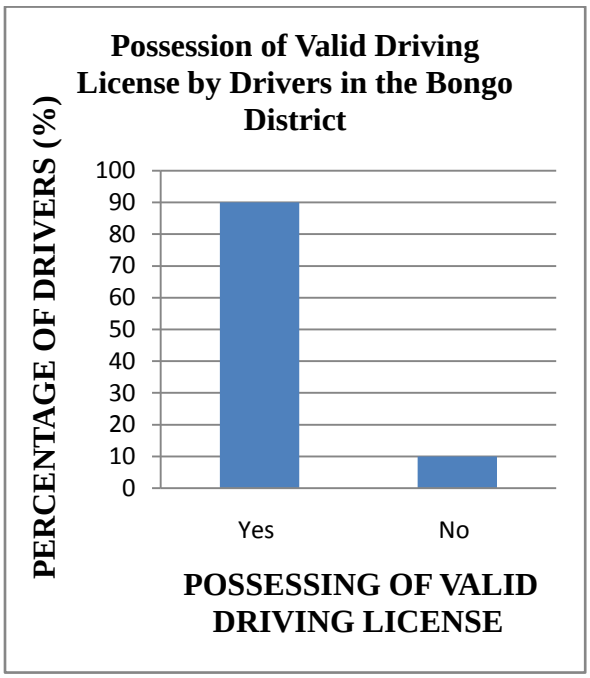
a


46yrs and above 10%
18-24yrs 5%
39-45yrs 20%
25-31yrs 50%
32-38yrs 15%
Age of Drivers in the Bongo District

