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**INDO AMERICAN JOURNAL OF
PHARMACEUTICAL SCIENCES**<http://doi.org/10.5281/zenodo.1439265>Available online at: <http://www.iajps.com>**Research Article****ANALYSIS OF PATTERN OF ABDOMINAL INJURIES IN
ROAD TRAFFIC ACCIDENTS IN PAKISTAN****¹Dr. Jawad Haider, ¹Dr. Muhammad Ahmad Latif, ²Dr. Usama Yaqub**¹Mayo Hospital, Lahore²Jinnah Hospital, Lahore**Abstract:**

Introduction: Accidents are a counter product of modernization and hasty life and are considered as a modern day epidemic. Analysis of the trend of RTA and associated risk factors influence the planning of preventive and remedial measures pertaining to the human habitations, roadways and in the setup of health care institutions for any eventualities. **Objectives of the study:** The basic aim of the study is to analyze the pattern of abdominal injuries in road traffic accidents in Pakistan. **Methodology of the study:** This study was basically conducted in a very busy city of Pakistan, Lahore. Road accidents are one of the major cause of death in Lahore. This study was conducted in Mayo hospital and Jinnah hospital Lahore during January 2018 to March 2018. The study is a retrospective analysis of cases of RTAs victims admitted in Mayo hospital and Jinnah hospital, Lahore. The information about the patients admitted as cases of RTAs were ascertained from the hospital records. **Results:** Out of total patients under review, 300 patients treated for injuries sustained in RTAs were included in the study and analyzed. The patient's age ranged from 2 to 65 years with the mean age being 30.91 years. Out of total 347 victims, 258 (74.35%) were males, while only 89 (25.65%) were female subjects. **Conclusion:** It is concluded that road traffic accident is the most common cause of blunt abdominal trauma in Lahore while fall from heights closely follows. Males are involved much more in blunt abdominal trauma as compared to females because of their outdoor life style and their role as the earner for their families.

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INTRODUCTION:

Accidents are a counter product of modernization and hasty life and are considered as a modern day epidemic. Analysis of the trend of RTA and associated risk factors influence the planning of preventive and remedial measures pertaining to the human habitations, roadways and in the setup of health care institutions for any eventualities [1]. A number of studies on various aspects of non-natural deaths reported road traffic accidents to be the major cause of mortality arising from non-natural causes in different regions of Pakistan. Accidents rank fourth among the leading causes of death. Among all accidental deaths, road traffic injuries claim 1.2 million lives every year and form the main bulk of deaths from non-natural causes. More than 25% of the global accidental deaths occur in South East Asia region [2].

In this age of speed and traffic accidents, the incidences of blunt injuries to the abdomen has been at its height due to the evolution of the modern industrial era with the development of the automobile; and the creation of explosive compounds capable of producing enormous compression forces impacting upon human bodies [3]. According to WHO by the year 2020, trauma will become the first or second leading cause of “loss of productive years of life” for both developed and developing countries.

Most common causes of blunt abdominal trauma are automobile accidents, falls, assaults and industrial accidents. In a previous study, road traffic accidents accounted for 83.6% of blunt abdominal trauma including motor vehicles 45.5% and motorcycle accidents 38.1%. Mortality rates are higher in patients with blunt abdominal trauma than in those with penetrating wounds, because of the lack of early diagnostic facilities and optimal management [4]. It is rather more difficult to diagnose a patient with intra-abdominal injuries because abdominal examination does not reliably categorize all patients with intra-abdominal injuries. The prevalence of intra-abdominal injuries among patients with blunt abdominal trauma is about 13 percent. The spleen was found to be the most commonly injured organ in blunt abdominal trauma occurring in more than 50% of cases. On the contrary some studies reported that liver is the most frequently injured organ followed by the spleen in blunt abdominal injuries [5].

Background of the study

Road traffic accidents (RTAs) is an issue of national concern, considering its magnitude and gravity and the consequent negative impacts on the economy, public health and the general welfare of the people.

Road traffic injury (RTI) is major but neglected public health problem in both developing and developed countries. World Health Statistics 2008 cited in Global Status Report on Road Safety states that RTIs in 2004 were the 9th leading cause of death and at current rates by 2030 are expected to be the 5th leading cause of death, overtaking diabetes and Human immunodeficiency virus infection/acquired immunodeficiency syndrome.

Road traffic crashes are a major cause of misery, disability, and death globally, with a disproportionate number occurring in developing countries. It has been predicted that by 2020, RTIs will rank as high as third among causes of disability adjusted life years lost [5].

Objectives of the study

The basic aim of the study is to analyze the pattern of abdominal injuries in road traffic accidents in Pakistan.

METHODOLOGY OF THE STUDY:

This study was basically conducted in a very busy city of Pakistan, Lahore. Road accidents are one of the major cause of death in Lahore. This study was conducted in Mayo hospital and Jinnah hospital Lahore during January 2018 to March 2018. The study is a retrospective analysis of cases of RTAs victims admitted in Mayo hospital and Jinnah hospital, Lahore. The information about the patients admitted as cases of RTAs were ascertained from the hospital records. Case sheets of RTAs victims from the medical records sections were read and the necessary details were sought in terms of age, sex, residence, season of accidents, place, alcohol intake, type and site of injury. The cases with incomplete details were not taken into consideration.

