

Patterns Of Road Traffic Accident At Emergency Department Of Patan Hospital

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ABSTRACT

Introduction: Road traffic injuries are a major cause of death and disability globally.^{1,2} Road traffic injuries kill about 3000 people and 30000 are injured and disabled for life every day.³ Road traffic injuries are currently ranked ninth globally, and the ranking is projected to rise to third by 2020.⁴ In fact, road traffic injuries alone ranked as the number one cause of the burden of disease among children between 5-14 years in 2000.⁵ Report from WHO says fifty percent of the injuries occurred in the 15-44 years age group with the male to female ratio 3:1.⁶

In Nepal, as per estimates of morbidity and mortality for 1988-1999, injury contributed 9% to total mortality.⁷ Road traffic injures in developing counties mostly affect pedestrians, pass-engers and cyclists.⁸ The reasons for the high burden of road traffic injuries in developing countries are: growth in the numbers of motor vehicles; poor enforcement of traffic safety regulations; .⁸ This study was done to evaluate the pattern of Road traffic accident, visited in Emergency department Patan Hospital.

Methods: This is a prospective and descriptive study which was done at Patan Hospital. All casualties presented to Emergency department due to RTA were included in Study.

Results: Most common vehicle involved in Injury was Motorcycle and Microbus. Male population was most affected and most vulnerable age falls on 11-30 years of age.

Conclusion: Road traffic accidents are increasing and it mainly affects to young and adult age groups. Effective measures need to implement to minimize road traffic accidents.

Key words: Accident, Road traffic accident (RTA), vehicles, victims, mortality,

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INTRODUCTION

Road traffic injuries kill about 3000 people and 30000 are injured and disabled for life every day.³ Developing countries account for 90% of global road traffic deaths. In Nepal, as per estimates of morbidity and mortality from 1988 to 1999, injury contributed 9% of total mortality. Road traffic accident was the third leading cause of injury. This occupied eighth position in overall ranking of mortality and morbidity. The epidemic of road traffic injuries in Nepal is still in its early stage. However, it threatens to grow exponentially unless immediate action is taken.⁴

Road traffic injuries alone ranked as the number one cause of the burden of disease among children between 5-14 years in 2000.⁵ Report from WHO says fifty percent of the injuries occurred in the 15-44 years age group with the male to female ratio 3:1.⁶

Road traffic injuries and deaths caused by motor vehicles is a growing public health problem all over the world. Inter-country or regional differences in the pattern of injury by road users have significant implications in determining prevention policies.

METHODS

This is a descriptive and hospital based study which was done in this hospital during 2 months duration from Bhadra to Asoj of 2065 (AUG-OCT 2008). All the casualties, who presented to emergency department irrespective of age, sex and religion due to RTA were included in this study. A standard form was developed and filled to each patient. Verbal consent was taken before filling the form. Data were collected round the clock during 2 months. Injury which was occurred during repair of vehicles, playing with the vehicles, and change of parts of vehicles were excluded from study.

RESULTS

Total number of patients during 2 months were 164. Among them male were 102 and female were 62

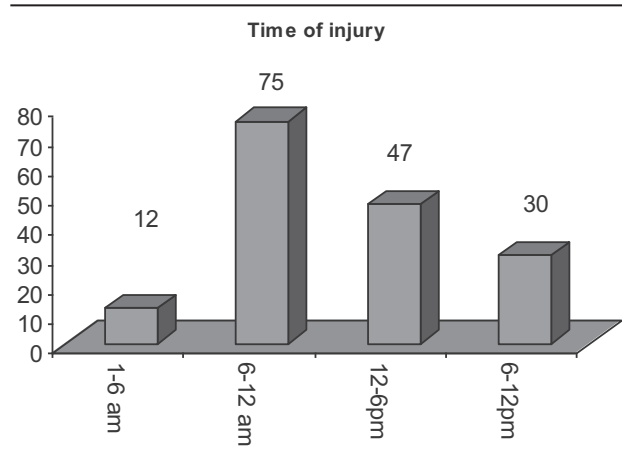


Figure 1: Age of victims

Most of the victims fall on productive age group (in between 11-49 years)