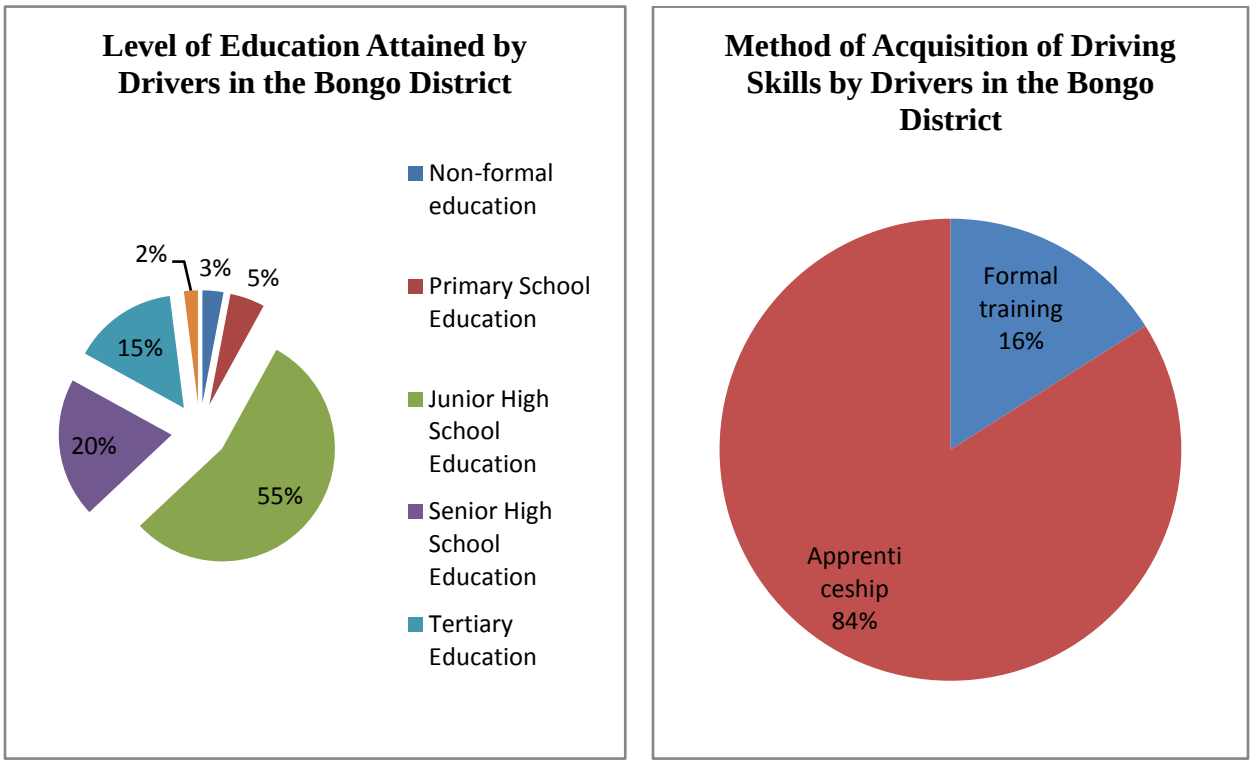
b


Years of Driving Experience of Drivers in the Bongo District
less than 1yr 3%
1yr 7%
2yrs 10%
3yrs 10%
4yrs 20%
5yrs and above 50%

c


Possession of Valid Driving License by Drivers in the Bongo District
PERCENTAGE OF DRIVERS (%)
100
90
80
70
60
50
40
30
20
10
0
Yes
No
POSSESSING OF VALID DRIVING LICENSE

d



e f

Fig.1. Demographic Characteristics of Drivers in the Bongo District (n=100).

Fig.1a revealed that 90% of the drivers were males while the remaining 10 % were females. This presupposes that more males go into driving as compared to females in the study area. This may be due to societal stereotyping as driving is perceived as a masculine job. Moreover, Fig.1b showed that 90% of the drivers aged between 18- 45years. This shows that more youth are into driving as compared to only 10% of the drivers aged 46 years or more. Also, the drivers had more experience in their occupation as Fig. 1c indicated that 70 % of them had 4 years or more experience in driving while 30 % had between 1-3 years of driving experience. In addition, Fig.1d portrayed that 90% of the total sample had valid driver's licenses. Furthermore, Fig.1e revealed that most of the drivers were literate as 95% of them had some form of formal education. Similarly, Fiig.1f depicted that 84% of the drivers acquired their driving skills via apprenticeship while only 16% got theirs from driving schools. These findings are supported by Islam et al. (2020). Islam and his colleagues found that a majority of the drivers they studied were in the age group of 31 to 40 years (45.5%) and below 30 years (35.0%), while about 19.5% were above 40 years old. The drivers studied in all had a mean of 34.95 ± 7.732. A majority of them had some form of education. For

instance, 20.9% had completed primary education while (8.2%) had completed secondary education. These are corroborated by Ike and Adam (2022). They observed that all participants in the study sample in Nigeria were male drivers with a mean age of 41.2 ±6.9 years. Also, 94.5% representing 392 of the participants of the sample studied had driver's licenses This suggests that more licensed young males are opting for driving as an occupation as compared to females.

3.2 Causes of road traffic accident in the Bongo District

The output of data analysis on the causes of road traffic accidents in the Bongo District is presented in Fig.2.

