

# Epidemiological Study of Road Traffic Accidents attending Orthopedic OPD of Ch. Rahmat Memorial Trust Hospital

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## ABSTRACT

**Aim:** To study epidemiology of Road Traffic Accidents attending orthopedic OPD of Ch Rehmat Memorial Trust Hospital From January 2015 to December 2015.

**Study design:** Cross sectional descriptive study was conducted among the cases attending Orthopedic OPD of Ch Rehmat Trust Hospital from January 2015 to December 2015

**Methods:** The information was collected from OPD register by using a preformed pretested and pre-structured questionnaire. The questionnaire consisted of different variables e.g., age sex type injury etc.

**Results:** 100 patients were recruited for study from Emergency and Orthopedics OPD of Chaudary Rehmat Ali Hospital, in which 67% are male and 33% females. Minimum age was 3 years and maximum was 80 years. Out of 100 cases of RTA, 73% conceded major injury and 27% conceded minor injury. Out of surveyed mostly injuries were abrasions, lacerations. In our survey 20% of RTA were caused by cars, 4% by buses, 37% by motor cycle, 6% by cycle, 12% by pedestrians and 20% by others. Region of body involved in RTA was following, 39% head and neck injuries, 11% trunk, 28% upper limb and 22% lower limb. In our survey, victims of RTA was as following, 22% were drivers, 5% were front seat passengers, 15% were back seat passengers, 11% were motorcyclist, 24% were pedestrians and 23% were others.

**Conclusion:** Road traffic accidents are very common in this area of Lahore and are a leading cause of death all over the world. RTAs are quite prevalent in males and less in females. It has also been concluded that problem is precipitated due to negligence and violence of rules.

**Keywords:** Epidemiology, road traffic accident, orthopaedic

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## INTRODUCTION

In every 30 seconds, someone in the world is killed in a road accident. Road traffic accidents occurring on a daily basis and the range and severity of injuries caused by road accidents is massive. Some injuries can have a short term impact on day to day life and heal soon. Many die as a result of inexperience, speeding intoxication through drink or drugs or just plain carelessness<sup>1</sup>.

An approximately 1.2 million people lose their lives in road traffic accidents every year, and another 20 to 50 million are injured. Road traffic injuries are currently estimated to be the NINTH leading cause of death across all age groups globally, and are likely to become the seventh leading cause of death by 2030. Road accidents are the second leading cause of death for people between the ages of 5 and 29 and third leading cause for people between 30 and 44<sup>2</sup>.

According to WHO Statistics data on traffic accidents in Pakistan from 2004 to 2013, the ratio of killings in road accidents in Sindh was recorded the highest at up to 86 percent<sup>3</sup>.

The last 10 years' data on traffic accidents present a worse picture as average 1500 people died

every day in traffic accidents all over the country. Every day around the world, approximately 16,000 people die from injuries. For every person that dies, several thousands more are injured, many of them with permanent results of injuries. Injuries occur in all over the world and affect people of all ages and income groups. The magnitude of the problem varies considerably by age, sex, region and income group. This problem of road traffic crashes and resulting injuries is however more worse in a developing country like Pakistan<sup>4</sup>. As a developing country, Pakistan has no exception. The highest burden of injuries and fatalities is borne disproportionately by poor people, as they are mostly pedestrians, cyclists, and passengers of buses and minibuses<sup>4</sup>. The approach to implement the rules and regulations available to prevent road accidents is often ineffective. Awareness creation, strict implementation of traffic rules, and scientific engineering measures are the need of the hour to prevent this public health dangers<sup>5</sup>. Now awareness among the health professionals about the various modalities available to prevent road accidents and also to inculcate a sense of responsibility toward spreading the message of road safety as a good citizen of our country<sup>6</sup>. There are many causes of road accidents, rash driving, speeding, drunk driving, rain, running

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red lights, running stop signs, teenage drivers, night driving, design defects, slippery roads, unsafe lane changes, wrong-way driving, improper turns, driving under the influence of drugs, drowsy driving and fog etc<sup>7</sup>. The increasing number of vehicles has consequently led to increased opportunities for road traffic accidents to occur, thus placing a considerable health burden on populations because of the associated injuries, deaths and disabilities, worldwide<sup>8</sup>, WHO (2009) estimates that road traffic accidents will be the fifth leading cause of deaths worldwide by 2030, leading to an estimated 2.4 million fatalities per year, if proper steps are not taken to prevent deaths and injuries on the road. Low income and middle income countries have higher road traffic fatality rates (21.5 and 19.5 per 100,000 population, respectively) than high-income countries (10.3 per 100, 000 population). Over 90% of the world's deaths on the roads occur in low-income and middle income countries, which have 48% of the world's registered vehicles<sup>9</sup>.

## RESEARCH METHODOLOGY

This was a Descriptive Cross-sectional study conducted during 2016 among the injured patients by Road traffic Accidents who were brought to emergency and Orthopedic department of Ch Rehmat Memorial Trust Hospital Lahore from Jan. 2015 to Dec. 2015. Sample size was calculated as 72, total patients who attended the hospital during year 2015 were 130 but we took 100 patients with complete epidemiological information. Data was collected directly as well as from Emergency register by trained medical students. Self Structured Questionnaire was used for data collection. Analysis was done through SPSS Version 10.

## RESULTS

One hundred patients were recruited for study from Emergency and Orthopedics OPD of Chaudary Rahmat Ali Hospital, in which 67% were male and 33% females. Minimum age was 3 years and maximum 80 years with mean age 39 and S D±12 years.