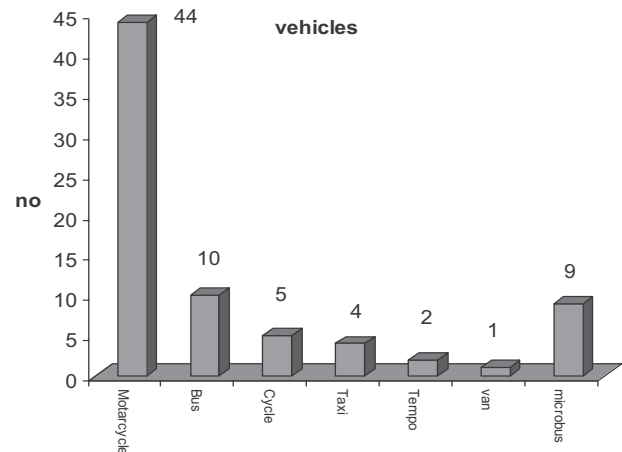


Figure 2: Vehicles in accident

Among all kinds of Vehicle Motorbike is the most common Vehicle sustaining in the accident

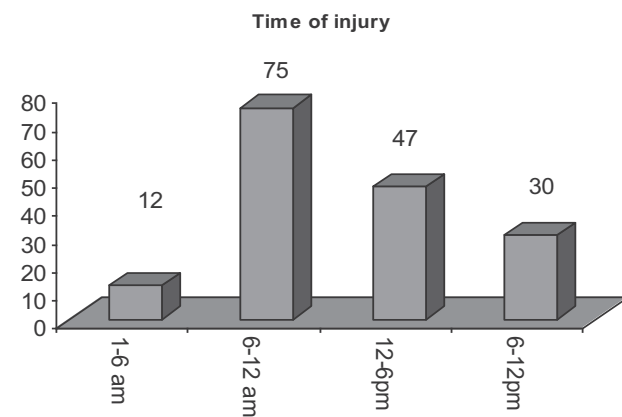


Figure 3: Time of injury

Most of the RTA happened during morning from 6 am to 12noon

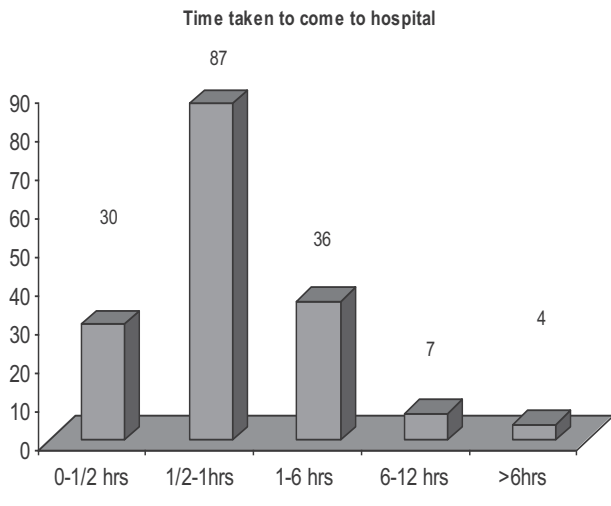


Figure 4: Time taken to reach emergency department from the site of incident

Most of the patient arrived for treatment in ER within ½ hrs to 1 hrs after injury

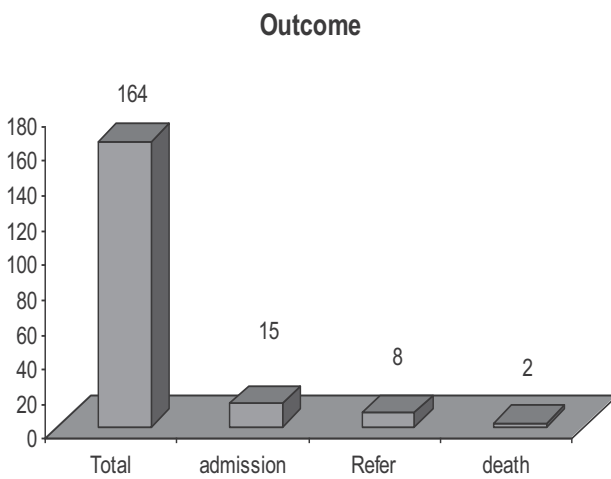


Figure 5: This figure shows outcome of the victims

Most of the victims went to home after treatment.

