

Profile of RTA cases attending a tertiary health care centre in Kanchipuram district of Tamil Nadu

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Abstract

Road Traffic Accidents (RTAs) have emerged as a major global public health problem of this century and are now recognised as a veritable neglected pandemic. The problem is so severe that, by 2020, it is projected that road traffic disability-adjusted life years (DALYs) lost will move from being the ninth leading cause to the third in the world and the second leading cause in developing countries. Accidents occur not only due to ignorance but also due to carelessness, thoughtlessness and over confidence. Human, vehicular and environmental factors play a role before, during and after RTAs. Road traffic injuries are partially predictable and hence preventable¹. The World Health Organization's Global Status Report on Road Safety highlighted that more people die in RTAs in India than anywhere else in the world, including the more populous China². A better understanding of the common factors implicated in RTAs is the need of the hour owing to its dreadful nature. The present study attempts to describe the pattern of road traffic accidents and the various factors influencing it in a tertiary care hospital in Kanchipuram district of Tamilnadu.

Keywords: Road Traffic Accidents, RTA, Human factors, Vehicular factors, Environmental factors.

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INTRODUCTION

Road Traffic Accidents (RTAs) have emerged as a major global public health problem of this century and are now recognised as a veritable neglected pandemic. The problem is so severe that, by 2020, it is projected that road traffic disability-adjusted life years (DALYs) lost will move from being the ninth to the third leading cause of disability-adjusted life years lost in the world and the second leading cause in developing countries. Accidents occur not only due to ignorance but also due to carelessness, thoughtlessness and over confidence. Road traffic injuries are partially predictable and hence preventable¹. The magnitude of RTAs and fatalities in India is alarming. In 2009, 4.22 lakh road traffic accidents

and 1.27 lakh road traffic fatalities were reported¹³. These numbers translate into one road accident every minute and one road accident death every four minutes. However, this is an underestimate, as not all injuries are reported to the police¹³. A triad of human, vehicular and environmental factors play very important roles before, during and after a trauma event.¹ Therefore accidents have to be studied in terms of an epidemiological model (agent, host and environmental factors) and analyzed in relation to time, place and person distribution. The objective of this study was to find out the pattern of road traffic accidents, socio demographic profile of road traffic accident victims and antecedent factors influencing these RTAs reported to a tertiary care hospital in Kanchipuram district of Tamilnadu.

AIMS

1. To describe the pattern of road traffic accident cases reported in a tertiary care hospital.
2. To find out the various factors influencing the road traffic accidents.

MATERIALS AND METHODS

All road traffic accident cases registered and treated at Saveetha Medical College and Hospital in Kanchipuram district of Tamilnadu during the period from January

2013 to 31st July 2014 were included in the study. A total of 351 RTA victims were registered and treated in this institution during the study period of one year six months. Permission was obtained from the Institutional Ethical Committee prior to the conduct of the study. Secondary data about the cases was collected from the hospital records maintained in the emergency care department of the hospital. A structured proforma was used to collect information regarding the background characteristics, time of occurrence, injuries sustained, receipt of First-Aid, category of road user, type of vehicles involved in RTA, the type of RTA, road conditions and various other factors that influenced the road traffic accidents like alcohol consumption etc were also obtained. The data thus obtained was entered on MS excel spreadsheet and further analysis was done using Statistical Package for Social Sciences (SPSS) version-16. Descriptive statistics were calculated.

RESULTS

A total of 351 RTA victims who had reported in the emergency care department were included in the study. The minimum and maximum age of the victims was 2 and 75 years respectively. The mean age of the study participants was 31.78 years (SD ± 12.54). Most of the accidents (64.7%) occurred amongst the economically productive age group of 25 to 60 years while another 30% was reported amongst those aged less than 25 years. Males accounted for a majority (83.5%) of the RTA victims and the rest were females. It was also found that most (59%) of the accidents had taken place during the day time (6am-6pm). Only 6.3% accidents were reported to have taken place between 12am – 6am. Almost 60% of the RTAs had taken place in urban areas when compared to rural areas. Among the victims only 16.5% gave a history of having consumed alcohol within 6 hours before the RTA, whereas the rest had not consumed. Most (73.8%) of the victims reported that the road on which the RTAs took place was tarred. Bumpy type of roads was reported by 24.2% victims. Absence or inadequacy of lighting at the site of accident was reported by 35%. 26.2% victims did not carry any license. Among the 281 two-wheeler users, only 58 (20.6%) wore a helmet when they were injured whereas a relatively higher proportion of them 223 (79.4%) did not wear any helmet. Among light motor vehicle (LMV) users (47 of 351) only 8 (17.02%) used seat belt. Immediate help soon after the accident was not available to an overwhelmingly large number of the victims (83%). Only 8.3% were brought to the hospital by ambulances and another 3% by police vehicles while the remaining victims were brought by other means of transport which included two wheelers. Nearly, 33% victims reported that it had taken more than

1 hour to reach the hospital from the time of accident. Majority of the victims 295 (84%) had soft tissue injuries, 8% reported fractures, 6.3% head injuries and the rest had visceral injuries. 152 (43.3%) victims were injured due to fall from vehicle as shown in figure 1 below.

