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What are the causes of road traffic accidents in Kisangani, DR Congo?

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Abstract
In the world, road accidents are a major public health problem; each year, about 1.3 million people died as a result of road accidents and between 25 to 50 million were injured. They are the second leading cause of death among 10–14-year-olds and 20–24-year-olds and the third among 5–9-year-olds. The objective of our study is to determine the causes of road accidents in the first half of 2019.
Regarding our investigation, we used the qualitative study method that allows us to easily interact with the different forum participants and quickly identify the causes of road accidents in Kisangani. Of all the results obtained are the following: pedestrians are the most vulnerable road users because of the ignorance of the highway code; young drivers are exposed to the risks of the road because of the search for strong feelings, or alcoholism, drug taking and mystical beliefs. Men are more exposed than women because of their brutality. To prevent road accidents, the opening of auto schools and awareness are essential.

Keywords: Traffic, Accidents, Kisangani, Rolling Vehicle, CANON

1. Introduction

According to WHO, in the world of road accidents kill approximately 1.3 million people every year and make up 25 to 50 million. It is outside the leading cause of death among young people aged 15 to 29 [1]. The regions of Africa and Southeast Asia have regional death rates and road traffic accidents with over 26.6 and 20.7 deaths per 100.000 people. Road accidents are a major public health problem [2].
These accidents now occupy the second leading cause of death among 10–14-year-olds and 20–24-year-olds and the third among 5–9-year-olds. Every year, an estimated 1.2 million people die in traffic accidents [3]. By road accident or accident on the road, we imply any accident that occurs on the road network between a rolling vehicle (automobile, motorcycle, bike, etc.) and anything else or person and that causes wounded human and / or material damage. Most road accidents can be classified as avoidable accidents and avoidable deaths [4], we can seek to reduce prevention, technical improvement of vehicles and infrastructure networks, and also behavioral change. All of these strategies require social participation and road insurance.
In general, among the external causes that cause his accidents, we can mention: bad road conditions and bad condition of the vehicle or the motorcycle, or meteorological event like heavy rains, mists. And other causes are internal; they are related to the behavior of the driver, namely:

- the sex of the driver, bodily injury and particularly serious accidents are more often related to men [5, 6];
- the age of the driver influences the degree of risk perception [7, 8], and the type of accident and the severity level for the driver. Young people, especially young men, are known to be more likely to take risks; they seek thrills or new sensations; or by alcoholization [9]; or by the use of drugs [10] and sometimes by the "belief" favoring the protection against the risk, in front of the speed in particular [11], this entails serious consequences in the accidents [12];
- the degree of overestimation of the driver's own ability to deal with hazards. Humans may be naturally and unconsciously subject to many cognitive and perceptual biases (in terms of road accident risks or encouraged by advertisements on vehicles and by certain films where drivers were invulnerable); also, some differences are related to sex, age and experience [14].

On a global scale, traffic accidents are presented as major public health problems. They are the leading cause of death among 16–20-year-olds in the world, in front of AIDS or any other disease [15]. Road accidents cause considerable human suffering:

the family, friends and community of each victim are hit hard by the physical, psychological and economic consequences of their loved one's death, woundy or disability. Survivors and their families suffer the often long and painful consequences of trauma, disability and rehabilitation. The disappearance of the breadwinner, the funeral expenses, the cost of care and the loss of income following a disability plunge the family into poverty.

In the Democratic Republic of the Congo, highways are important routes connecting important parts of the territory. These are managed by the National Roads Office. Their use is sometimes subject to tolls in some villages. The National Road Maintenance Fund (FONER) has set up teams of workers for their development along the roads. Some sections of road are too degraded and the passage becomes impossible and others are unusable during the rainy season. Nevertheless, these roads are often maintained thanks to the tolls collected by the FONER; these rights make it possible to bother road maintenance.

And the city of Kisangani continues to suffer from transportation problems due to poor roads connecting the communes and transport by motorbike remains the most used way to get around. However, the bike is used mostly for the displacement of the poorest population. Due to poor road conditions, minibuses often break down and road accidents are often trivialized and often their victims are still found guilty by passers-by. The purpose of this study is to determine the causes of road accidents in the city of Kisangani.

