

A retrospective study on the pattern of injuries in Road Traffic Accidents.

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Abstract: Road Traffic Accidents (RTAs) is a fatal or non-fatal injury that occurs as a result of a collision or incident involving at least one road vehicle in motion on a public or private roadway to which the public has access. Accidents are considered as unavoidable and unpredictable occurrences in society. A retrospective research design was carried out to investigate injury patterns in RTA victims. A total of 63 MLC records of RTA victims were selected by convenient sampling technique. The data was collected using MLC records of RTA and 63 MLC records. The study results revealed that the pattern of injuries in Road traffic Accidents victims, Two-wheelers account for the majority of accidents (76.2%), followed by four-wheelers (7.9%), heavy-duty vehicles (7.9%), and three-wheelers (6.3%) and others (1.6%). The study concluded that the young and middle-aged people are particularly at risk for accident. RTAs and their effects on the public can be successfully communicated to the public through the media.

Key words: Retrospective research design, Road Traffic Accidents, MLC records.

1. INTRODUCTION:

Road Traffic Accidents (RTAs) are described as any occurrence that occurs on a public way or road, causing one or more people to be injured or killed. According to the World Health Organization (WHO), road traffic accidents claim the lives of 1.25 million people globally, with an additional fifty million injured.⁽¹⁾

Road transport is the most cost-effective mode of transportation in India, both for freight and passengers, given its level of penetration in the population. One person is slain every 25 seconds as a result of road traffic injuries, and 93% of road fatalities occur in countries with low or middle incomes, despite the fact that these countries account for 60% of the world's vehicles. Most nations lost 3% of their GDP due to traffic accidents.⁽²⁾ Each year, the lives of around 1.3 million individuals are shortened as a consequence of road traffic crashes and also 20 and 50 million individuals have suffered from non-fatal wounds, which might worsen their disability as a result of the injury.⁽³⁾

A road traffic injury is a fatal or non-fatal injury that occurs as a result of a collision or incident involving at least one road vehicle in motion on a public or private roadway to which the public has access. Accidents are considered as unavoidable and unpredictable occurrences in society. However, many transportation accidents are avoidable.⁽⁴⁾ Every six minutes, one person dies in a road mishap in India. These losses result from the expense of treatment as well as reduced earnings for those killed or disabled by their injuries, as well as for family members who must skip work or school to care for the injured. The majority of nations lose 3% of their GDP due to transportation accidents.⁽⁵⁾

Road accidents are the main cause of death between children and young adults aged 1 to 29. About three-quarters (73%) of all road traffic deaths occur among young males under the age of 25, who are almost three times as likely to be killed in a road traffic crash as young females. An increase in average speed is closely related to the likelihood of a crash happening and also to the severity of the crash's consequences.⁽⁶⁾ Road safety is a national problem. Given the magnitude and gravity of the problem, as well as the negative consequences for the economy, public health, and general well-being, road traffic injuries are now one of the top sources of deaths, disabilities, and hospitalization, with significant

socioeconomic consequences worldwide. Human automobile and environmental factors play an essential role not only during but also before and after a traumatic event. ⁽⁷⁾

Road mishaps are frequently the result of mistakes made by people. Keeping the roads safe is everyone's duty. Government, business, NGOs, experts, and communities must work together to reduce the risk associated with road traffic systems through a variety of cooperative activities and interventions, such as the enforcement of laws that limit speeding and drink-driving, the requirement that drivers wear seatbelts and crash helmets, the development of safer roads and vehicles, and public awareness campaigns about road safety. ⁽⁸⁾ These elements motivated researchers to choose and carry out a study on Road Traffic Accidents. The goal of the current research is to investigate injury patterns in Road Traffic Accidents.

2. MATERIALS & METHODS:

Design: A Retrospective research design was adapted for the present study.

Sample Size: 63 MLC records of RTA victims were selected for the study.

Sampling Technique: Convenient Sampling Technique was used to select the sample.

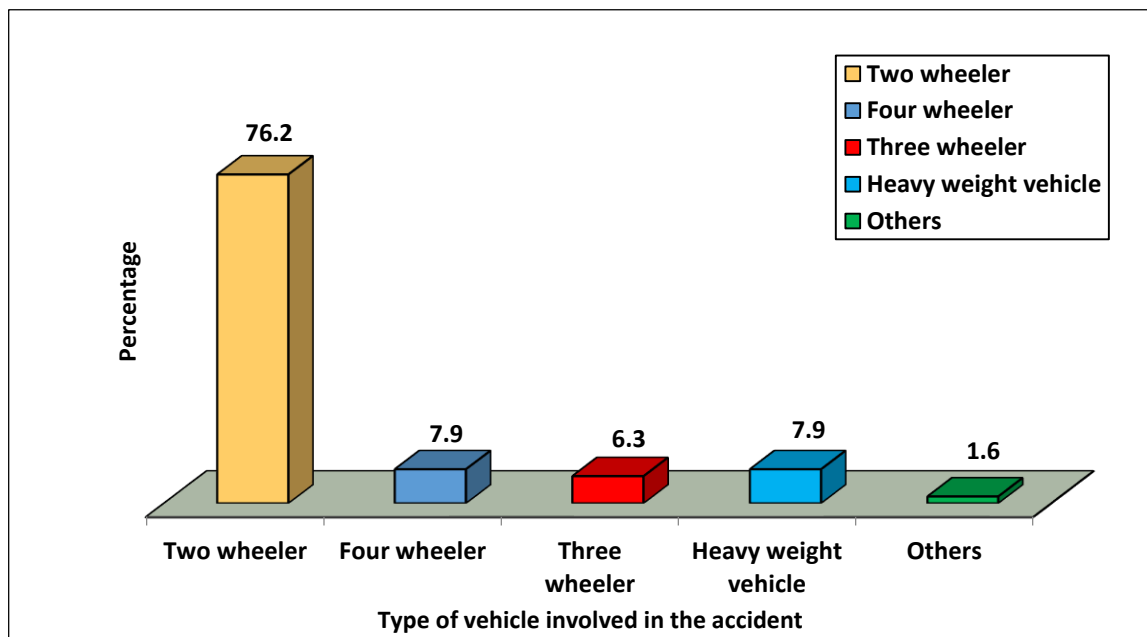
Data collection Procedure: The formal setting permission was obtained from the Institutional Human Ethical Committee of VMCON, Puducherry (Ref no: VMCN PDY/IEC 2022/084). The investigation reviewed all MLC records of RTA and 63 MLC records were picked after being analysed with inclusion criteria with incomplete information being excluded. The investigator then obtained information on their age, gender, vehicle type, time of incident, and injuries based on the pattern and area involved were transferred to other special centers, where the fatal and non-fatal cases were examined. The data were analyzed based on the objectives of the study using Descriptive statistics as frequency, percentage distribution, mean, and standard deviation.

