Assessment of Epidemiological Causes, Occurrence and Allocation Resulting to Fatality in Two Wheeler Fortuitous Accidents in Uttar Pradesh

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Abstract

Introduction- This study is intended to construe epidemiological causes, occurrence and allocation resulting to fatality in two wheeler fortuitous deaths.

Materials and Method- This observational and cross section study, among the medico-legal autopsies conducted in the study Centre, includes motorized and non-motorized two wheeler associated accidental deaths. It was too assessed to identify the individual, automobile and road issues originating accidents. All findings pertaining to the bodies including wounds were thoroughly observed at autopsy and well interrelated with pat instances.

Results- Two wheeler fatalities in males were found to be considerably much elevated (91.66%) than females The fatalities percentage in male were recorded as 91.66% whereas in females, it was only 8.33%. The entire victims were in the age group of 20 to 29 years (35%). The preponderance of the victims belonged to the city population which comprised of 48% of the total size. Working and business group individuals were 28%. National highways share maximum numbers of fatalities (37%) whereas roads in villages have comparatively less accidents (13%).

Conclusion- Road traffic accidents are very frequent in the riders of young age group which is also a huge loss to the nation.

Keywords- *Epidemiological, occurrence, Road traffic accidents, medico-legal autopsies, two wheeler*

Introduction

Road traffic accidents (RTA) are worldwide a great concern as about 3400 people die every day due to them. The predicted figures of such cases are even more devastating as they are expected to be around 1.9 million every year by the year 2020.[1] The numbers of losses due to RTA are very high in low and middle income nations which almost covers 90% of worldwide fatalities. On the contrary , countries having 60% of world's automobile assets have very less number of such cases.[2] Developing countries comparatively have major numbers of causalities due to Road traffic accidents (RTA) . Two wheelers motor vehicles are major responsible factors for road traffic. Consequently, two wheeler riders are more likely to fall prey to the road accidents. Other than motorcycle users, usual amblers and cyclists too are at risk of road traffic accidents as they are at the directly exposure of the impacting vehicle at the time of collision.

Worldwide increasing RTAs are very much disquieting for all. Despite massive progress and insinuation of advanced technology in medical sciences, the increasing causality and deformity rates occurring due to the road traffic accidents are yet to be controlled.

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Rather incidences of R T A have been increasing at an alarming rate throughout the world. Road traffic accidents could be controlled with a strategic planning resulting from the outcomes of this study. Asia-Pacific region[3] alone have almost half of the total road accident fatalities occurring in developing countries which ranges up to 85% of the total accidents recorded globally. India covers about 10% of it. RTAs happen due to certain responsible factors which involve increasing load of traffic and automobiles on roads, rash driving ,public in general, over speeding, unskilled driving, poor traffic knowledge, exhaustion due to long driving, mechanical breakdown, pitiable road conditions, infringement on roads, road rule defiance etc. [4] Poor weather conditions too could be responsible for road traffic accidents. In India, Bangalore is recorded to have an adverse rise in road traffic accidents ensuing from escalating populace and traffic on roads. Even RTA cases of two wheelers are very high in numbers in Uttar Pradesh Region. Apparently these accidents seem to be ignored by responsible bodies.

Therefore, this study is intended to construe epidemiological causes, occurrence and allocation resulting to fatality in two wheeled vehicle fortuitous demises.

Materials and Method

The practice was carried out at Teerthanker Mahaveer Medical College and hospital from 1st April to 31st March 2018, this observational and cross section study, amongst the medico-legal autopsies conducted in the study centre, includes motorized and non-motorized two wheeler associated accidental demises.

Despite the progression of technology and medical sciences, demises and deformities following road traffic accidents are yet to be controlled. Prevalence of RTAs is mounting at a frightening pace throughout the globe. At the very start of the study, the diverse features of RTA death victims autopsied in the department of Forensic Medicine, TMMC and RC Moradabad were taken into consideration for further findings and analysis. A premeditated arrangement could definitely be ensured to prevent road-traffic accidents with the findings of this study. Furthermore, it was too assessed to identify the individual, automobile and road issues originating accidents. All findings pertaining to the bodies including wounds were thoroughly observed at autopsy and well interrelated with pat instances. The study eliminates RTA deceases causing apart from two wheeled automobiles; accidents and gashes caused without vehicles, and unproven cases.

Statistical Methodology

Statistical Software Package SPSS version 20 was used for analysis in the study. Statistical study was exercised for occurrences, amounts, proportions and quotient. Outcomes were construed.

Results

On the whole, 610 medico-legal autopsies were performed in the study centre during the calendar year 2018.Out of the total numbers, 287 are RTA incidents and 120 are solely two wheeler associated RTA deaths.

However, this study involves 120 cases of road traffic accidents. The numbers of selected males for the study were 110 that are approx 91.66% of the total sample size and the rest 10 were of females comprising 8.33% of the cases selected. Subsequently, male/female ratio was about 6.91:1 [Table 1].

Table 1: Sex wise distribution

Sex	No. of cases	Percentage (%)
Male	110	91.66
Female	10	8.33
Total	120	100

Two wheeler fatalities in males were found to be considerably much elevated (91.66%) than females The fatalities percentage in male were recorded as 91.66% whereas in females, it was only 8.33%. The entire victims were in the age group of 20 to 29 years (35%). The preponderance of the victims belonged to the city population which comprised of 48% of the total size. Working and business group individuals were 28%. National highways share maximum numbers of fatalities (37%) whereas roads in villages have comparatively less accidents (13%). Age and sex allocation of cases are being displayed in table2. It is quite evident in table that the rate of recurrence of two wheeler accidents was higher in Males (59%) and common in 20-29 (35%) year's age group.

