



ORIGINAL RESEARCH PAPER

Forensic Medicine

PATTERN OF INJURIES IN ROAD TRAFFIC ACCIDENTS IN VARANASI: A RETROSPECTIVE STUDY

KEY WORDS:

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ABSTRACT

In medico-legal practice blunt force injuries are most frequently caused by traffic accident, fall from height, assault, train accident etc. Transportation injuries could be suffered by pedestrian, two wheeler rider & pillion and to the driver, front seat passengers and rear seat passengers of the four wheeled vehicle. Pedestrian injuries could be primary impact injuries, secondary impact injuries and secondary injuries. Retrospective analysis of 191 road traffic cases coming to the emergency of Heritage Institute of Medical Sciences, Varanasi was done to find out the distribution of road traffic accidents and pattern of road traffic injuries.

INTRODUCTION

The incidences of Road traffic accident is increasing globally. It is expected that RTA will be trailing only to ischaemic heart disease and unipolar major depression as the highest causes of mortality worldwide by 2020¹. Road transport is the dominant mode of transport in India, both in terms of traffic share and in terms of contribution to the national economy. To meet the demand for road transport, the number of vehicles and the length of road networking have increased a lot over the years.

Road Traffic Injury (RTI), one of the most common injuries, is defined as a fatal or non-fatal injury incurred as the result of a road traffic crash. Injuries resulting from RTIs disproportionately affect vulnerable road users in developing countries. RTIs are responsible for a substantial fraction of morbidity and mortality and are responsible for more years of life lost than most of human diseases. The injury profile for road traffic crashes in developing countries differs in important ways from the profile seen in developed countries, and it can provide guidance for making policies to improve prevention and control.

AIM

Present study aims to find out the distribution of road traffic accidents and pattern of road traffic injuries among the patients coming to casualty of Heritage Institute of Medical Sciences, Varanasi.

MATERIAL & METHODS

Retrospective analysis was done for the patients coming to emergency of Heritage Institute of Medical Sciences, Varanasi, who suffered from road traffic accident and as a result sustained transportation injuries. A total of 191 cases were studied from January 2016 to June 2017. All other cases such as fall from height, assault etc were excluded.

RESULTS

Table 1: Distribution of Gender of Road Users Victims in Road Traffic Accidents

Gender	Cases	Percentage
Males	169	88.48%
Females	22	11.52%
TOTAL	191	100

Most of the victims in the present study were males. (Table 1). Males to female ratio was almost 8:1. This is in accordance to studies done in the past².

Table 2: Distribution of Age of Road Users Victims in Road Traffic Accidents

Age Group	Cases	Percentage
Less than 10	16	8.37
11 - 20	17	8.90
21-30	44	23.0
31-40	52	27.22
41-50	28	14.65
51-60	12	6.28
61-70	11	5.75
71-80	06	3.14
81-90	04	2.09
More than 90	01	0.52

The majority of individuals who were involved as victims of road traffic accidents were in the age from 21 – 50 in this study (Table 2).

Table 3: Types of Road Users victims involved in Road Traffic Accidents

Type of Victim	Cases	Percentage
Pedestrian	41	21.46
Pedal Cycle	12	06.28
Motorcyclist rider	61	31.93
Pillion rider	15	7.85
Driver of four wheeler	40	20.94
Front seat passenger	13	6.80
Back seat passenger	09	4.71
TOTAL	191	100

Majority of the victims of road traffic accidents in this study used two wheeler as mode of transport.

Table 4: Different Types of Injury amongst different type of Road Users

Nature of Injury	Pedestrian	Pedal cyclist	Bike rider	Four wheel occupants	TOTAL
Abrasion	34	-	68	60	162 (84.8)
Contusion	46	5	60	48	159 (83.2)
Laceration	49	5	63	68	185 (97.0)
Fracture	51	-	48	45	144 (75.4)

DISCUSSION:

In medico-legal practice blunt force injuries are most frequently caused by traffic accident, fall from height, assault, train accident etc. Transportation injuries could be suffered by pedestrian, two wheeler rider & pillion and to the driver, front seat passengers and rear seat passengers of the four wheeled vehicle. Pedestrian injuries could be primary impact injuries, secondary impact injuries and secondary injuries.

The majority of individuals who were involved as victims of road traffic accidents were in the age from 21 – 50 in this study (Table 2). Since these age people are active for meeting their day to day needs they are more prone to be involved in road traffic accidents. Majority of the victims were in the age group of (31 – 40) followed by persons in the age group of (21 – 30) years. This is in accordance with previous studies done in the past^{2,3}.

Majority of the population in an around our institute in Varanasi is rural based population, majority of them still use two wheelers as mode of transport and as a result they are commonly involved in road traffic accidents. The younger age group prefer to ride the designer two wheelers available in the market, which is commonly seen over speeding on the highways and is driven in rash and negligent manner. This was also seen in studies done in the past^{4,5}.

Motor cyclist mostly sustained abrasion followed by laceration and contusion. Bicyclist sustained contusion and laceration in equal number. Fracture was most commonly seen in pedestrians, followed by laceration, contusion and abrasion in descending order. Among the four wheeler occupants laceration of the soft tissues was most commonly seen. This was followed by Abrasion, Contusion and finally fracture.

CONCLUSION

The present study emphasized on demography and pattern of injuries in road traffic accidents. Road traffic accidents occur mostly due to drivers fault, mechanical defects in vehicle, fault of the passenger and pedestrians, bad weather and bad roads.

Majority of the road traffic accidents do happen to the two wheeler riders. On the national highways, a separate service lane for the two wheeler rider and the pedestrians should be constructed so as to minimize accidents. All the bikers should wear protective gears while riding.

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