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Correlation between deaths of riders/pillion riders of Two-wheelers in Road Traffic Accidents and various factors: A 100 cases study.

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ABSTRACT

In the present century, accidents represent a major epidemic of non-communicable disease. Among all types of accidents, morbidity and mortality is most common road traffic accidents (RTA) of two-wheelers riders. Road traffic accidents constitute complex phenomena of multiple causation. The etiological factors may be classified into two broad categories - human and environmental. Present autopsy study was conducted in the Department of Forensic Medicine, PGIMS, Rohtak, Haryana, India on 100 riders/pillion riders of two wheelers, who died in road traffic accidents. The study was conducted to know the correlation between death of riders/pillion riders of two wheeler in accidents and various factors like vehicle involved, occupation of victims, time period of accidents, duration of survival of victims after accidents, time taken to reach the hospital etc.

Keywords: Road traffic accidents, two-wheelers riders/pillion riders

INTRODUCTION

The term accident has been defined as an "occurrence in a sequence of events which usually produces unintended injury, death or property damage".[1]In the present centaury, accidental deaths are considered as a part of price human being paying for technical progress not just accidental. Urbanization and very high growth in the road transport sector leads to steep rise in the vehicular accidents in the present era. Number of accidents is increasing due to increasing population and it acts as a catalyst. It is well said that accidents do not just happen they are caused. The causes in given situation may vary since accidents are multi-factorial and hence they call for an inter-sectoral approach for both prevention of accident and care of the injured persons.

In the developing world, current trends in population, industrialization and urbanization are putting heavy pressure on transport networks in general and on road systems in particular. Formerly, in developed countries, injuries due to road traffic accidents were the leading cause of permanent disability and mortality among the population but presently, developing countries are also facing the similar problem. As per WHO report (2018), there are total 1.35 million deaths all over the world in 2016 due to road traffic accidents (RTA) and death due to injuries suffered in RTA are the 8th leading cause for peoples of all age group and particularly for children and young adults aged between 5-29 years. More than half of all road traffic deaths are among the vulnerable road users: pedestrians, cyclists and motorcyclists.[2]In India, as per NCBR report (2019), a total of 4,21,104 accidental deaths were reported among which 1,54,732 were due to RTA. Among the victims of RTA, 38.0% were riders of two wheelers followed by trucks/lorries, cars and buses which have accounted for 14.6%, 13.7% and 5.9% respectively.[3]

MATERIAL AND METHODS

The present study was undertaken in the Department of Forensic Medicine, Pandit Bhagwat Dayal Sharma Post Graduate Institute of Medical Sciences, Rohtak. A total number of 100 cases of accidental deaths of two-wheeler riders/pillion-riders in whom there was no suspicion regarding the accidental manner of death were included in the study. The cases of accidental deaths of two-wheeler riders where the circumstances regarding the manner of accident were not clear or appeared to be suspicious were excluded from the study. The information regarding the circumstances of accidental deaths of victims were gathered from the accompanying police official, police inquest papers and relatives/friends accompanying the body to the mortuary.

After thorough perusal of the inquest report and statements of the relatives/friends, the demographic profile of the victims of accidental deaths of two-wheeler riders were recorded on the proforma formulated for the study and the particulars related to the victim- name, father's name, age, sex, occupation, address, urban/rural and the factors related to the accident-place of accident, date and time of accident, type of vehicle (s) involved, probable cause of accident, any contributory factors, treatment or first aid received on the spot and the time required to reach hospital were noted.

RESULTS & OBSERVATION

Table -1: Showing Occupation-wise distribution of the cases

Occupation	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Student	32	34.8	1	12.5	33	33
Self-employed	21	22.8	0	0	21	21
Farmer	17	18.5	0	0	17	17
Labourer	11	11.9	2	25	13	13
Unemployed	10	10.9	1	12.5	11	11
Housewife	0	0	4	50	4	4
Private job	1	1.1	0	0	1	1
Total	92	100	8	100	100	100

Table -1 shows that over 1/3rd of the male victims were students, 32 (34.8%) followed by self-employed, (21, 22.8%) and farmers (17, 18.5%) whereas out of female victims, half of them were house wives and ¼ of them were labourers.

Table -2: Showing type of offending vehicle involved in two-wheeler accidents

Offending vehicle	Number	Percentage
Heavy vehicles	21	21
Car/ Jeep	16	16
Medium transport vehicles	15	15
Unknown vehicle	8	8
Motorbike	7	7
Bullock Cart	1	1
No offending vehicle	32	32
Total	100	100.0%

The above table reflects that the commonly involved offending vehicles were heavy vehicles 21%, followed by cars/ jeeps in 16% cases, medium transport vehicles in 15% cases and motorbikes in 7% cases whereas there was no offending vehicle in 32% of the cases and such accidents occurred due to skid (24%) and stray animals (7%).

Table 3: Showing time period of accident

Time Period of Accident	Number	Percentage
12:00 midnight-6:00 AM	10	10
6:00 AM-12:00 noon	28	28
12:00 noon-6:00 PM	25	25
6:00 PM-12:00 midnight	37	37
Total	100	100

The above table reflects that maximum number of accidents occurred between 6:00 PM to 12:00 midnight (37.0%), followed by 28 cases during the time period between 6:00 PM to 12:00 noon, 25 cases between 12:00 noon to 6:00 PM and 10 cases from 12:00 midnight to 6:00 AM.

