

Patterns of Injuries with Patients Coming to Emergency Department in a Tertiary Care Centre, in SLIMS, Pondicherry

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Abstract

Background: Road traffic accidents happen to be a leading cause of death among young people. About 1.24 million people die each year due to road traffic accidents and cause considerable economic loss to victims and their families and nation at large. **Objective:** To study the patterns of injury with patients coming to emergency department in tertiary care centre, Sri Lakshmi Narayanan Institute of Medical Sciences (SLIMS), Pondicherry during a period of one week. **Material and methods:** The present cross-sectional study was carried out at the tertiary care centre in Pondicherry. All the road traffic accidents reported to causality department for treatment for a period of one week were included in the study. The variables include factors like Age, Sex, History, Nature of injury, site, size, time and date of injuries were collected. **Result:** 83% of RTA victims were in the age group of 18 to 59 years and males to female ratio of 2.75: 1. About 37% of accidents to place between 12:01 PM to 06:00 PM noon hours. Nearly 83% of the vehicles were light motor vehicles (two-wheeler and car). The common site of injury was head, neck, face 33% followed by upper extremity 20%. Road traffic accidents (RTA) were fatal in 3% of the victims. **Conclusion:** In conclusion most of the victims of road traffic accidents were fatal in 3% and male: female ratio of 2.75:1. Young people need to be educated regarding Risk factors, Traffic rules, and safety precautions.

Key Words: Road traffic accident, abrasion, contusion, laceration

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Introduction:

The rapid urbanization and industrialization have resulted in revolutionary increase in the number of motor vehicles globally which have led to the increase in morbidity and mortality due to road traffic accidents especially in developing countries like India. Road traffic accidents happen to be a leading cause of death among young people. About 1.24 million people die each year due to road traffic accidents and cause considerable economic losses to victims

and their families and nation at large. Estimated road traffic death rate per 100 000 population in India has increased from 16.8 in 2009 to 18.9 in 2013. Over the last decade the incidence of accidental deaths has witnessed an increasing trend with an increase of 44.2% for the year 2011 as compared to 2001. This figure translates into one death on the Indian roads early five minutes and expected to escalate to one death every three minutes by 2020.[2] These road traffic injuries depend on number of factors like type of Accident, colliding vehicle, site of impact etc. This study is important for setting priorities for the prevention of such injuries. The mortality and morbidity data in RTA depend on to which health care unit the victim reports for treatment. Thus, the present cross-sectional study was carried

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out to understand the various epidemiological factors in road traffic accidents cases and the characteristics of the resultant injuries around SLIMS, Pondicherry.

Materials and Methods:

The present cross-sectional study was carried out in the emergency department of SLIMS, Pondicherry from 02/07/2024 to 10/07/2024. The study started after obtaining institutional ethics committee approval.

Inclusion criteria:

- 1) Injured patients seeking treatment in SLIMS, Pondicherry following RTA.
- 2) Injured patients coming to SLIMS after primary treatment from outside hospital
- 3) Patient's brought dead with injuries, intimated to nearby police station

Exclusion criteria:

- 1) Not fulfilling the criteria mentioned above.

Thus, the study included 30 victims who were intimated to nearby police station of road traffic accidents. The data was collected from the medico legal case records and police intimation letters and was tabulated in pre-designed excel sheet. The data was statistically analysed for descriptive statistics using the Statistical Package for Social Sciences (SPSS) version 24.

Results & Observations:

A total of 30 cases of road traffic accidents were reported during one week from 02/07/2024 to 10/07/2024. In this study majority of victims 83% were in the age group of 18-59 years and males 73%.

Among the victims of road traffic accidents 30% of the accidents took place between 6:00 PM to midnight 12:00 AM and 12:01 PM to 06:00 PM evening 37%. On analysis the type of vehicle showed 83% were two-wheeler and 3% of the vehicle was light motor vehicles. Multiple injuries were abrasion and few lacerations and contusion.