Most of the injury occurred at Gwarko, Kumaripati, and Satdobato and Bhattedada In bhattedada one Bus sustained accident, causing injury to all of passengers

DISCUSSION

Road traffic injuries (RTIs) are a leading cause of morbidity, disability and mortality in less developed countries. Globally in 2002, 1.2 million deaths resulted

from RTIs, and about 10 times that were injured. RTIs are often preventable, and the technology and knowledge to achieve success in this area exist. In spite of this, it is projected that given the current trend and without adequate intervention, RTIs will rank third of all major causes of morbidity and mortality globally by 2020.⁹ Although > 85% of the global deaths and injuries from road traffic crashes occur in less developed countries, traffic safety attracts little public health attention in these nations, due in part to a plethora of other equally important problems, including infectious diseases. Unfortunately, the public health and economic impact of traffic-related injuries and disabilities can be incalculable in these countries, owing to their poorly developed trauma care systems and nonexistent social welfare infrastructures to accommodate the needs of the injured and the disabled.⁹

The number of patients visiting to our emergency department related to RTA counts 82/month. The no of RTA patient/month as shown from eastern Nepal is similar to us and counts 73/month.⁶ Kathmandu Medical teaching hospital, Sinamangal has 63 victims/month related to RTA.¹⁰This data is more or les similar to data of our hospital. An epidemiological study of RTA done by Agnihotri AK, Joshi HS in a hospital from western Nepal had found 19 RTA patients admitted per month¹¹

This study shows predominance of male patients among all victims. Among 162 patients, male victims were 102 .i.e. 88% among all patients. Nilamber Jha and Chandra Shekhar Agrawal in their study also found predominance of male sex.They found 76 % male victims among all victims⁶ Hyder AA, Amach OH et al in their study found similar report of predominance of male sex among all victims. They had reported 80 % male sex among all victims.¹² Roudsari BS, Sharzei K, Zargar M. found highest men/women ratio 16/1 for motorcyclists, while the lowest ratio 1/1, was for rear seat car passengers.¹³ Study from Kenya also shows male predominance in RTA.¹⁴

This study shows 52% victims falls on productive age group (86 patients out of 164).This is significant loss for the community as well for the institution in which they are attached. Banthi P. et al form KMC found 49.93% casualties belonging to 21-40 years age group¹⁰ Dulal P and Khadka SB in their study found, most vulnerable age group to get involved in the crashes was the 15 to 45 year group, which is also the working age group.¹⁵One report from Africa shows, most vulnerable age groups for RTA were young adults aged between 20 and 30 years.¹⁴

This study shows, most common vehicle, which is found related to RTA, is Motorcycle. It was found in 26% incidents

of RTA. A study from east Nepal showed, involvement of Motorcycle in 33% cases of RTA.⁶ Fernando J et al in their study found two-wheeled motor vehicles in 42% cases of RTA.¹⁶ Banthia et al from Kathmandu medical college found motorcycle in 55.09% cases of incident¹⁰

Thus our data in relation to motorcycle is similar with some data and differs with some of them. But it is the most common vehicle as shown by different studies, which is found in RTA.

