

ORIGINAL RESEARCH

Analysis of Pattern of Incidence of Road Traffic Accidents Among Subjects Visited in Emergency at a Tertiary Care Hospital

¹Pradeep Kumar DP, ²Raaghav

^{1,2}Assistant Professor, Department of Community Medicine, Kamineni Institute of Medical Sciences, Narketpally, Nalgonda, Telangana, India

Corresponding Author

Dr. Raaghav

Assistant Professor, Department of Community Medicine, Kamineni Institute of Medical Sciences, Narketpally, Nalgonda, Telangana, India

Email: raaghavraaghu007@gmail.com

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ABSTRACT

Background: Road accidents have been the leading cause of deaths worldwide with the last three decades seeing a substantial increase in this regard. This study aims to evaluate Pattern of road traffic accidents incidence among subjects visited in emergency. **Material & methods:** The present prospective observational study was conducted for a period of 6 months to evaluate Pattern of road traffic accidents incidence among subjects visited in emergency. The victims were interviewed for the injury details. Data collected was entered into Excel sheets and statistical analysis was done using Statistical Package for Social Sciences (SPSS) software. **Results:** In this study maximum cases were from age group 13-32 yrs (30.66%) and minimum cases were from age group 73-82 yrs (0.95%). Males were in predominance in this study i.e. 80.3% and females were 19.6%. The majority (55.80%) of patients were using 2-wheeler followed by 24.38% of pedestrians. The most common body part involved was the head which occurred in 38.09% patients followed by lower limb in 29.90%. 32% of patients were under the influence of alcohol while 68% were nonalcoholic during the accident. **Conclusion:** The present study concluded that maximum cases were from age group 13-32 yrs and road traffic accidents were predominant in males. The majority of patients were using 2-wheeler and the most common body part involved was the head and majority were nonalcoholic during the accident.

Keywords: Pedestrians, Alcohol, Accident, Road Traffic Accidents.

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INTRODUCTION

World Health Organization defines road traffic injury (RTI) as a fatal or nonfatal injury incurred as a result of a collision on a public road involving at least one moving vehicle and pedestrians. Worldwide, an estimated 1.2 million people are killed in road crashes each year and as many as 50 million are injured.¹ According to the World Health Organization (WHO), the number of deaths by RTAs continues to rise steadily leaping from 1.15 million in 2000 to 1.35 million in 2018.² The main risk factor influencing the post-crash outcome of injuries is a delay in the management of injured at the health facility.³ Emergency departments is portals for emergency admission to hospitals which provide immediate urgent medical intervention.⁴ Deaths related to RTI are predicted to increase by 83% in low-income and middle-income countries and to decrease by 27% in high-income countries. 90% of

road traffic deaths occurred in low-income and middle-income countries, where 81% of the world's population live and own about 20% of the world's vehicles.⁵ India has one of the poorest and worst records of road safety in the world. Trauma victims, who deserve immediate attention, do not get the priority because of a lack of funds, lack of administrative focus on the problem, lack of infrastructure, initiative, and vision. Information on the injury pattern, nature, and outcome are extremely limited in India, as trauma registries and hospital-based research have not developed systematically.^{6,7} This study aims to evaluate Pattern of road traffic accidents incidence among subjects visited in emergency.

MATERIALS & METHODS

The present prospective observational study was conducted for a period of 6 months to evaluate Pattern

of road traffic accidents incidence among subjects visited in emergency. Before the commencement of the study ethical approval was taken from the Ethical committee of the institute and the guardians of the participants. For the study, an RTA was defined as an accident that took place on the road between two or more objects, one of which must be any kind of moving vehicle.⁸ Any injury on the road without the involvement of a vehicle (e.g., a person slipping and falling on the road and sustaining injury) or injury involving a stationary vehicle (e.g., persons getting injured while washing or loading a vehicle), Brought dead cases, Cases not willing to participate in the study, Cases dying after admission before the interview were excluded from the study. All the RTA patients admitted to the emergency department and those who gave consent participated in the study were included in the study. The victims were interviewed for the injury details and the circumstances leading to accidents and the same was recorded on a predesigned and pretested proforma along with basic demographic information. Relatives/attendants were also interviewed in case the condition of the victims demanded so. Information related to the pattern of

RTAs with victims was measured by using day, time and place of accidents, vehicle types, type of accidents, causes of accidents, type and pattern of injury, and treatment given. Associated factors like safety measures taken and the influence of alcohol were considered. Data collected were entered into Excel sheets and statistical analysis was done using Statistical Package for Social Sciences (SPSS) software version 16. Descriptive statistics (frequency and the percentage) were applied.

RESULTS

In this study maximum cases were from age group 13-32 yrs(30.66%) and minimum cases were from age group 73-82 yrs (0.95%). Males were in predominance in this study i.e. 80.3% and females were 19.6%. The majority (55.80%) of patients were using 2-wheeler followed by 24.38% of pedestrians. The most common body part involved was the head which occurred in 38.09% patients followed by lower limb in 29.90%. 32% of patients were under the influence of alcohol while 68% were nonalcoholic during the accident.

Table 1: Age distribution among the study subjects

Age Group	No. of patients
13-22 YRS	161(30.66%)
23-32 YRS	140 (26.66%)
33-42YRS	101(19.23%)
43-52YRS	78 (14.85%)
53-62YRS	27(5.14%)
63-72YRS	13 (2.47%)
73-82YRS	5 (0.95%)
TOTAL	525(100%)

Table 2: Gender distribution among the study subjects

Gender	N	%
Male	266	50.67
Female	259	49.33
Total	525	100

Table 3: Distribution of road traffic injury cases according to road users

Road User	N(%)
Two wheelers	293(55.80%)
Pedestrian	128(24.38%)
HMV	58(11.04%)
LMV	46(8.76%)
Total	525(100%)

Table 4: Distribution of RTA victims by part of the body involved

Part of the body involved	N(%)
Head	200(38.09%)
Thoracic abdomen	76(14.47%)
Spine	39(7.42%)
Upper limbs	53(10.09%)
Lower limbs	157(29.90%)
Total	525(100%)

Table5: Distribution of patient according to alcoholic influence during an accident

Alcoholic influence	N(%)
Present	168(32%)
Absent	357(68%)
Total	525(100%)

DISCUSSION

Road traffic collisions are responsible for substantial morbidity and mortality which is a major health concern worldwide. It is the current leading cause of death for children and young adults (5-29 years), and the eighth for all age groups.⁹ Many studies have revealed that there has been a rapid increase in the number of road traffic accidents in many developing nations over the last several decades.¹⁰

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A study done in Iran about the epidemiological patterns of road traffic crashes from 1996 to 2014 concluded that most of the victims were male aged between 30-39yrs.¹¹

Data published in the National Crimes Records Bureau showed that the majority of victims of road accidents were occupants of two-wheelers. It reflects that two-wheelers are the most common mode of transport in India. Maximum casualties on two-wheelers could be due to reckless driving, not wearing helmets, or not following traffic rules.¹²

Shrestha found that head injury (41.1%) was the commonest injury followed by fracture (25.9%), external injury (like abrasion, laceration, cut injuries), and spinal injury.¹³

A study by Rajesh found that 22.5% were under influence of alcohol during the accident.¹⁴

CONCLUSION

The present study concluded that maximum cases were from age group 13-32 yrs and road traffic accidents were predominant in males. The majority of patients were using 2-wheeler and the most common body part involved was the head and majority were nonalcoholic during the accident.

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