The common site of injury was head, neck & face (33%) followed by multiple sites. Road traffic accident was fatal in 1 among 30 subjects studied (3%).

Factors related to road traffic accidents	Frequency
Age distribution	
<18 years	2 (7%)
18-59 years	25 (83%)
60 and above	3 (10%)
Total	30 (100%)
Sex distribution	
Male	22 (73%)
Female	8 (27%)
Time of accidents	
06:01 AM - 12:00 PM noon	9 (30%)
12:01 PM - 06:00 PM evening	11 (37%)
06:01 PM - 12:00 AM midnight	9 (30%)
00:00 AM - 06:00 AM morning	1 (3%)
Type of vehicles	
Pedestrian	1 (3%)
Two wheeler	25 (83%)
Light motor vehicle	1 (3%)
Heavy motor vehicle	1 (4%)
Others	2 (7%)
Type of injury	
Abrasion	10 (33%)
Grazed abrasion	2 (7%)
Laceration	7 (23%)
Contusion	1 (3%)
Multiple & others	10 (34%)
Site of injury	
Upper extremities	6 (20%)
Lower extremities	4 (13%)
Both upper & lower extremities	3 (10%)
Head, neck and face	10 (33%)
Multiple	1 (3.3%)
Other	6 (20%)
Outcome	
Fatal accident	1 (3%)
Non-fatal accident	29 (97%)

Table 1: Details of the Cases studied

Discussion:

Present study revealed most of the victims were young males and productive age group with male to female ratio of 2.75:1. similar finding of predominance of young and productive age group was reported by Badrinarayan Mishra et al [4] in west Nepal and Manna N et al [5] in a tertiary care hospital Kolkata, Nilambhar Jha et al [5] from South India and Abhishek Singh et al in a tertiary care hospital in rural Haryana [7]. In the present study male to female ratio was 2.75:1 as compared to 8.3:1 reported by Manna et al. In the present study about accidents took place more in 12:01 to 06:00 PM in forenoon hours as compared to 06:00 PM to 00:00 Midnight as reported by other authors where the greater number of accidents took place [6, 7, 8, 9]. In the present study about 83% of RTA took place when the subjects were riding two-wheeler is found to be similar as seen in the study of Abhishek Singh et al [7] where the subjects were driving light motor vehicles, but in contrast Khare Neeraj et al [12] and Maj S.M. Pathak et al [10] reported that in two third of RTA Motorized two-wheeler were involved. In the present study lower extremities was the most common site of injury. Similar findings were observed by Manna N et al, Tiwary RR and Patil SS et al [2,13,14], in contrast Khare Neeraj et al [12] reported head injury (59.3%) and Biswas et al head and neck injury (56.4%) as most common site of RTA. Abhishek Singh et al reported that the maximum numbers of injuries were seen in the abdomen and least in the upper limb [7]. In the present study the case fatality was 3%, which was also shown as in Khare Neeraj et al [12] reported 3.1%, D Sharma et al reported to be 1.65 percent in their studies.

Conclusion:

In conclusion in the present study about 83% of RTA cases fall in age group 18 -59 years with Male: Female ratio of 2.75: 1. Most of the accidents occurred between 12:01 PM to 06:00 PM evening and in later half of the day to midnight. About 3% of the RTA cases

are fatal. There is a widespread belief that accidents are inevitable; this fatalistic attitude must be curbed. Safety education must begin with school children. Young people need to be educated regarding Risk factors, traffic rules and safety precautions. Ten minutes talk by the principal or other respected person of the school at the end of morning assembly about the basic rules of the behaviour of living safely by the side of busy highways should be made compulsory part of curriculum. Moreover, the key to successful prevention lies in the commitment of all relevant sectors, Public and Private - Health, Transport, Education, Finance, Police, Legislators, Manufacturers, Foundations, Communities, Individuals and the media to make Road Safety to be established.

Ethical Considerations: Ethical Clearance was obtained Institutional ethics Committee
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Conflict of Interest: None to declare

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