According to our study, majority RTA occurred during morning time, from 6 am to 12 am. 75 out of 164 RTA .happened (46% RTA) during this period. In contrary to this, study from Kathmandu Medical College found most injuries occurred in between 12 to 6 pm.¹⁰Harman Singh and SK Dhattarwal found most accidents happened during winter season and in between 8-10am (15%), 6-8pm (25%) and 12-2 pm (13.1%).¹⁷ Nilambar Jha, D.K. Srinivasa et al from India found, found highest number of RTAs in between from form 4 PM to 5 PM (46; 8.9%) and from 6 PM to 7PM (38; 7.3%).¹⁸ Report from Delhi says that, more than 60% of accidents took place in the day time (6 AM to 6 PM).¹⁹.Dulal et al found two thirds of the victims came between midday and midnight.¹⁵

In Nepal, injuries on roads, at homes, and in the workplace have increased due to lack of safety-related policies and programmes. The health sector in these countries bears the maximum brunt in terms of provision of acute care, and short-term and long-term rehabilitation service.

CONCLUSION

Road traffic accidents are increasing and it mainly affects to young and adult age groups. Effective measures need to implement to minimize road traffic accidents.This study is of short duration and mainly hospital based. It is necessary to do study of long duration and as well community based to generalize these data, which were obtained in this study

REFERENCES

- Murray C, Lopez A. The global burden of disease. Vol 1 Cambridge, MA: Harvard University Press, 1996.
- Krug E, ed. Injury: a leading cause of the global burden of disease. Geneva: WHO, 1999. www.who.int/violence_injury_prevention/index.html
- Jha N. Road traffic injuries: and emerging problem in Nepal. J Nepal Med Assoc. 2005 Oct-Dec; 44(160):156-9.
- Gyanendra Sharma, Madan Upadyay, Sawat Ranabaat. The challenge of Road traffic injury in South East Asia: Moving beyond Rhetoric. Regional Health WHO South east Region. Vol 8,Nov 1,2004
- World Health Organization, Regional office for South –East Asia, New Delhi. Strategic Plan for injury prevention and control in South East Asia,2002
- Nilambar Jha, Chandra Shekhar Agrawal. Epidemiological Study of Road Traffic Accident Cases: A Study from Eastern Nepal. Regional Health Forum. Regional Health Forum WHO South East Region. 2004 Vol 8(1)
- Nantulya MV and Reich MR. The neglected epidemic: road traffic injuries in developing countries. British Medical Journal. 2002;324:1139-1141.
- Hazen A, Ehiri JE. Road traffic injuries: hidden epidemic in less developed countries. J Natl Med Assoc. 2006 Jan; 98(1):73-82.
- Agnihotri AK, Joshi HS.,.Pattern of road traffic injuries: one yearHospital-based study in Western Nepal. Int J Inj Contr Saf Promot. 2006 Jun; 13(2):128-30
- Hyder AA, Amach OH, Garg N, Labinjo MT. Estimating the burden of road traffic injuries among children and adolescents in urban South Asia. Health Policy. 2006 Jul; 77(2):129-39.
- Roudsari BS, Sharzei K, Zargar M. Sex and age distribution in transport-related injuries in Tehran. Accid Anal Prev. 2004 May; 36(3):391-8
- Odero WO, Kibosia JC. Incidence and characteristics of injuries in Eldoret, Kenya. East Afr Med J. 1995 Nov; 72(11):706-10
- Dulal P, Khadka SB. Victims of road traffic crashes attending the emergency department of Kathmandu Medical College Teaching Hospital. Kathmandu Univ Med J (KUMJ). 2004 Oct-Dec; 2(4):301-6.
- Fernando J, Plasència A, Ricart I, Canaleta X, Seguí-Gómez MMotor vehicle injury patterns in emergency-department patients in a South- European urban setting. Annu Proc Assoc Adv Automot Med. 2000; 44:445-58.
- Harman Singh and SK Dhattareal. Pattern and distribution of injuries in Fatal road Traffic Accidents in Rohatak. JIAFM, 2004:26(1)
- Nilamber Jha, DK Srinivasa et al. Epidemiological Study of Road Traffic Accident Cases: A study from south India. Indian Journal of Community Medicine Jan-Mar. 2004 Vol XXIX, No I.
- Ranganthan N, Gupta S, Raju MP. Spatial and temporal characteristics of accidents in a Metropolitan city 1991.Proceedings of International Conference on Traffic Safety 27-30 January 1991; New Delhi, India.