2. Fields of study and methods

2.1 Fields of study

Our investigation is organized in the city of Kisangani, at the two large car parks located in the municipality of Makiso: the "CANON" roundabout and the central market car park. These two hubs are the most important places where drivers of cars, motorcycles and bicycles hear their customers at any time of the day. The survey was conducted from May 15 to 30, 2019.

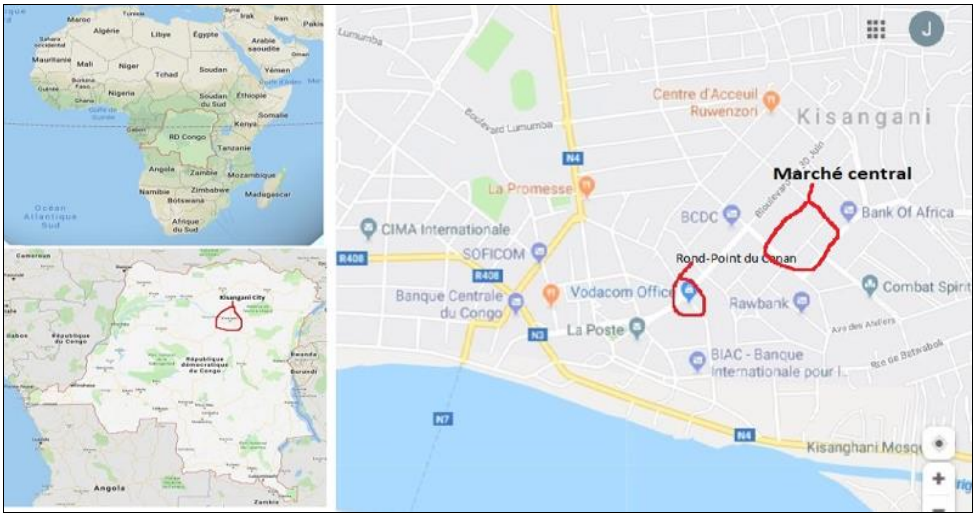

Fig 1: Location of the central market and round about "CANON" in Kisangani, Democratic Republic of Congo

2.2 Methodology of study

After obtaining permission from the Kisangani Town Hall to organize this field survey. We trained two focus-groups respectively at the car park of the "CANON" roundabout and at the central market of the city of Kisangani. In our study, we used non-probability sampling because qualitative research provides easy access to the inner reality of each driver and easily identifies the real motivations that cause traffic accidents in Kisangani.

2.3 Type of study

Our study is a qualitative investigation.

2.4 Study parameters

- driver's age;
- Sex of the driver;
- driver's state of health;
- driver's alcohol consumption;
- speeding of the driver;
- bad state of the road.

2.5 Data analysis

The use of an interview guide allowed us to collect data; This method of collecting qualitative data is commonly used in the qualitative study because it makes it possible to quickly identify the causes of road accidents and facilitates dialogue between focus members.

3. Results and discussions

3.1 Characteristics of focus group people

The study population consisted of 20 drivers of vehicles, motorcycle, bicycle and pedestrians. This population was chosen because they found at the selected parking places. This sample is composed of 5 drivers of vehicles including 2 women; 7 motorcyclists including 2 women; 4 bike drivers, all men and 4 walkers including 3 women. In all, our study environment is composed of 13 men and 7 women. Their average ages range from 17 to 40 years old. The language of communication was Swahili or Lingala. And all the participants agreed on these points:

3.2 Driver's age

There is a link between road accidents and the age of the driver. For this purpose, the age of the driver influences the degree of risk perception [7, 8] and the type of accident. Young people, in particular, young men are known to be more likely to take risks, including in the search for strong

or new sensations, or alcoholism [9] or taking drugs [10] and to have "Beliefs" favoring risk taking, especially against speed [11], which has consequences in terms of accidents [12].
With the lengthening of the average life of the man, and an easier access to the car in most rich countries, the seniors are more and more present on the roads despite their habit of driving which increases the accidents of the road, especially for women drivers; from where they have to make less miles than an average driver, while having "compensation strategies, for example by avoiding driving in difficult conditions or driving slower than others" their accidents are more serious in terms risk of injury and mortality per person, as they are more fragile and vulnerable [13].

