

ROAD TRAFFIC INJURIES: AN EMERGING PROBLEM IN NEPAL

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ABSTRACT

Road traffic injuries kill about 3000 people and 30000 are injured and disabled for life every day. Developing countries account for 90% of global road traffic deaths. In Nepal, as per estimates of morbidity and mortality for 1998-1999, injury contributed 9% to total mortality and was the third leading cause with road traffic accidents occupying eighth position in overall ranking. Therefore, 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. Here, an attempt is made to review the recent publications in this field.

Key Words: Injury, Road Traffic Injury, Road Traffic Accidents.

Road traffic injuries (RTI) are an emerging problem in the world including Nepal. Around the world, almost 16000 people die from injuries every day. Of these deaths, RTI is the number one. They kill about 3000 people and 30000 are injured and disabled for life every day. Developing countries account for 90% of global road traffic deaths, while accounting for only 20% of cars being driven worldwide. Therefore, the epidemic of road traffic injuries in developing countries is still in its early stages. However, it threatens to grow exponentially unless immediate action is taken to counter it.¹

Every year, more than 1.2 million people die in road crashes around the world and almost three quarters of these deaths (70%) occur in low-income countries. Globally, 65% of road fatalities involve pedestrians reflecting the preponderance of road fatalities in low income countries, where few vehicle occupants are involved as compared with pedestrians, motorcyclists, bicyclists and non-motorized vehicle occupants. In low-income countries an estimated 6 million road users will die and a further

60 million will be injured from road crashes over the next 10 years unless urgent action is taken.¹

It is estimated that by 2020, RTI will account for approximately 2.3 million deaths globally, with over 90% of them occurring in low and middle income countries.²

The global burden of disease due to RTI is expected to move from ninth position in 1990 to the third position by 2020.³

It is also estimated that if low and middle-income countries don't act immediately, up to 1% of a country's gross domestic product will be neutralized by RTI.⁴

Although the incidence of road traffic fatalities has reduced significantly in high income countries over the past three decades, there has been no reduction in low income countries; particularly in countries of South East Asia Region (SEAR).⁵

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Received Date : 2nd May, 2005

Accepted Date : 25th Dec, 2005

The burden of RTI has been rising rapidly in SEAR as countries are getting increasingly motorized. An estimate shows that South East Asia is the region that will experience a sharp rise (more than 144%) in road traffic deaths by the years 2020 if the current trend continues.⁶ Member countries of SEAR have been passing through a major epidemiological transition, socio-demographic changes and technology revolution during the past two decades. Countries are passing through significant urbanization, motorization, industrialization and changes in socio-economic values of the societies. Injuries on roads, at homes and in the workplace have increased due to lack of safety-related policies and programs. The health sector in these countries bear the maximum brunt in terms of provision of acute care, and short and long term rehabilitation service.

The children saved today from nutritional and infectious diseases are killed and by injuries in hundreds of thousands tomorrow. Infact, RTI alone ranked as the number one cause of the burden of disease among children between 5-14 years, and as the number three cause among those in the age group 15 to 29 years in 2000. This heavy burden at such an early age has long-term implications on the quality of life and economic of the nations.⁶

Nepal, a low-income country in the region, is facing a growing burden of RTI due to exponential growth in motorization. Although several governmental or non-governmental reports have highlighted the burden from RTI, there has been no progress towards addressing this epidemic. The lack of interest in RTI prevention has been attributed in part, to the economic situation, namely the lack of government resources to invest in road safety.

As per the Annual Report of the Department of Health Services Nepal, falls, burns and scalds and dog bites were reported in large numbers. Injuries comprised 2% of hospitals admissions, occupying the ninth leading position. They also accounted for nearly 60-70% of emergency room registrations at the Bir Hospital (an apex hospital in the country). Road Traffic accident (RTA) injuries were the principal (80%-90%) cause of injuries.⁷

In Nepal as per estimates of morbidity and mortality for 1998-1999, injury contributed 9% to total mortality and was the third leading cause with RTAs occupying the eighth position in the overall ranking. Fifty eight percent of injuries were in the 15-44 years age group with a male to female ratio of 3:1.⁸

A retrospective study done at BP Koirala Institute of Health Sciences (BPKIHS) Dharan, Nepal has found 567 cases of RTAs.¹⁰ Among them 77.8% were males and 22.2% females. The highest percent (33.2%) of RTA victims were in age group of 20-29 years, with average age of 29 years. The maximum

percent (23.7%) of RTA victims reported in the month of June-July and lowest (4.1%) in September. Three episodes of mass trauma were reported to the emergency department of this hospital in July-October. Another study done in the same institute found 1334 RTA cases indicating 6.4% of total emergency admission in year 2000-2001.^{10,11} There were 76.7% males and 23.3% females. The highest percentage (28.6%) of RTA victims were in age group of 20-29 years. The maximum percentage (11.8%) of RTA victims reported in April –May months and lowest in July-August.