Table 4: Showing time taken to reach hospital by the victims

Time taken to reach hospital	Frequency	Percentage
Brought Dead	26	26
1 Hour	29	29
2 Hours	19	19
3 Hours	10	10
4 Hours	8	8
5 Hours	8	8
Total	100	100

The table reflects that 29% cases could be brought to hospital within one hour of the accident, 19% of the cases could be brought to hospital within 2 hours of the accidents followed by 10% cases within 3 hours, 8% cases each within 4 hours and 5 hours whereas 26% of the cases were brought dead to the hospital.

Table 5: Showing time since death

Time since death	No. of cases	Percentage
0-6 Hours	5	5.0
6-12 Hours	29	29.0
12 to 24 Hours	63	63.0
24 to 36 Hours	3	3.0

The above table shows that maximum number of cases (63) was autopsied between 12 to 24 hours of death whereas 29 cases were autopsied within 6 to 12 hours, 5 cases with 6 hours and 3 cases were autopsied within 24 to 36 hours of death.

DISCUSSION

The present study has shown that the Students formed the major group of victims which were involved in 33.0% of accidents followed by self-employed (21%) and farmers (17%). This is because students are using high power motorcycles which gain high speed in a very short duration due to which the risk of accidents increases many folds. Kakeriet al[4] (2014) also observed that students were involved in maximum number of cases (36%). These findings were not consistent with the observations ofMcharo[5] (2012) in which self-employed persons formed the major group of victims involved (77.2%) while students were involved in 7.3% of the total cases.

Heavy vehicles were the most common offending vehicle involved in 21.0% of the cases in the present study. Sharma et al (2007)[6], Mcharo[4] (2012), Ravikumr[7] (2013) and Kakeri et al[5] (2014) also noted in their studies that heavy vehicles were most commonly involved vehicle in the cases of two-wheelers accidents.

Most of the cases in the present study occurred between 6:00 PM and 12:00 midnight (37.0%) with peak incidence between 6:00 PM to 9:00 PM (30%). This was followed by time period between 6:00 AM to 12:00 noon (28.0%). This is attributed to the poor road conditioning and lighting on the road, fatigue of the individual after day's work and hurry to reach destination. This observation was similar to the observation of Ravikumar[7] (2013) who reported highest incidence of accident between 6:00 PM and 12:00 midnight.Mcharo[5] (2012) and Kakeri et al[4] (2014) reported in their studies that most of the accidents occurred during day time with peak in the afternoon and between 3:00 PM-6:00 PM respectively which were inconsistent with the observations of present study.

Out of the 100 cases in the present study most of the victims (45%) takes more than 1 hour to reach hospital. 27% of victims reach within 1 hour and only 2 victims reach within 30 minutes. 26 cases (26%) were brought dead to the hospital. This was attributed to the fact that most of the accident occurred between night hours due to which more time was taken to arrange vehicle for transport of victims.Mcharo[5] (2012) observed that the majority (48.1%) of the motorcycle crash victims arrived at hospital emergency between 6-12 hours of sustaining injuries.

The period of survival after meeting with accident in this study, 63% of the victims died within 06 hours, and the majority of the victims (74%) died within 24 hours. Only 6.0% of the victims survived beyond 7 days. Meera et al.[8] had noticed that 47% of victims of road traffic accidents died on the spot, and 44% died within 24 hours.

CONCLUSION

Road traffic accident is a multi-factorial event which includes interactions by road users, vehicles and road environment. Therefore, multi-dimensional approach is needed to tackle the problem. We should follow the traffic rules; use safety equipment's and improves our road infrastructure including health care facility to reduce the morbidity and mortality.

REFERENCES

1. Park K. Textbook of Preventive and Social Medicine. 25th ed. Jabalpur: Banarasi Das Bhanot; 2019.p. 436.
2. World Health Organization. Global status report on road safety 2018. World Health Organization; 2019.
3. Accidental Deaths & Suicides in India - 2019. New Delhi: National Crime Records Bureau (Ministry of Home Affairs) Government of India; 2020. Available from https://ncrb.gov.in/en/accidental-deaths-suicides-india-2019
4. Kakeri SR, Bagali MA, Goudar ES, Qadri SY. Pattern of injuries and death sustained by the occupants of the two-wheeler during road traffic accidents. *Al Ameen J Medical Sci 2014*;7(*2*):*118-24.*
5. Mcharo B. Motorcycle crash: injuries pattern and associated factors among patients treated at MuhimbiliOrthopaedic Institute (MOI). Dissertation for Master of Medicine submitted at Muhimbili University of Health and Allied Sciences.2012.
6. Sharma BR, Gupta N, Sharma AK, Sharma S. Pattern of fatal motorized two-wheeler crash injuries in northern india: is safety helmet adequate prevention. Trends Medical Res 2007; 2:27-36.
7. Ravikumar R. Patterns of head injuries in road traffic accidents involving two-wheelers: an autopsy study.J Indian Acad Forensic Med2013;35(4):349-52.
8. Meera TH, Nabachandra H. A Study of Pattern and Injury Severity Score in Blunt Thoraco-abdominal Trauma cases in Manipal. [Last accessed on 2005]; Ind Med 2005, 5(2). Available from http://www.indmedica.com/journals.php?journalid=9andissueid=68andarticleid=865andaction=article.

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