3.3 Driver's sex
In Kisangani, the majority of known road accidents are caused by male drivers of a vehicle, motorcycle or bicycle. And because of their brutality, men often make bodily injuries more serious than women [5, 6]. In reference to road accidents in France, despite significant efforts to prevent and improve the safety of vehicles 7,720 people were killed by road accident. 75% of the dead were male and 65% of the 153,945 wounded were men, giving a male / female incidence ratio of 3.1 for mortality and 1.7 for morbidity [5].
By the way, the lethality and the frequency of the serious injuries among the victims, they are higher among the men for the main categories of users (motorists, motorized two-wheelers, cyclists, walkers), after adjustment on the circumstances of the accident and the age of the victims. Men are more severely injured in all areas of the body and more often have severe sequelae " [5].

3.4 Driver's state of health or driver's alcohol consumption
In both cases, it was held that, the state of health of the driver or the addiction to alcohol [14] or to narcotic products or the taking of certain drugs (sedatives and anxiolytics in particular) also entails a importance in terms of risk factor and severity of accidents. For example, following awareness raising and more stringent regulation in Quebec, "from 1991 to 1999, the proportion of drivers with a blood alcohol concentration above 80 mg dropped by 50%," however in the early 2000s, "Driving under the influence of alcohol is still associated with about 30% of deaths, 18% of serious injuries and 5% of minor injuries" [14]. A recent widowhood is also a factor aggravating the risk of accident [15].

3.5 Speeding of the driver
Overestimation of the driver's abilities of himself. The human being may be naturally and unconsciously subject to many cognitive and perceptual biases (these risks of road accidents are encouraged by a lot of advertising on the vehicles and by some films that show the invulnerable drivers) and that, with a significant difference by sex, age and experience [16]. Psychologists have shown that in the twentieth century in the West, when an individual compares to others, he almost always (and usually wrongly) believes that he is more competent than others [17, 18, 19] and he also thinks he can do more efforts [20] to avoid or not cause undesirable situations or events.
This socio-psychological bias named comparative optimism [21, 22] seems to be anchored in most countries in North America and Europe; it is a widely held belief that "the majority of motorists consider themselves less exposed to the risk of accidents than others" [23, 24]. This belief can be measured by asking people to assess their own risk of encountering a negative event in comparison with that of others [24]. This belief is more or less intense according to motorists and their personal history and driver.
Some think they are almost invulnerable because they are protected by a solid vehicle and equipped with powerful means of braking and protection and / or because they are very confident in themselves; most people consider themselves more competent or cautious than others and when they drive, and consider themselves a good driver to safely drive "perceived ability" and be able to avoid the "subjective control" accident, although that some admit to committing offenses.

3.6 Knowledge of the traffic code
Kisangani, also called martyrdom [25] never spent a period of 10 years without having experienced an armed conflict, the young people, after the last so-called liberation war, for their survival, they moved at a distance of more than 100 kilometers by bike. And, now after ten years of relative peace in the city of Kisangani, the majority of these bicyclists have converted to bikers without any knowledge of the traffic code. This situation explains the growing number of accidents in the city of Kisangani and especially during holiday periods where these bikers seek to increase their income. There are no motorcycle and auto learning schools in Kisangani City; however, young people learn to drive with their courage and, with less road difficulty, the accident occurs. And many pedestrians do not know the rules of the road.

4. Conclusion
It is noted that the most observed road accidents in Kisangani are caused primarily by the lack of knowledge of road traffic, especially among young people. These accidents are caused by the underestimation of en-route risk and the state of health of the driver who is often influenced by the intake of alcohol or other stupefying product. However, women are less exposed than men because of their brutality and pedestrians are the most vulnerable road users.