One prospective study done in two hospitals (BPKIHS, Dharan and Sunsari district Hospital, Inaruwa) during 1997-1998 has reported 870 RTA victims.^{11,12} The highest percentage (28.6%) of these cases were in the age group of 20-29 years. The laborers constituted the largest group (27.6%) involved in RTA, followed by students (24.1%). The highest percent (14.5%) of RTA victims were reported in the month of July followed by January the maximum number of accidents occurred on Sundays (30.5%) and Friday (20.0%). In this study 16.9% drivers were found to have consumed alcohol 2-3 hours prior to the accidents. Buses (31.4%), trucks (12.3%) and bicycles (11.3%) were the common vehicles involved in RTAs.

In these studies done in Nepal, the most commonly involved age group was 20-29 years. Similar observations were made by studies done in various cities of India.^{12,13} However in few studies 16-30 years and 15-35 years age groups were more involved in RTAs.^{14,15} Another study from Delhi, reported that people of the 3rd decade of age were most commonly involved in RTAs.^{16,17}

This shows that the people of the most active and productive age groups are involved in RTAs, which adds a serious economic loss to the community. Similar observations were also made by others from China and Nigeria.^{17,18} Less accident was seen in below and above the age of 20 and 49 years of age respectively. The reason may be that children are taken care of by elderly and less use of vehicles in the adolescent age group. Lower proportion of RTAs in those aged 60 and above could be due to the generally less mobility of these old people.

The accident rates were higher in male than female in all studies done in Nepal. The reason could be males are much more exposed to RTA than females in outer environment. The accidents involved more laborers and students in Nepal than other occupational groups. This was also observed by other studies.^{12,19} The reason may be that the laborers travel in trucks carrying bricks, sand and other heavy materials. It is interesting to note that the trucks were more involved in RTAs. Lack of education about driving and traffic rules were reasons for involvement of students in RTAs.

In Nepal road accidents were more common in June and July and in January. This increase in accidents may be due to rainy season in June and July and fog in winter months. The road accidents were more seen on Sunday and Friday in Nepal. The reason could be most of the office workers rushing to home on weekend Friday and again traveling for office on Sunday, as Saturday being weekly holiday in our country.

In Nepal, the pedestrians (26.6%), bicyclists (37.7%) and two wheelers drivers (33.0%) were major categories of road users involved in road accidents.¹² This is similar to any other developing countries.

Bus drivers (11.8%) were also involved in RTA in large numbers in Nepal. The possible reason for this could be that buses are the most common mode of transportation used by people. This reflects that bus occupants constituted the highest percentage (50%) of RTA victims. Alcohol products are easily available in Nepal. About 17% of the drivers were found to have consumed alcohol prior to accident. This is higher proportion than 4.6%, 8% and 14.9% reported by other.^{16,20,21} The role of alcohol in impairing driving ability is well documented which studies increases as the blood alcohol level rises. In addition, the risk of accident is higher in youngsters and elderly people for similar blood alcohol levels.²²

CONCLUSION

RTI in developing countries mostly affect pedestrians, passengers and cyclists as opposed to drivers who are involved in most of the deaths and disabilities occurring in the developed world.²³

The reasons for high burden of RTI in developing countries are: growth in the numbers of motor vehicles, poor enrolment of traffic safety regulations, inadequacy of health infrastructure and poor access to health care.²³

In Nepal, priority is still given for communicable and vaccine preventable diseases. Injury prevention and control is placed after all other National Health Programs. The national policy for injury prevention and control is still in its final stage of preparation. Separate budget for injury prevention and control is not specified. The recording and reporting is also not uniform in all hospitals and medical colleges. The RTI data are collected mainly by police and hospitals. There is always under reporting due to medico-legal problem of RTAs. Moreover, there are gaps in the proposed national traffic safety action plans, which lack clear priorities based on a strategic analysis of the situation. Alcohol, for example, appears to be a greater problem than is officially acknowledged throughout Nepal. Yet there are virtually no counter measures such as public education and anti-drunken driving campaigns, nor the legal ability to detect

drunken drivers. Worldwide experience has shown that tough but fair and targeted enforcement of measures against unsafe behaviors along with mass behavior modification and education are crucial to the rapid improvement of road safety. Regrettably, enforcement is not a high enough priority in Nepal. The implementation of aspects of road safety plans are necessary, but current allocations for road safety are inadequate and for educational programs are even more deficient.

There is lack of coordination between different ministries, departments and various line agencies working in the field of injury prevention and control including RTAs. The data are kept separately and not shared for developing immediate and future plans. Therefore, there is a need for the ministry of health to take the lead and coordinate the efforts of all agencies working for the prevention and control of RTAs & RTIs and also in road safety.

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