Out of 100 cases of RTA, 73% conceded major injury and 27% conceded minor injury. Out of surveyed mostly injuries were abrasions, lacerations, Fractures and dislocations. In our survey 20% of RTA were caused by cars, 4% by buses, 37% by motor cycle, 6% by cycle, 12% by pedestrians and 20% by others. Region of body involved in RTA was following, 39% head and neck injuries, 11% trunk, 28% upper limb and 22% lower limb. In our survey, victims of RTA was as following, 22% were drivers,

5% were front seat passengers, 15% were back seat passengers, 11% were motorcyclist, 24% were pedestrians and 23% were others.

Table: Epidemiological Characteristics/variables of Road Traffic Accidents (n=100)

Characteristics/variables	n
Male	67(67%)
Female	33(33%)
<b>Age in years</b>	
1-20	41(41%)
21-40	45(45%)
41-60	11(11%)
>60	3(8%)
<b>Region of body involved head &amp; neck, thorax</b>	
Injuries and fracture of Mandible, nose, clavicle, ribs	14(14%)
<b>Upper limb</b>	
Injuries, fractures and dislocation of humerus, radius, arm	11(11%)
Abdomen & pelvis	1(1%)
Lower limb (Injuries and fractures of fibula, knee joint, femur and ankle)	9(9%)
Miscellaneous (Abrasion, laceration, bruises, pain, hypertension, hypotension)	65(65%)
<b>Nature of injuries</b>	
Major	73(73%)
Minor	27(27%)
<b>Type of vehicle</b>	
Cars	20(20%)
Busses	4(4%)
Motor cycles	37(37%)
Pedestrians	12(12%)
Cycles	6(6%)
Unknown	21(21%)
<b>Types of victims (injured persons)</b>	
Drivers	22(22%)
Front seat passengers	5(5%)
Back passengers	15(15%)
Motor cyclists	37(37%)
Pedestrian	24(24%)
Unknown	23(23%)
<b>Possible causes of accidents</b>	
Mobile phones	23(23%)
Over speeding	40(40%)
Roads were not in order	3(3%)
Unknown	44(44%)
Treatment at CH. Rahmat Trust Hospital	55(55%)
Died	1(1%)
Referred to other Hospitals	44(44%)
<b>Maximum accidents were during</b>	
January-March	66(66%)
June-September	14(14%)

According to survey, 20% of RTA cause by unattentiveness of drivers, 40% by over speeding, 3% caused by use of cell phone while driving, 30% caused due to road was not in order and in 34% cases cause was not known. Treatment status of

RTA cases in Chaudary Rehmat Ali memorial trust was 31% treated and discharged at same day, 24% were admitted, 1% died and 44% were referred to other hospitals. According to survey, 47% RTA occur in January to March, 14% occur in April to June, 24% in July to September and 15% in October to December.

## DISCUSSION

One hundred patients were recruited for study from Emergency and Orthopedics OPD of Chaudary Rehmat Ali Hospital, in which 67% are male and 33% females. This shows that men are more exposed to road traffic accident because of driving. All age groups are equally affected by road accident. Out of 100 cases of Road traffic accident 73% conceded major injury and 27% conceded minor injury.

Out of surveyed mostly injuries were abrasions, lacerations. In our survey 20% of Road traffic accident were caused by cars, 4% by buses, 37% by motor cycle, 6% by cycle, 12% by pedestrians and 20% by others. Motor bikes are more involved in road traffic accidents because of over speeding wheeling and carelessness of drivers. Road traffic accidents cause lethal injuries, every part of is equally exposed to injury. According to survey region of body involved in road traffic accident was following, 39% head and neck injuries, 11% trunk, 28% upper limb and 22% lower limb.

In our survey, victims of Road traffic accident. These results were comparable to the study done by Peter Cummings et al., "Association of Driver Air bags with Driver fatality: A matched Cohort Study." *British Medical Journal* 324, no. 7346 (2002): 1119-2; and Mohan, "Road Safety in less Less-Motorized Environments. Passenger injured was as following, 22% were drivers, 5% were front seat passengers, 15% were back seat passengers, 11% were motorcyclist, 24% were pedestrians and 23% were others. This shows that motor cyclists were more involved in road traffic accident.

According to survey, 20% of Road traffic accidents were caused by un-attentiveness of drivers, 40% by overspeeding, 3% by use of cell phone while driving, 30% due to broken roads and in 34% cases cause was not known. One of the leading cause of road traffic accident in developing countries like Pakistan is over speeding and over loading of buses, while in developed countries the major cause is alcohol drinking.

## CONCLUSION

From this research we concluded that road traffic accidents are very common in urban area of Lahore and are a leading cause of death and disabilities in

most populated cities like Lahore. RTAs are quite prevalent in males and less in females. It has also been concluded that problem is precipitated due to negligence and violence of rules. Most of the road traffic accidents cases were due to over speeding. Throughout the survey we noted that most of the RTAs registered in Chaudary Rehmat Ali Hospital were of motor cycles and most of the RTA occurs from December to February due to fog and bad weather. From this hospital most of the cases were referred to other hospitals due to severity and lack of facilities.

## RECOMMENDATIONS

Safety education, Use of seat belts, safety helmets must be ensured. Children should be prohibited to take the front seat of car, Alcohol and other sedatives drugs should be avoided before driving, Planning, organization and management of trauma, treatment and emergency services should be provided, Improvement of roads, speed imposition of speed limits and provision of fire guards., Enforcement of law periodic re-exam. of drivers after 55 years of age.

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