5. References
1. Accidents de la route [archive], sur le site who.int.
2. Organisation Mondiale de la Santé, Rapport de situation sur la sécurité routière dans le monde 2018: Résumé, Genève: OMS 218 (WHO/NMH/NVI/1820) licence: CCBY-NC-SA301G0.
3. OMS. Lancet 2007 Volume 369, Number 9570, 21 April 2007.
4. Accidents de la route [archive], sur le site who.int.
5. Lefevre H, Jougla E, Pavillon G, Le Toullec A. Disparités de mortalité «prématurée» selon le sexe et causes de décès « évitables » [archive]. Revue d'épidémiologie et de santé publique. 2004; 52(4):317-328.
6. Martin JL, Lafont S, Chiron M, Gadegbeku B, Laumon B. Différences entre les hommes et les femmes face au risque routier. Revue d'épidémiologie et de santé publique. 2004; 52(4):357-367.
7. Massie DL, Campbell KL, Williams AF. Traffic accident involvement rates by driver age and gender. Accident Analysis & Prevention. 1995; 27(1):73-87.

8. Tränkle U, Gelau C, Metker T. Risk perception and age-specific accidents of young drivers. Accident Analysis & Prevention. 1990; 22(2):119-125. http://www.sciencedirect.com/science/article/pii/00014575759090063Q
9. Finn P, Bragg BW. Perception of the risk of an accident by young and older drivers. Accident Analysis & Prevention. 1986; 18(4):289-298.
10. Biecheler MB, Remond MC, Berlioz C. Alcoolémie des conducteurs et accidents de la route. CAH ETUD ONSER. 1974; 32.
11. Aitken C, Kerger M, Crofts N. Drivers who use illicit drugs: Behavior and perceived risks. Drugs: Education, Prevention and Policy. 2000; 7:39-50.
12. Delhomme P. Croyances des jeunes automobilistes en matière de vitesse. (Rapport no 00/010/T-étude no 7). Arcueil: Institut national de recherche sur les transports et leur sécurité, 2002.
13. Michel G, Purper-Ouakil D, Mouren-Siméoni MC. Prises de risque chez les jeunes. Les conduites dangereuses en véhicules motorisés. Neuropsychiatrie de l'enfance et de l'adolescence. 2002; 50(8):583-589.
14. Fontaine H. Âge des conducteurs de voiture et accidents de la route: Quel risqué pour les seniors ? Recherche-Transports-Sécurité. 2003; 79:107-120.
15. Brault M, Dussault C, Bouchard J, Lemire AM. Le rôle de l'alcool et des autres drogues dans les accidents mortels de la route au Québec: Résultats finaux [archive]. In Proceedings of the 17th conference on Alcohol, Drugs and Traffic Safety, 2004, 8-13.
16. Thierry X. Mortel veuvage: risques de mortalité et causes médicales des décès aux divers moments du veuvage. Gérontologie et société. 2000; 95:27-45.
17. Groeger JA, Brown ID. Assessing one's own and others' driving ability: Influences of sex, age, and experience. Accident Analysis & Prevention. 1989; 21(2):155-168.
18. Delhomme P. Comparing one's driving with others': Assessment of abilities and frequency of offences. Evidence for a superior conformity of self-bias? Accident Analysis and Prevention. 1991; 23:493-508.
19. Delhomme P, Meyer T. Évaluation de ses propres comportements de conduite: Effet sur le contrôle subjectif et la régulation de l'activité (Rapport n° 200). Arcueil: Institut national de recherche sur les transports et leur sécurité, 1995.
20. Svenson O. Are we all less risky and more skillful than our fellow drivers? Acta Psychologica. 1981; 47:143-148.
21. Desrichard O, Milhabet I, Verlhiac JF. Beliefs about average-risk, efficacy and effort as sources of comparative optimism. International Review of Social Psychology. 2001; 14:105-141
22. Harris P, Middleton W. The illusion of control and optimism about health: On being less at risk but no more in control than others. British Journal of Social Psychology. 1994; 33:369-386.
23. Dejoy DM. The optimism bias and traffic accident risk perception: Accident Analysis and Prevention. 1989; 21:333-340. http://www.sciencedirect.com/science/article/pii/00014575589900249
24. Delhomme P, Meyer T. Un instrument d'analyse: l'optimisme comparatif. Risques. 1999; 39:1-6.
25. Weinstein ND. Unrealistic optimism about future life events. Journal of Personality and Social Psychology. 1980; 39:806-820.