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Original Research Article

Pattern of road traffic injuries among individuals attending a rural health training center in Tamil Nadu

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ABSTRACT

Background: Road traffic injuries (RTIs) are a leading public health problem. Approximately 1.3 million people die each year as a result of road traffic crashes as of June 2021. RTIs cause considerable economic losses to individuals, their families, and to nations as a whole. 93% of the world's fatalities on the roads occur in low-and middle-income countries. This study aimed to assess the pattern of RTIs among individuals attending a rural health training center in Tamil Nadu.
Methods: The present study was a record based cross sectional study comprising of 113 patients who attended an outpatient department in rural health training center in Tamil Nadu from January 2021 to June 2021.We collected socio-demographic data (age and sex) and pattern of injuries from the database. We entered data in excel sheet and analyzed using SPSS version 21.0.
Results: Mean (±SD) age of the patients was 34.2(±18.46) years. Most common pattern of injury was abrasion 98 (86.7%), followed by contusion 28 (24.8%) and laceration 14 (12.4%) respectively. Most RTIs required dressing 106 (93.8%) while 13 (11.5%) needed suturing.
Conclusions: The present study showed that RTIs were more common in the younger male population. Abrasion was the most common type of injury reported.

Keywords: Injury pattern, Road traffic accident, RTIs, Rural health center

INTRODUCTION

Road traffic accidents (RTAs) are a major cause of death and injury and an increasing public health problem globally. Approximately 1.3 million people die each year as a result of road traffic crashes as of June 2021. RTIs cause considerable economic losses to individuals, their families, and to nations as a whole. These losses may be associated with cost of treatment, loss of productivity and valuable working time for victims and relatives, loss of skilled labour force, and loss of school hours.[1] The 93% of the world's fatalities on the roads occur in low-and middle-income countries. Importantly, evidence suggests that the current and projected burden of road traffic deaths varies considerably by country and by regions within countries, with a disproportionate number occurring in low-and middle-income countries.[2] Deaths and injuries due to RTAs are preventable. A wide range of effective road safety interventions exist and a scientific systematic approach to road safety is essential to tackle the problem.[3]

Furthermore, about 60% of the DALYs lost globally as a result of road traffic injury occurs amongst adults of productive age, between 15- 44 years.[4] Half of all road traffic deaths are among pedestrians, cyclists, and motorcyclists, and adults aged between 15 and 44 years which accounts for 59% of deaths. Nearly 10%-30% of

hospital registrations are due to RTIs and a majority of these people have varying levels of disabilities. A majority of victims of RTIs are men in the age group of 15-44 years and belong to the poorer sections of the society.[5]

There is marked variation across the world in the way that roads are used and injuries are caused, which have important implications for road safety policy and practice. High rates of RTIs in the world due to risk factors such as speed and alcohol, and exacerbated by inadequate enforcement of traffic safety regulations and public health infrastructure.[6] Several factors account for this high spate of use of commercial motorcycles for transportation. These factors include inadequate mass transport system, bad roads, and traffic congestion among others in developing countries.[7] The pattern of injuries varies with the type and the speed of the vehicle, the position of the victim in the vehicle, the use of the protective gadgets, and whether the victim is a pedestrian. Trauma victims, who deserve immediate attention, do not get the priority because of a lack of funds, lack of administrative focus on the problem, lack of infrastructure, initiative, and vision.[5] Very few local studies are available on the epidemiology and pattern of injuries in RTAs.[8] This study aimed to assess the pattern of RTIs among individuals attending a rural health training center in Tamil Nadu.

METHODS

The present study was a record based cross sectional study comprising of 113 patients who attended an outpatient department in rural health training center (RHTC) in Tamil Nadu from January 2021 to June 2021. RHTC is the only health facility in that area along with government primary health center (PHC) in the surrounding 15 km. All minor treatments including suturing and dressing are done. We collected socio-demographic data (age and sex) and pattern of injuries from the database. We entered data in excel sheet and analyzed using SPSS version 21.0. Proportion and percentage were used to describe the demographic and pattern of injuries.

RESULTS

Among 113 patients of RTIs, maximum were males 83 (73.5%) and the rest 29 (25.6%) were females. Mean (±SD) age of the patients was 34.2(±18.46) years. Distribution of patients according to age is described in Figure 1. Majority of them belonged to the age group 31-40 years, 27 (23.8%). During the study period, maximum RTIs were reported in the month of February, 32 (28.3%). Most common pattern of injury was abrasion 98 (86.7%), followed by contusion 28 (24.8%) and laceration 14 (12.4%) respectively. Distribution based on the pattern of injury is mentioned in Table 1. Most RTIs required dressing 106 (93.8%) while 13 (11.5%) needed suturing. Distribution based on treatment required by patients is mentioned in Table 2.

