

Source: Asante Akyem Municipal Motor Traffic Unit (MTU) registry.

It is evident from this study that the commonest mechanism of road traffic accident along the Asante Akyem stretch of the Accra-Kumasi trunk road was head-on collision followed by collision with an object or a side swipe. Most road traffic accident cases involving head-on collisions were as a result of over-speeding.

Discussion

The study found that casualties and mortality rate associated with road traffic accident cases, along the Asante Akyem stretch of the Accra-Kumasi trunk road for the period 2011-2015, were relatively high (Table 1). Road traffic accident cases accounted for a mortality rate of 155.2 per 100,000 population in the two districts over the five-year period. This finding gives credence to studies by Adeloje et al. who found that the risk of dying as a result of RTA is highest (24.1 per 100,000 population) in the African Region [3]. They established that the annual road traffic fatality rate for developing countries now stands at 20.1% per 100,000 population.

It is evident from this study that the commonest mechanism of road traffic accident on the Asante Akyem stretch of the Accra-Kumasi trunk road was head-on collision followed by collision with an object or a side swipe (Table 9). Most road traffic accident cases involving head-on collisions were as a result of over-speeding. This finding concurs with the views of Akongbota who found out that about 30% of RTAs in Ghana are caused by over speeding [8]. Akongbota cited other contributing factors such as driving while intoxicated, driver fatigue, use of cell phone while driving, poor weather conditions, and bad road design among others [8]. This finding also validates the views of Ayeboo who averred that numerous accidents on our road networks have been linked to various causes, especially over speeding [9]. Other studies by Afukaar et al. attributed the many death and casualties related to road traffic accidents to secondary collision [10].

Evidence gathered from this study revealed that the highest number of road traffic accident cases on the Asante Akyem stretch of the Accra-Kumasi trunk road over the entire period (86) occurred in March, followed by August and November with 75 and 72 cases, respectively (Table 2). The finding that the month of November is notable for high occurrence of road traffic accidents in the study setting substantiates the views of Kumar et al. who also identified November as the month with the highest number of fatal accidents in Delhi [12]. However, this finding contradicts the result obtained in Nepal by Jha and Agrawal (2004) who found that July was the month in which most fatal accidents occurred in Nepal [13].

It also emerged from the findings of this that the highest number of road traffic accident injuries of 175 (12.4%) on the Asante Akyem stretch of the Accra-Kumasi trunk road occurred in March followed by August with 170 (12.1%) injuries (Table 6). Similarly, the month of September recorded the highest number of deaths (47) followed by August and March with 37 and 36 deaths, respectively. These findings were found to be inconsistent with the observation by the India National Crime Records Bureau which reported that most people were killed in road accidents which occurred in January, but a higher incidence of road accidents with much victims occurred in May and March in India [14].

The findings of this study indicated that the highest number of road traffic accident cases (130) and associated injuries (271) on the Asante Akyem stretch of the Accra-Kumasi trunk road occurred on Saturdays (Tables 3, 4). This observation is consistent with the views of Kumar et al. who found out that most fatal accidents in South Delhi, India occurred on Saturday [12]. This finding also buttresses a report by the South African Injury Mortality Surveillance System which indicated that most people died through road accidents which occurred on Saturday followed by Sunday [15]. Notwithstanding, the findings of this study contradict the observation by Jha and Agrawal that the highest number of road accidents at Nepal, occurred on Sunday and the least number on Monday [13].

It unfolds from the findings of this study that taxi cabs contributed about 10% of the road traffic accident cases on the Asante Akyem stretch of the Accra-Kumasi trunk road, whereas big passenger buses contributed 7.3% (Tables 7, 8). This revelation is in tandem with a report by the National Road Safety Commission of Ghana (2011) which indicated that casualty rate associated with road traffic accident cases in Ghana increase with the size of the other vehicle in collision [21]. The report cited buses and mini-buses cause 35% of fatal crashes while cars are responsible for 32%.

Conclusions

Road traffic accident is a major public health threat in the Asante Akyem Districts in the Ashanti Region of Ghana. Most of the causes of RTA seemed to be known, but a multi-sectoral approach will be required to curb the menace. In view of the evidence gathered from this study, the study makes the following recommendations:

- i. The Police MTTU in the Asante Akyem Municipality should intensify road safety education activities, and impose stiffer punishments on offenders of road traffic regulations. They should also embark on random monitoring of the blood alcohol levels of drivers and bring to book all recalcitrant drivers.
- ii. Drivers of spoiled cargo vehicles on the Konongo high street, especially the Juaso, Odumasi, and Duampompo three lanes, need to properly place triangles on both sides of the road to warn other road users, and also to briskly tow spoiled abandoned vehicles to avoid collision.
- iii. The Government of Ghana should provide a by-pass on the Konongo high street, especially the Juaso, Odumasi, and Duampompo three lanes which are places of rampant accidents.
- iv. The Government of Ghana should dualized the Accra-Kumasi road so as to provide enough parking space for cargo cars.

Limitations of the study

A limiting factor of this study was that the data for this study consisted of mainly data from the MTTU repository; it failed to capture very vital variables such as the number of passengers in each vehicle as well as the number of injuries or deaths per vehicle. The data also could not state the exact mechanism of the RTA and the socio-demographic characteristics of the occupants at the time of the accident. There is therefore the need for a different type of study that will examine all the above. In view of the fact that all RTAs occurring on all other branch roads within the Asante Akyem Municipalities were excluded from the final analysis, and the fact that not all RTAs occurring along the Asante Akyem stretch were reported to the police, the findings of this study is not likely to be representative of the entire District.

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