A Study of Road Traffic Accident Reported at Tertiary Care Hospital BPSGMC (W) Khanpur Kalan, Sonepat

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How to cite this article: Sanjeet Singh, SK Jha, Anita Punia et al. A Study of Road Traffic Accident Reported at Tertiary Care Hospital BPSGMC (W) Khanpur Kalan, Sonepat. Indian Journal of Public Health Research and Development 2023;14(3).

Abstract

Background: Injury and deaths due to road traffic accidents (RTA) are a major public health problem in developing countries where more than 85% of all deaths and 90% of disability-adjusted life years were lost from road traffic injuries.

Objectives: To study the type of injuries in Road Traffic Accidents reported at a tertiary care hospital and to determine the various factors for the occurrence of the accidents.

Method: Study was planned to study the major causes/risk factors as well as nature, type and mode of occurrence of road traffic accidents in sonepat city and study demographic profile and injury pattern among RTA victims. Road traffic accidents are responsible for a substantial proportion of deaths &injuries and are responsible for more years of life lost than most human diseases. The WHO has defined road traffic accident (RTA) as when a vehicle collides with another vehicle, pedestrian, animal, road debris, or other stationary obstruction.

Results: The data were summarized using percentages. There is a high percentage of RTA among males (86.4%) and no experience of driving were important risk factors identified for accidents. Total of 140 injured patients were seen in the emergency department. More than 80% accident cases were two wheelers. The most common site of the RTA was found at state highway.

Keywords: Road Traffic Accident, injury pattern, Prospective, Retrospective, Mode of travel.

Introduction

According to WHO, "an accident is defined as an unpremeditated event resulting in recognizable damage." It is an unexpected unplanned occurrence which may involve injury.[1] The total number of road accidents increased by 2.5 per cent from 4, 89,400 in 2014 to 5, 01,423 in 2015. Road traffic fatalities are increasing day by day at about 8% annually for the last ten years and show no signs of decreasing. An estimated 1.2 million people are killed in road crashes every year as many as 50 million are injured occupying 30-70% orthopedic beds in developing countries. Road traffic injuries are predicted to be third leading contributor to the global burden of disease and injury by 2020.[2] The total number of persons killed in road accidents increased by 4.6 per cent from 1,39,671 in 2014 to 1,46,133 in 2015. Road accident injuries have also increased by 1.4 per cent

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from 4,93,474 in 2014 to 5,00,279 in 2015. The severity of road accidents, measured in terms of number of persons killed per 100 accidents has increased from 28.5 in 2014 to 29.1 in 2015.[2] Motorization has enhanced the lives of many individuals and societies, but the benefits have come with a price. Although the number of lives lost in road accidents in high-income countries indicate a downward trend in recent decades, for most of the world's population, the burden of road-traffic injury in terms of societal and economic costs is rising substantially. Injury and deaths due to road traffic accidents (RTA) are a major public health problem in developing countries where more than 85% of all deaths and 90% of disability-adjusted life years were lost from road traffic injuries[3]. As a developing country, India is no exception. Not a day passes without RTA happening in the roads in India in which countless number of people are killed or disabled. Often members of the whole family are wiped out. Those who are affected or killed are mostly people in their prime productive age[3,6,7]. The highest burden of injuries and fatalities is borne disproportionately by poor people, as they are mostly pedestrians, cyclists, and passengers of buses and minibuses. The data for fatal accidents presented to the Parliament by the Ministry of Road Transport and Highways for year 2008 shows that 119,860 people perished in mishaps that year and the national and state highways accounted for nearly half of all road accidents[3]. Deaths due to road accidents in 2009 were reported to be 126,896 and in 2010 it increased to 133,938 which is about 5.5% over and above the previous year's deaths. Tamil Nadu, Andhra Pradesh, Maharashtra, Karnataka, and Rajasthan have accounted for 11.5%, 10.5%, 7.1%, and 6.8%, respectively, of total "Road Accident" deaths in the country. The trend is alarming and is leading to a frightening situation day by day.[10]

Methodology

This cross-sectional study was conducted at BPS GMC Khanpur Kalan sonepat. A sample of 140 was collected from the RTA victims who reported in the emergency wing of the hospital were study population. Information was collected through a pre-tested questionnaire, perusal of hospital records and visit to the accident area to assess the nature of turnings, road conditions, etc for corroborative evidence. Comatose cases, OPD cases and fatalities were excluded from the study. Limitation of this study was the exclusion of deaths and comatose cases which had to be done because it was difficult to obtain record from relatives/eye-witnesses, the exact factors which were operating during the accident. Incorrect information rendered by patients on drug/alcohol or helmet use due to fear of punitive action can be a problem in such studies but the patients were taken into confidence for giving the correct information. The data was collected regarding RTA from emergency wing of the tertiary care hospital BPSGMC(W), Khanpur kalan, sonepat and Microsoft excel& SPSS(ver. 20) was used for data analysis.