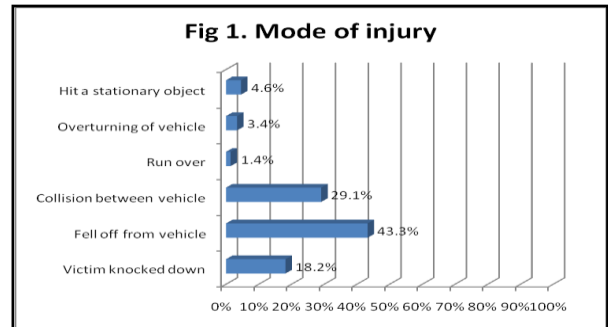


Figure 1: Mode of injury

DISCUSSION

The present study was conducted in a tertiary care setting viz. Saveetha Medical College and Hospital, found that most of the accidents occurred among the economically productive age group and majority (83.5%) involved were males. The implications of injury to this particular demographic are significant and societal costs not only include the cost of healthcare but also the cost of loss of economically productive days³⁻¹⁰. The fact that males are at a higher risk of RTA than women can be attributed to their greater exposure to traffic and more risky behavior than females such as hanging on the side of buses, running to catch a bus, aggressive driving, impatience, lack of attention, drinking alcohol prior to driving, careless attitude etc. Socio-demographic profile of RTA victims revealed that they came almost equally from rural and urban background, majority being illiterates. The finding that relatively poorly educated individuals were more likely to get into traffic accidents may be due to lesser levels of awareness and exposure about the traffic rules and safety measures amongst them. Considering the time of the day when RTAs commonly occurred, most of the accidents had taken place in the day time (6am-6pm). Our results are similar to the study done in Nagpur by Ganveer B G³ and a study done in Delhi by Malhotra C¹⁰ which reported that accidents mostly occurred during the daytime. A study done in Nepal⁵ was also similar wherein majority of the accidents were reported to occur between 3:00 pm to 7:00 pm followed by 7 am to 11 am. It was found in this study that majority of the RTA cases had 295 (84%) soft tissue injuries. This could be due to the fact that most of the severely injured cases are mostly shifted to government hospitals nearby while only those with minor injuries might have reported in the casualty of this hospital. Among the victims 16.5% gave a history of having consumed alcohol within 6 hours before the RTA,

whereas 83.5% of them had not consumed. Likewise, a study reported by Jha N *et al*⁴ had reported a similar finding (16.8%). Such lower levels in our study may be due to either an under reporting of alcohol consumption owing to fear of punishment by law or may be due to the fact that most RTAs took place during the daytime and victims may not have consumed alcohol. However, various other studies (Patil SS⁷ 29.5%, Mishra B⁵ 46.4%) from India had reported a much higher levels. Considering the road conditions, the present study showed most (73.8%) of the victims had reported that the road on which the RTAs took place was tarred. One of the reasons for such levels could be due to the proximity of the tertiary care hospital to the national highway which is mostly tarred. In a study done in Haryana by Abhishek Singh *et al*¹, 84.41% victims also had reported that the road on which the RTAs took place was tarred similar to our study. 35% of the victims reported absence or inadequacy of lighting at the site of injury. This again could be explained due to the fact that most RTAs took place during the day hours in our study. Among the 281 two-wheeler users only 58 (20.6%) of them wore a helmet when they were injured whereas a very high proportion 223 (79.4%) did not wear a helmet in the present study. Likewise, the proportion of LMV users wearing seat belts was also less (17.02%) in our study. This reveals the poor implementation of rules as well serious lack of awareness about importance of wearing helmet/ wearing seat belts among the victims and the public in general. Several studies had found higher percentages of those who wear helmet/ seat belt viz. Bangalore and Pune¹¹ (75%), in Nagpur⁶ (74%), in Haryana⁹(100%) of India.¹²

CONCLUSION

Accidents don't just happen; they are caused. Most of the times the factors responsible for accidents are attributed to human failure and many of the psychological circumstances in which accidents occur are still poorly known. The study highlighted the several factors involved in the occurrence of road traffic accidents especially the low awareness about the safety measures, lack of experience of drivers, improper roads with poor lighting, high speed and the need of compulsory implementation of helmet wearing for motorcyclist, seatbelt for car users and necessitates the need for taking urgent steps for establishing ambulance services; provision of pre-hospital care as well as ensuring availability of well-trained trauma care centers and specialists to mitigate the effects of RTA. In Future accident prevention research is essential. Such research will be concerned with gathering

precise information about the human factors, environmental factors and investigating new and better methods of altering human behavior, ways to make environment safer, and evaluating more precisely the efficiency of control measures.

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