Table 2: Age and gender wise distribution of cases

Age group (yrs)	Male	Female
0-9yrs	3(3%)	2(2%)
10-19yrs	9(8%)	6(5%)
20-29yrs	20(17%)	15(13%)
30-39yrs	15(13%)	12(10%)
40-49yrs	12(10%)	5(4%)
50-59yrs	8(7%)	6(5%)
>60yrs	4(3%)	3(3%)
Total	71(59%)	49(41%)

Table 3 indicates the place of incidence. It displays that occurrence of two wheeler accidents was higher in urban vicinity (48%) in comparison to the rural (23%) and semi urban (24%) areas.

Table 3: Domicile distribution of cases

Domicile	Cases
Rural	28(23%)
Semi urban	29(24%)
Urban	58(48%)
Unknown	5(4%)
Total	120

Table 4 exhibits the working status of fatalities. It displays that rate of recurrence of two wheeler accidents was higher in employed sufferers (28%) than unemployed victims (17%).

Table 4: Occupational status of cases

Occupational status	Cases
Unemployed	20(17%)
Employed	33(28%)
Students	28(23%)
Business	20(17%)
Agriculture & Labour	19(16%)
Total	120

Table 5, indicates the types of roads where accidents took place. As stated above, national highways (37%) share bigger numbers of fatalities.

Table 5: Type of roads

Type of road	Cases
National highway	44(37%)
State highway	34(28%)
City road	18(15%)
Village road	16(13%)
Unknown	8(7%)
Total	120

Discussion

Almost half of entire RTA deaths encompass two wheeler accidents. As a result , two wheeled vehicle users and pedestrian have the uppermost rates of terminal injuries.[5,6] Two wheeler accidents are more likely to happen due to various responsible factors which include rapidly increasing numbers of vehicles on Indian roads, vehicle susceptibility, meager road conditions, and moreover unawareness and ignoring tendency of riders to road safety ,rules and traffic regulations. In comparison to females, males share major numbers of causalities. The reasons behind such statistics may incorporate the spending of major portions of time in travelling and diverse outdoor engagements by men. Subsequently they are more prone to accidents and have adverse gender proportions.[7] The most susceptible age group was identified as between 21–30 years mounting to the total numbers of 56 of total sample size (30.77%) and the slightest affected cluster was of those who were above 70 years of age as they were counted only 2 in numbers mounting to 1.10% of total size selected for the study.[8,9] However, it is mentioned as 2% according to Gupta Setal[10] & 1% by Menon A and NageshKR.[9]

One interesting point too was identified in the study. Literacy in general has been found to be playing no significant role in taking caution of accidents or casualties since a fine number of natives, who were recorded to have met with accidents which ultimately resulted in demise, were from educated backgrounds . As mentioned earlier, preponderance of accidents took place on National Highway 113 which mounts to the total percentage of 62.09%[11-13] .Though, one possible reason for such big numbers could be the recently constructed main four lane National highway fleeting through Barpeta district which is in good quality condition and hence woos riders for overspeeding resulting in accidents. Highest number of cases were recorded to be in the winter months which reaches upto the numbers of 61 amounting to the total percentage of 33.52. These figures are in consensus with Dhillon Setal[12] and Singh H and Dhattarwal SK.[13]

Timings of the accidents too were taken into consideration in the study. Maximum numbers of accidents were recorded between the peak period of 12 Noon to 6 PM. Total number of 88 cases which mounts to the percentage of 48.35% were followed by a number of 42 cases between the period of 6 AM to 12 noon figuring 23.08% of total fatalities. These findings indicate to the truth that Barpeta is under developing area and major operational hours of the natives are the day time. These finding are unfailing with the conclusion supplied by Kachre R V, Kachre VH and Asawa SS[12] .However, some dissimilarities too are observed by Biswas G, Verma S K, Sharma JJ and Aggarwal NK[14] &Ghangale AL[13] where culmination of prevalence of RTA were suggested between 6 PM to 12 Midnight.

The possible reasons for accidents on city roads, national and state highways account to the busy roads are, narrow passages in roads, heavy traffic during climax hours, inadequate or sometimes even no traffic signals at crossroads and negligence of firm implementation of road security rules. Sternness of mishap, transportation issues, scarcity of therapeutic

emergency services, inadequate and unqualified workforce and amenities in the hospitals too are some multifarious causes of incidents. Intoxicated driving too is a contributor to the accidents. Driving a vehicle under the influence of intoxication is against law as alcohol of any other intoxication weakens driving capacity of a person and echelon of mutilation is straight away related to blood alcohol assimilation.[15] Tendency of using cell phones while driving too escalates possibility of accidents. Therefore traffic laws forbid the application of such devices by drivers while riding a vehicle. Many countries have made it binding constraint on permissible age for driving, over speeding, amplification in fine and abandonment of driver's permit, graduate rider licensing, and speed control interference which have led to momentous decline in traffic accidents.[16]

Conclusion

Accidents could be toned down with improved attentiveness, utilization of road safety and shielding procedures and tutoring to the general public and susceptible highway users to abide by traffic regulations. Road traffic accidents are very frequent in the riders of young age group which is also a huge loss to the nation. Therefore, incidents of these accidental deaths has to be discouraged by providing guidance to general populac about emergency and first aid services , founding suitably prepared treating centers, adopting apposite road safety measures and by creating appropriate roads to put up the weight of escalating traffic.

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