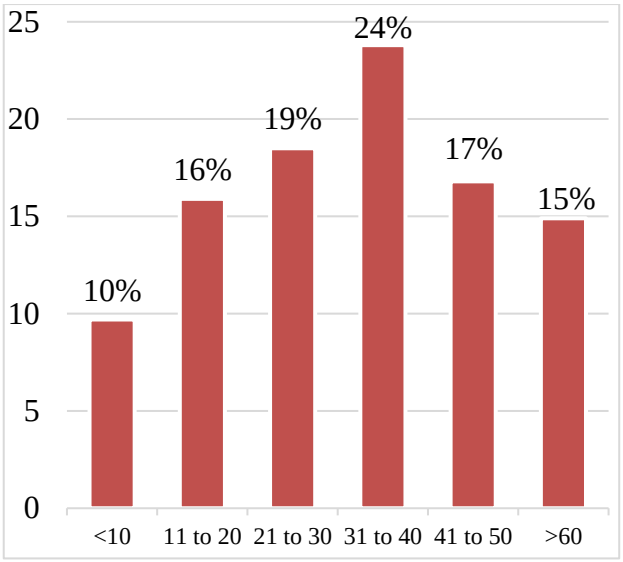

Figure 1: Distribution of patients according to age.

Table 1: Distribution based on injury pattern, (n=113).

Injury pattern	Number of patients*(%)
Abrasions	98 (86.7)
Contusions	28 (24.8)
Lacerations	14 (12.4)

*Multiple.

Table 2: Distribution based on treatment required by patients, (n=113).

Treatment required	Number of patients (%)
Dressing	106 (93.8)
Suturing	13 (11.5)

DISCUSSION

In this study, RTIs were found to be more common in the younger male population. Study conducted by Ul Baset et al and Jha et al showed that RTIs were significantly higher among males compared to females.[9,10] Similar observations were also reported in other studies.[4,8] High occurrences of motorcycles crashes among this group have been attributed to a wide range of activities engaged in high risk-taking activities such as recklessness riding, over-speeding and overloading their motorcycles, riding under the influence of alcohol and riding without wearing any protective gears.[11] Similar studies conducted by Jain et al have shown that majority of the victims were in the age group 18-44 years.[12] This enhances a serious economic loss to the country, thereby affecting the growth of the county.

Study conducted by Balaji et al have found that 51.2% victims had mild injuries followed by moderate injuries.[13] The primary occupation of most of residents of rural communities is related to agriculture and many of them over load their vehicles with goods and products. This

kind of transportation requires more space, and they usually move in an undisciplined manner which makes them a high-risk group for RTAs.[14]

Limitations of our study includes small sample size and non-inclusion of major accidents which were referred to higher centers, which limits the generalization of the results.

CONCLUSION

RTIs are preventable. RTIs pose a major threat to the well-being of society, in particular young adult males. The present study showed that RTIs were more common in the younger population with male preponderance. Abrasion was the most common type of injury reported.

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REFERENCES

1. Road traffic injuries. Available at: https://www.who.int/news-room/fact-sheets/detail/road-traffic-injuries. Accessed on 2021, July 15.
2. Rad M, Martiniuk ALC, Ansari-Moghaddam A, Mohammadi M, Rashedi F, Ghasemi A. The Pattern of Road Traffic Crashes in South East Iran. Glob J Health Sci. 2016;8(9):149-58.
3. Gupta GK, Rani S, Kumar R, Priyedarshi P, Singh B. Incidence and pattern of road traffic injuries in tribal population of Jharkhand: One-year study in a tertiary care teaching hospital. J Fam Med Prim Care. 2020;9(10):5223.
4. Mahajan N, Aggarwal M, Raina S, Verma LR, Mazta SR, Gupta BP. Pattern of non-fatal injuries in road traffic crashes in a hilly area: A study from Shimla, North India. Int J Crit Illn Inj Sci. 2013;3(3):190-4.
5. Gururaj G. Road traffic deaths, injuries and disabilities in India: current scenario. Natl Med J India. 2008;21(1):14-20.
6. Al-Thaifani AA, Al-Rabeei NA, Dallak AM. Study of the Injured Persons and the Injury Pattern in Road Traffic Accident in Sana'a City, Yemen. Adv Public Health. 2016;2016:e4138163.
7. Makama. Community-based study of road traffic accident among Almajirai in Zaria. 2016;5(2):48-58.
8. Shamim M. Pattern of Injuries from Road Traffic Accidents Presented at a Rural Teaching Institution of Karachi. Indian J Surg. 2017;79(4):332-7.
9. Ul Baset MK, Rahman A, Alonge O, Agrawal P, Wadhwaniya S, Rahman F. Pattern of Road Traffic Injuries in Rural Bangladesh: Burden Estimates and Risk Factors. Int J Environ Res Public Health. 2017;14(11):E1354.
10. Jha N, Srinivasa D, Roy G, Jagdish S, Minocha R. Epidemiological Study of Road Traffic Accident Cases: A Study from South India. Indian J Community Med. 2004;8(1):15-22.
11. Sisimwo PK, Mwaniki PK, Bii C. Crash characteristics and injury patterns among commercial motorcycle users attending Kitale level IV district hospital, Kenya. Pan Afr Med J. 2014;19:296.
12. Jain A, Menezes RG, Kanchan T, Gagan S, Jain R. Two-wheeler accidents on Indian roads-a study from Mangalore, India. J Forensic Leg Med. 2009;16(3):130-3.
13. Satti S, Nagaraj K. Injury pattern among road traffic accident cases at community health centrer Chevella: A Hospital based study. 2015;5(7):8-13
14. Farooqui JM, Chavan KD, Bangal RS, Syed MMA, Thacker PJ, Alam S et al. Pattern of injury in fatal road traffic accidents in a rural area of western Maharashtra, India. Australas Med J. 2013;6(9):476-82.

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