3. RESULTS:

Percentage distribution of demographic variables of RTA victims, most of the RTA victims 28.7% were aged between 21 and 30 years, 23.8% were aged between 41 and 50 years, 19% were aged between 31 and 40 years, 12.7% were aged between 51 and 60 years, 9.5% were aged between 18 and 20 years, and 6.3% were aged 61 and above. Most of the RTA victims were male (77.8%), and the remaining were female (22.2%).

Percentage distribution of the pattern of injuries in Road traffic Accidents victims, Two-wheelers account for the majority of accidents (76.2%), followed by four-wheelers (7.9%), heavy-duty vehicles (7.9%), and three-wheelers (6.3%) and others (1.6%). (Figure 1)

Figure 1: Percentage distribution of level of pattern of injuries in Road traffic Accidents victims.



Percentage distribution of road traffic accident victims with mode of travelling, time of occurrence and Where did the accident happen, most of the RTA victims found that 58.8% of casualties riding motorcycles, 6.3% of victims riding bicycles, and 19.% of victims using scooters all had accidents. 31.7% of traffic collisions occurred in the morning and

afternoon, night (6.3%), early morning (1.6%), and evening (28.6%) in time of occurrence. Nearly half (44.4%) of the accidents happened close to coastlines, 30.2% at traffic lights, and 25.4% were close to hospitals. (Table 1)

Table 1: Frequency and percentage distribution of road traffic accident victims with mode of travelling, time of occurrence and where did the accident happen.

Hospital Variables	Frequency (N)	Percentage (%)
Mode of travelling		
Pedestrian	8	12.7
Bicycle	4	6.3
Motor cycle	37	58.8
Scooty	12	19.0
School bus	1	1.6
Auto rickshaw	1	1.6
Time of occurrence		
Moring	20	31.7
Afternoon	20	31.7
Evening	18	28.6
Night	4	6.4
Early morning	1	1.6
Where did the accident happen		
Traffic signal	19	30.2
Near coastal area	28	44.4
Near hospital area	16	25.4

4. DISCUSSION:

A Retrospective research design was used to this stud. Total 63 MLC records of RTA victims were selected by convenient sampling technique. The aim of the study was to assess injury patterns in Road traffic Accidents victims.

The first objective was to determine the age and gender-wise distributions of road traffic accident cases. The result exhibited that, 28.7% were aged between 21 and 30 years, 23.8% were aged between 41 and 50 years, 19% were aged between 31 and 40 years, 12.7% were aged between 51 and 60 years, 9.5% were aged between 18 and 20 years, and 6.3% were aged 61 and above. Most of the RTA victims were male (77.8%), and the remaining were female (22.2%).The present study was supported by the previous study of Dr. Raj Kumar (2021), who found that 75.73% of respondents were male and 29.47% of respondents were between the ages of 20 and 29.⁽⁹⁾

The second objective was to study the pattern of injuries sustained, the types of vehicles involved, the time and season of occurrence of road traffic accidents. The result depicts that, Percentage distribution of the pattern of injuries in Road traffic Accidents victims, Two-wheelers account for the majority of accidents (76.2%), followed by four-wheelers (7.9%), heavy-duty vehicles (7.9%), and three-wheelers (6.3%) and others (1.6%).most of the RTA victims found that 58.8% of casualties riding motorcycles, 6.3% of victims riding bicycles, and 19.% of victims using scooters all had accidents. 31.7% of traffic collisions occurred in the morning and afternoon, night (6.3%), early morning (1.6%), and evening (28.6%) in time of occurrence. Nearly half (44.4%) of the accidents happened close to coastlines, 30.2% at traffic lights, and 25.4% were close to hospitals. The present study was supported by the previous study of Aline Siteneski (2021) who found that bus and car accidents had lower relation with total occurrence and the highest relation was found in motorbikes.⁽¹⁰⁾

5. CONCLUSION:

The study concluded that the young and middle-aged people are particularly at risk for accidents, which are typically two-wheeler-related. All adult age groups should receive periodic education on RTAs and their risk factors using appealing, educational A.V. tools.

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