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Ethical consideration

This research project was approved by “Departmental Ethics and Research committee” of the hospital. The purpose of the study was explained to the study participants accordingly. Permission was obtained from hospitals research center and nephrology clinic.

Statistical analysis

The data of respiratory function were compared between the smoker and non-smoker groups using the independent t-test for normally distributed data or the Mann-Whitney U test for other distributions. Differences were considered statistically significant at $p < 0.05$.

RESULTS:

Out of total patients under review, 300 patients treated for injuries sustained in RTAs were included in the study and analyzed. The patient's age ranged from 2 to 65 years with the mean age being 30.91 years. Out of total 347 victims, 258 (74.35%) were males, while only 89 (25.65%) were female subjects. Highest numbers of victims were in 20-30 years age group, accounting for 141 (40.63%) patients. On applying z-test, it is shown that age group 20-30 and 40-50 are statistically significant.

Table 1: Distribution of RTA victims based on Epidemiology and sex $n=100$

Category	Male (%)	Female (%)	Total (%)
Age in years			
<20	14 (14.0)	1 (1.0)	15 (15.0)
21-40	46 (46.0)	4 (4.0)	50 (50.0)
41-60	27 (27.0)	3 (3.0)	30 (30.0)
≥ 61	5 (5.0)	0 (0.00)	5 (5.0)
Total	92 (92.0)	8 (8.0)	100 (100.0)
Time of day			
12 am-5:59 am	6 (6.0)	1 (1.0)	7 (7.0)
6 am-11:59 am	22 (22.0)	2 (2.0)	24 (24.0)
12 pm-5:59 pm	29 (29.0)	3 (3.0)	32 (32.0)
6 pm-11:59 pm	35 (35.0)	2 (2.0)	37 (37.0)
Total	92 (92.0)	8 (8.0)	100 (100.0)
Place of accident			
National High way	5 (5.0)	3 (3.0)	8 (8.0)
State High way	20 (20.0)	2 (2.0)	22 (22.0)
City roads	67 (67.0)	3 (3.0)	70 (70.0)
Total	92 (92.0)	8 (8.0)	100 (100.0)

External abdominal injuries were involved in 44 cases. Most common type of injury was contusion 21 (47.7%), followed by abrasion 16 (36.3%), laceration 5 (11.3%), and incised wounds 2 (4.5%). Internal abdominal injuries were observed in 49 cases. In road traffic accidents, the most commonly injured abdominal solid organs were liver 16 (32.6%)

followed by spleen 9 (18.3%). Details of abdomino-pelvic injuries have been given in [Table 2](#). Among the abdominal injuries sustained in road traffic accidents, the liver and spleen injured more lacerations than contusions, whereas in the kidney, contusion was the common.

Table 02: RTAs victims based on types of injuries

Type of organ injured	Male		Female		Total	
	Number	Percentage (%)	Number	Percentage (%)	Number	Percentage (%)
Liver laceration	14	32.56	2	33.33	16	32.65
Spleen laceration	8	18.60	1	16.67	9	18.37
Kidney laceration	5	11.63	1	16.67	6	12.24
Stomach rupture	2	4.65	0	0.00	2	4.08
Pelvis #	4	9.30	1	16.67	5	10.20
Vertebra #	6	13.95	1	16.67	7	14.29
Spinal cord transection	4	9.30	0	0.00	4	8.16
Total	43	100.00	6	100.00	49	100.00

DISCUSSION:

This study has found that majority of the Road Traffic Accidents (RTA) victims were aged 21 to 40 years (50.0%). Other similar studies conducted by Chaudhary *et al* and Suresh Kumar founds the similar findings (51.2%) and (83%), respectively. Most of the victims were males (92.0%).

Lahore being a metropolitan city has many social, financial and law and order problems which contribute to increase incidences of trauma [6-8]. The roads are in much debilitated condition, drivers especially of public transport, have no respect for the law and they drive their vehicles recklessly leading to a surge in road traffic accidents over many past years. Most common injuries in RTA were external thoracic (73%) of RTA victims, followed by abdominal injuries observed in 49%, head injuries in 47% of cases, upper limb in 33 and lower limb in 13 of victims, vertebra in 7%, pelvis in 5%, and spinal cord in 4% of the victims [9].

External thoracic injuries were observed in 73% cases. Contusion was 53.4%, followed by abrasions (38.3%) and lacerations (9.5%). External abdominal injuries were involved in 44% cases. Most common type of injury was contusion 21 (47.7%), followed by abrasion 16 (36.3%) and laceration 5 (11.3%). In current study, most common abdominal solid organs injured were liver (32.6%), spleen (18.3%), and kidney (12.24%). In this study, liver and spleen injured more lacerations than contusions, whereas in the kidney, contusion was the common. Suresh Kumar *et al.* also supported our findings¹⁰. The abdomen is vulnerable to injury since there is minimal bony protection for underlying organs. Lungs were the most commonly involved organs (92.3%) in the thoracic region followed by the heart [11].

CONCLUSION:

It is concluded that road traffic accident is the most common cause of blunt abdominal trauma in Lahore while fall from heights closely follows. Males are involved much more in blunt abdominal trauma as compared to females because of their outdoor life style and their role as the earner for their families. No abdominal organ is safe from injury.

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