Fig.2. Causes of road traffic accident in the Bongo District

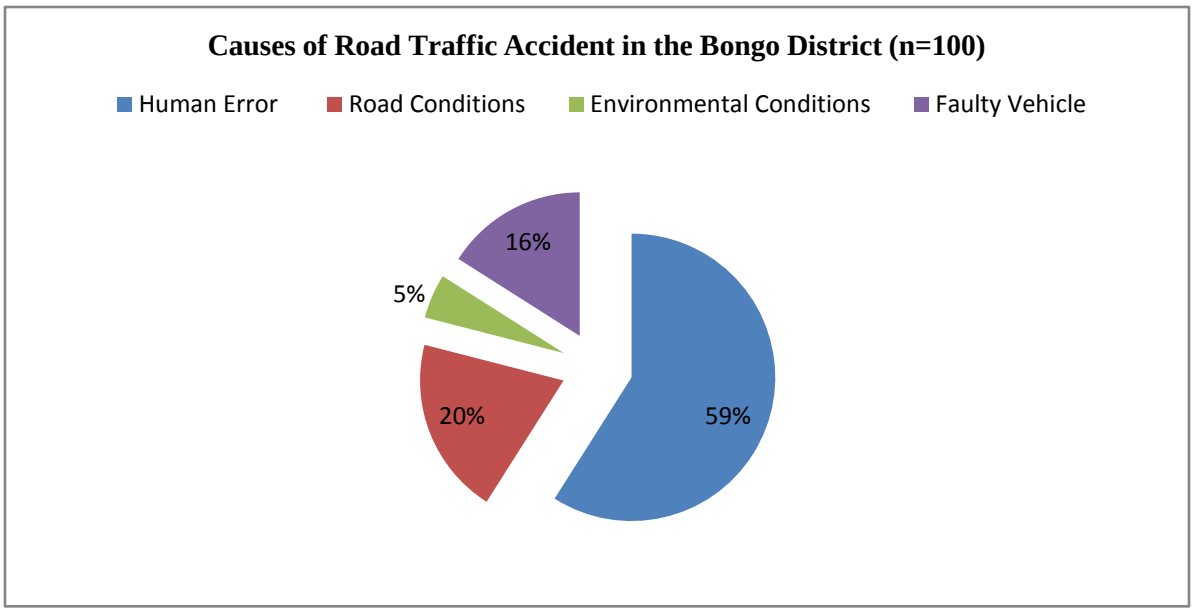


Fig.2 identified human error as the main cause of road traffic accidents. This is evidenced in Fig. 2 where 59% of the drivers were of the view that the main cause of road traffic accidents is human error emanating from low driving skills, excessive speeding, and poor vision of the driver. Human error was however followed by road conditions perceived by 20% of the drivers. They noted that road conditions were mainly due to bad road networks, no lane markings, and no speed limit signs. Besides, 16% of the drivers identified faulty vehicles as a contributor to road traffic accidents with the main contributing factors being defective tyres, brakes, and lights. However, five percent of the drivers viewed environmental

conditions as the least causal factor responsible for road accidents with bad weather conditions and stray animals being countable for accidents originating from environmental conditions. These findings are supported by Touahmia (2018). Touahmia studied the risk factors influencing road traffic accidents and found that 67% of RTAs result from human factors, 29% from road conditions, and 4% from vehicle defects. Shah et al. (2018) further buttressed this point when they noted that some casual factors of road traffic accidents are vehicle faults due to the absence of standard support and lack of periodic maintenance, poor road infrastructure, and environmental factors specifically weather conditions**.** Yuan et al (2023) further corroborated these findings when they noted that driver's behaviors, (speeding, drunk driving and not wearing a seat belt), vehicle factors (brake failure); road factors (poor-quality road infrastructure and insufficient traffic signal lights and road markings), and environmental factors (severe weather, rain, snow, and fog) are responsible for road traffic accidents. This implied that the causes of road traffic accidents seemed to be common among drivers irrespective of their geographical locations.

3.3 Strategies for Reducing Road Traffic Accidents in the Bongo District

The outcome of data analysis on the strategies for reducing road traffic accidents in the Bongo District is illustrated in Table 1.

Table 1: Strategies for reducing road traffic accidents in the Bongo District (n=100).

Items	n (%)
Use of seat belts and child restraints in cars	5 (5)
Obeying traffic rules	10 (10)
Enough rest periods for drivers	8 (8)
Enforcement of traffic laws	40 (40)
Enforcement of road safety legislation	5 (5)
Public safety advocacy	1 (1)
Education and training of drivers about road traffic rules	15 (15)
Well-maintained vehicles	10 (10)
Effective markings of road safety signs	6 (6)
Total	100 (100)

From Table 1, forty percent (40%) of the drivers noted that enforcement of traffic laws was one strategy for curbing road traffic accidents. However, 15% of the drivers embraced education and training of drivers about road traffic rules as a strategy for reducing road traffic accidents. Also, 10% of the drivers noted that obeying traffic rules and maintaining vehicles well contributed to reducing road traffic accidents. Heydari et al. (2019) have also acknowledged the idea that obeying traffic rules was key to eliminating

road traffic accidents when they noted that inspiring attitudinal and behavioural changes involving enforcement of safe driving practices, respecting traffic signs and signals, and dispiriting hazardous driving behaviours are key to combatting road traffic accidents. Moreover, Anebonam (2019) agreed with the notion that enforcement of traffic laws is needed to stop road accidents when he asserted that sensitization and enforcement of safe road rules among commercial vehicles and car drivers was necessary for curbing road accidents. He further cited that training and orientation of drivers on road signs and rules before issuing driving licenses was key in combatting road accidents. This implied that a change in human behaviour could go a long way in reducing road traffic accidents. This is based on the fact that the basic solutions to a majority of the causes of road traffic accidents found are human-centred. Therefore, most road traffic interventions should refocus on behavioural changes of the stakeholders involved to eliminate or lessen road accidents in the district.