Table 1: Characteristics of the study subjects (n=140)

Characteristics	Frequency	Percentage
Sex		
Female	19	13.6
Male	121	86.4
Education		
Not literate	35	25.0
Middle	58	41.4
Secondary	35	25.0
Sr. Secondary	12	8.6
Type of family		
Joint	101	72.1
Nuclear	39	27.9
Marital status		
Married	116	82.9
Unmarried	24	17.1
Habit		
Alcoholic	23	16.4
Alcoholic/Smoker	25	17.9
Smoker	31	22.1
None	61	43.6

Table 2: Distribution of Accident Cases as per experience

Exp in year	Number	%age
No Experience	54	38.57
2-4 Year	27	19.29
4-6Yrs	26	18.57
6-8Yrs	15	10.71
8-10Yrs	7	5.0

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10-12yrs	3	2.14
12-14Yrs	3	2.14
14-16Yrs	2	1.42
16-18Yrs	2	1.42
>18Yrs	1	0.71

Table 3. Distribution of Accident Cases as per type of vehicle

Type of vehicle	n (%)
2 wheeler	84(60.0)
3 three wheeler	4(2.86)
4 wheeler	52(37.14)

Table 4: Distribution of accident cases as per site of injury

Site of injury	n (%)
Leg	47(33.57)
Head	42(30.0)
Arm	30(21.43)
Shoulder	11(7.86)
Back	4(2.85)
Chest	6(4.28)

Results

There is a high percentage of RTA among males (86.4%) and having high speed (>80km/hr) of two wheeler was 78%. More than 80% accident cases were two wheelers. The most common site of the RTA was found at state highway (70%). The commonest type of injury seen in RTA is fracture and the most common site of is lower limb, Alcohol consumption, poor maintenance of the vehicle and no experience of driving were important risk factors identified for accidents.

Conclusion

Implementation of speed management program i.e. to match speeds to conditions, warn drivers of changes, and then enforce posted limits to reduce speeding related accidents (Speeding, the most influential human error contributed of the road accidents).Rulemaking, educating road users the concept of right of way, strict law enforcements to inculcate the practice of right of way among road users and stop rule breaking practices. Public awareness campaigns educating the consequence of distracted driving, stringent rules against mobile driving, incorporating advanced vehicle technologies and improved road engineering to reduce RTA.

Acknowledgement: Nil

Ethical Clearance: Ethical committee BPS Govt. Medical College Khanpur Kalan, Sonepat

Source of Funding: Self

Conflict of Interest: Nil

References

1. World Health Organization. Global status report on road safety 2018.
2. Ministry of Road Transport and Highways Government of India. Road Accidents in India–2017. New Delhi. 2018. www.morth.nic.in. Accessed 12 March 2019.
3. Indian Council of Medical Research, Public Health Foundation of India, Institute for Health Metrics and Evaluation. India: Health of the Nation's States. New Delhi: The India State-Level Disease Burden Initiative; 2017.
4. Park K, Park K. Accidents and injuries. Park's Textbook of Preventive and Social Medicine. 25th ed. Jabalpur: Banarasidas Bhanot and Company. 2019:
5. Kakkar R, Aggarwal P, Kakkar M, Deshpande K, Gupta D. Road traffic accident: retrospective study. Indian Journal of Scientific Research. 2014 Jul 1:59-63.
6. Chandrasekharan A, Nanavati AJ, Prabhakar S, Prabhakar S. Factors impacting mortality in the pre-hospital period after road traffic accidents in urban India. Trauma monthly. 2016 Jul;21(3).
7. Singh P, Lakshmi PM, Prinja S, Khanduja P. Under-reporting of road traffic accidents in traffic police records-a cross sectional study from North India. International Journal of Community Medicine And Public Health. 2018 Jan 24;5(2):579-84.
8. Mallikarjuna GP, Latha GS, Babu VDV, Thejraj HK. Prevalence of road traffic accident in children: retrospective study in tertiary centre. Int J Contemp Pediatr 2017;4:477-81.
9. Kohli G, Aathi MK, Sethi M. Road Accidents among Adolescents. Journal of Asia Pacific Studies. 2013 Dec 1;3(2).
10. Elango S, Ramya AB, Renita A, Ramana M, Revathy S, et al. (2018) An Analysis of Road Traffic Injuries in India from 2013 to 2016: A Review Article. J Community Med Health Educ 8: 601. doi:10.4172/2161-0711.1000601.