



# Epidemiological Profile of Road Traffic Accidents in a Sub-Saharan Rural Area: Case of Manono in the Democratic Republic of the Congo

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## Abstract

**Introduction:** Road accidents constitute a major public health problem with regard to the costs generated by this phenomenon. **Methodology:** We conducted a cross-sectional descriptive study of Road traffic accidents in the city of Manono, an urban-rural area, with the aim of understanding this phenomenon in a highly suburbanized environment, characterized by artisanal exploitation of among others lithium, coltan with an increasing flow of urban population as well as the automobile car. **Results:** We found that most road accidents occurred on the day 51.0%, Sunday and Monday 19.2%. In 78.8%, drivers were  $\geq 18$  years old. **Conclusion:** It is important that an emphasis be placed on the rules of road safety because road accidents do not spare any environment, be it urban or rural.

## Subject Areas

Public Health

## Keywords

Road Accident, Sub-Saharan Africa, Rural, Manono

## 1. Introduction

Globally, every year, nearly 1.2 million people die as a result of traffic accidents,

and twenty to fifty million are injured or disabled. It is reported that in high-income countries 65% of deaths from road accidents are made by vehicle drivers. The situation is different in low-income and middle-income countries where 70% of deaths reported as a result of road accidents are made up of vulnerable road users (pedestrians, cyclists and motorcyclists). Low-income and middle-income countries account for about 85% of deaths. Yet these countries only have 48% of the world's car ownership. If appropriate measures are not adopted by 2030, road accidents are likely to be the fifth largest contributor to the global burden of disease. Overall, it is estimated that US \$518 billion is spent on road traffic accidents in low-income and middle-income countries [1].

## 2. Methodology

We conducted a cross-sectional descriptive study of road accidents in the Manono administrative territory of the Democratic Republic of the Congo. Manono is a territory of the province of Tanganyika in the Democratic Republic of the Congo. The mining resources of the region have made it reputation.

Our sampling is exhaustive and its size is 52 cases of road traffic accidents recorded from 01/01/2014 to 31/12/2018 (5 years).

## 3. Results

There were more cases of accidents in April (28.8%) (**Figure I & Table I**).

There were more accidents on Mondays and Sundays (10% for each of these days) (**Table II**).

**Table I.** Répartition des accidents selon le jour de la semaine.

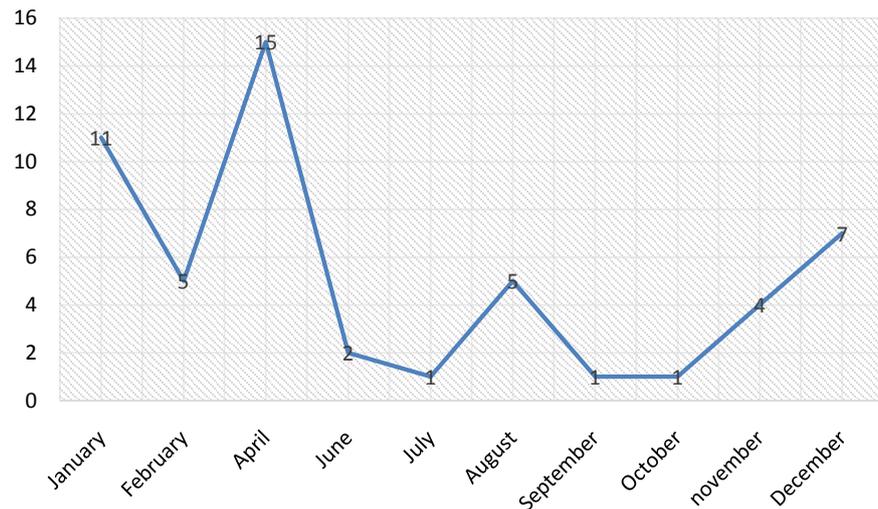
Day	frequency	Percentage
Sunday	10	19.2
Thursday	5	9.6
Monday	10	19.2
Tuesday	6	11.5
Wednesday	7	13.5
Saturday	6	11.5
Friday	8	15.4
<b>Total</b>	<b>52</b>	<b>100.0</b>

**Table II.** Sociodemographic characteristics, causes of accidents and time of onset.

Variable	Frequencies	Percentage
Cause of the accident (N = 52)		
Over speed	23	44.2
Alcohol	13	25
others	16	30.8

## Continued

Time of the day (N = 52)		
Day	27	51.9
Night	25	48.1
Driver' Age (N = 52)		
<18 years	11	21.2
≥18 years	41	78.8
Age of the victim (N = 52)		
≤5	3	5.8
6 - 10	11	21.2
11 - 15	11	21.2
16 - 20	10	19.2
>20	17	32.7



**Figure I.** Distribution of accidents by month according to occurrence.

The drivers' median age is 22 years ( $\pm 5.5$ ) while that of victims is 16 years ( $\pm 13.7$ ).

#### 4. Discussion

**Figure I** shows that in the majority of cases, road accidents occurred in April, followed by January with respectively 28.8% and 21.2% while the months of October, September and July recorded few cases of traffic accidents, 1.9%. Our results are different from those found by Ilunga Kandolo Simon [2] in Lubumbashi where the month of November recorded many cases of road accidents (13.0%). They are also different from those found by Kafando [3] in Burkina Faso where a greater number of traffic accidents were recorded from September. In Saudi Arabia [4], specifically in Qassim the monthly distribution of road accidents shows a high rate of road accidents in December while the lowest rate is

recorded in March with respectively 13.1% and 5.8%. Other authors have found that in India the months of May and June had a high rate of road accidents than the other months (94.5%) [5].

In 10% of cases, Mondays and Sundays experienced many road accidents (**Table I**). In Lubumbashi [2], second city of the Democratic Republic of Congo, the last two days of the week (Friday and Saturday) recorded more road accidents than other days of the week with a peak on Saturday is 18.03% (2011) and 15.98% (2012). While in Qassim in Saudi Arabia a large number of road accidents on Thursday 15.74% [4].

Drivers whose age is  $\geq 18$  years were more involved in a road accident than those whose age is strictly less than 18 years (**Table II**) with a median age of 22 years ( $\pm 5.5$ ). These results are superimposable to those found in Ethiopia [6] as well as in Iran [7] where the predominance of male drivers was also found with respectively 96.9% and 91.8%.

Most of the victims were in the age groups between 6 and 10 years (21.2%) and those aged between 11 and 15 years (21.2%).

Drunk driving was the main cause involved in the occurrence of road accidents in Manono (44.2%) followed by other causes (30.8%) while driving drunkenness came in third with 25%. Our results are superimposable to those of some countries such as Ivory Coast, Arabia, India and Iran, the speeding is the most implicated cause in the occurrence of accidents of road traffic [3] [6] [7] [8] with respectively 31.06%, 43.11%, 16.3% and 23.8%. In Nigeria and Ghana, alcohol [10] and fatigue [11] were the causes most involved in the occurrence of road accidents (18.2% and 36.4%).

Road accidents were observed more during the day (51.9%) (**Table II**). These results are similar to those found in Saudi Arabia, Tanzania and Lubumbashi [2] [4] [12].

## 5. Conclusions

We conducted our study on road accidents in the Manono territory of the Democratic Republic of Congo. We have collected 52 cases of road traffic accidents.

Most accidents occurred on the day (51.9%), speeding was the main cause (44.2%).

Victims aged from 6 to 10 years and those aged 11 to 15 were in the majority (21.2%), with more accidents on Sundays and Mondays (19.9%). Road accident is a major challenge.

## Conflicts of Interest

The authors declare no conflicts of interest regarding the publication of this paper.

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