CONCLUSION

The study sought to determine the causes and strategies for reducing road traffic accidents in the Bongo District of Ghana and whether these were similar to others found elsewhere. The study found that the main causes of road traffic accidents are factors emanating from human error (e.g., Low driving skills, excessive speeding, and poor vision of driver), road conditions (e.g., bad road network, no lane marking, and no speed limit signs), faulty vehicles (e.g., defective tyres, brakes, and lights), and environmental conditions (e.g., bad weather condition and stray animals) in the district. The study noted that the most practical strategies for curbing road traffic accidents are enforcement of traffic laws, education and training of drivers, obeying traffic rules, and maintaining vehicles well in the district. These results are quite similar to what is prevailing in other countries especially those found by Adedejia, Feikieb, Dzogbewuc and Mostafa (2021), Anebonam (2019); Shah et al. (2018), and Touahmia (2018) among others. The study therefore recommends the implementation of interventions that focus on human behavioural changes to curb road traffic accidents in the Bongo District of Ghana.

Limitations of the study

The study should have included bicycle riders, donkey cart users, and tricycle riders in the study district. However, due to the difficulties involved in accessing them, they were excluded from the study as obtaining them requires moving from household to household and inquiring about them to collect data. This was observed to be quite challenging, hence their exclusion.

COMPETING INTERESTS

The author(s) have admitted no potential conflicts of interest concerning the research, authorship, and/or publication of this article.

AUTHORS' CONTRIBUTIONS

Andrews Baba Agebure conceived the idea for the research and all the authors did the write-up, collected, and analyzed data. All authors contributed to interpreting the analyzed data and editing the final draft.

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APPENDIX A

INTRODUCTION

Road accident is a major cause of death and disability worldwide. Road traffic injuries (RTIs) are among the leading causes of death and life-long disability globally (World Health Organization, 2022). Hence, the a need for measures to curb it. As a contribution to curbing road accidents, this study seeks to investigate drivers' awareness of the causes of road traffic accidents and interventions for reducing road traffic accidents. It is expected that the findings of the study will contribute to raising public awareness and guiding policy decisions in road safety planning and intervention. The researcher hopes that your honest responses to the items of the questionnaire will go a long way in informing stakeholders about your awareness of the causes and measures capable of reducing road traffic accidents in the district. I realize you have a busy schedule and your time is valuable. However, I am sure you want to contribute to informing stakeholders about your knowledge of the causes of road accidents and the safety measures you practice to curb them. Your responses will be kept completely confidential. Please complete the questionnaire and return it to the person who gave it to you.

QUESTIONNAIRE FOR DRIVERS

SECTION A: Demographic characteristics of drivers
INSTRUCTION: Tick in the bracket [√] your response for each item

1. What is your gender?
   [ ] Male
   [ ] Female

2. How old are you?
   [ ] 18-24yrs
   [ ] 25-31yrs
   [ ] 32-38yrs
   [ ] 39-45yrs
   [ ] 46yrs and above

3. How many years of driving experience do you have?
   [ ] less than 1yr
   [ ] 1yr
   [ ] 2yrs
   [ ] 3yrs
   [ ] 4yrs
   [ ] 5yrs and above

4. Do you have a valid driver's license?
   [ ] Yes
   [ ] No

5. What is your highest level of education attained?
   [ ] Non-formal education
   [ ] Primary Education
   [ ] Junior High School Education
   [ ] Senior High School Education
   [ ] Tertiary Education
   [ ] None

6. How did you acquire your driving skills?
   [ ] Formal training [attended a driving school]
   [ ] Apprenticeship [learnt driving on the job]

SECTION B: CAUSES OF ROAD TRAFFIC ACCIDENT

INSTRUCTION: *Tick in the bracket [√] your response for each item. (Tick those applicable)*

7. Which of the following is responsible for road traffic accidents?
   [ ] Human error
   [ ] Road conditions
   [ ] Environmental conditions
   [ ] Faulty vehicle

INSTRUCTION: Rank the factors in Q8 according to the degree to which you perceived them to cause road traffic accidents using the scale: ***1st, 2nd, 3rd, 4th, and 5th*** etc.

8. Which of the following human factors is responsible for road traffic accidents?
   [ ] Excessive speeding
   [ ] Using a mobile phone while driving
   [ ] Drunk driving
   [ ] Overconfident driver
   [ ] Jumping red traffic lights
   [ ] The use of alcohol and other dangerous drugs by drivers before embarking on a journey
   [ ] Low driving skills
   [ ] Failure to yield the right of way
   [ ] Driver tiredness/driver fatigue
   [ ] Diminished driver's vigilance
   [ ] Tailgating
   [ ] Disobeying traffic rules
   [ ] Reckless driving
   [ ] Sleepy driver
   [ ] Improper turns and changes of lane
   [ ] Poor vision of a driver
   [ ] Hearing loss of driver
   [ ] Haphazard parking of vehicles on busy roads and intersections
   [ ] Overloaded, unbalanced load and inadequate cargo securing on vehicle
   [ ] Wrong overtaking
   [ ] Any other [Specify]……

INSTRUCTION: Rank the factors in Q9 according to the degree to which you perceived them to cause road traffic accidents using the scale: ***1st, 2nd, 3rd, 4th, and 5th etc***.

9. Which of the following road conditions can cause road traffic accidents?
   [ ] Poor pavement quality
   [ ] Bad road Shoulders
   [ ] Poor visibility
   [ ] Poor signals

[ ] Traffic calming (bumps)
[ ] No lane marking
[ ] lack of traffic control devices
[ ] Intersections
[ ] No speed limit signs
[ ] Road-traffic congestions/ traffic volumes
[ ] Bad road network
[ ] Inadequate road infrastructure
[ ] lack of traffic segregation
[ ] Any other [Specify]……

INSTRUCTION: Rank the factors in Q10 according to the degree to which you perceived them to cause road traffic accidents using the scale: ***1st, 2nd, and 3rd etc.***

10. Which of the following environmental conditions can cause road traffic accidents?
    [ ] Bad weather condition
    [ ] Stray animals
    [ ] Driving in a storm
    [ ] Any other [Specify]……..

INSTRUCTION: Rank the factors in Q11 according to the degree to which you perceived them to cause road traffic accidents using the scale: ***1st, 2nd, 3rd, 4th, and 5th etc.***

11. Which of the following vehicle defects can cause road traffic accidents?
    [ ] Defective tyres
    [ ] Poor technical conditions of vehicles
    [ ] Defective brakes
    [ ] Defective lights
    [ ] Poor maintenance of the vehicles
    [ ] Any other [Specify]……

SECTION C: Strategies for Reducing Road Traffic Accidents

INSTRUCTION: Rank the factors in Q12 according to the degree to which you perceived them to reduce road traffic accidents using the scale: ***1st, 2nd, 3rd, 4th, and 5th etc.***

12. Which of the following is likely to reduce road traffic accidents?
    [ ] Public awareness campaigns
    [ ] Enforcement of traffic laws
    [ ] Enforcement of road safety legislation
    [ ] Public safety advocacy
    [ ] Education and training of drivers about traffic rules
    [ ] Well-maintained vehicles
    [ ] Effective markings of road safety signs
    [ ] Proper footpaths for pedestrians
    [ ] Provision of pedestrian crossings at intersections
    [ ] Preventing haphazard parking of vehicles on busy roads and intersections
    [ ] Use of seat belts and child restraints in cars
    [ ] Avoiding overspeeding and following speed limits
    [ ] Avoiding drunk driving
    [ ] Obeying traffic rules
    [ ] Enough rest periods for drivers
    [ ] Any other [Specify]……

THANK YOU