



## Profile and Pattern of Medico-Legal Cases in a Tertiary Care Hospital of North India

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### Abstract

*Drawing public attention and awareness towards traumatic casualties is important to prevent unnatural deaths, this possibly could reduce incidence of such cases. A one year prospective study from October 1, 2014 to October 31, 2015, to analyze causative agents, manner of cases and their outcome was carried out in the Department of Accident and Emergency, Sher-I-Kashmir Institute of Medical Sciences, SKIMS, Srinagar. This study was conducted to understand the magnitude and pattern of medico-legal cases in this region. The study revealed that road traffic accidents (39.3%) constituted the majority of the medico-legal cases out of total 2250, followed by physical assault and poisoning (35.06% and 15.15% respectively). Male preponderance was quite evident (67.7%). People between the age group of 21 – 30 years (44.5%) were most prone to such casualties. The peak time of the incidences was during evening hours (43.43%) and the maximum cases admitted in the summer (35.4%).*

**Keywords:** Medico-Legal Case, Injury, Road Traffic Accidents, Physical Assault, Poisoning.

### Introduction

A Medico legal case is a case of injury or illness where the attending doctor, after eliciting history and examining the patient, thinks that some investigation by law enforcement agencies is essential to establish and fix responsibility for the case in accordance with the law of the land.<sup>1</sup> Injury is defined under section 44 IPC as “any harm whatever illegally caused to any person, in body, mind, reputation or property”.<sup>2</sup> In simple

language it is a medical case with legal implications for the attending doctor where the attending doctor, after eliciting history and examining the patient, thinks that some investigation by law enforcement agencies is essential.<sup>3,4</sup>

The casualty department is backbone of every Hospital because almost all cases of Medical emergencies report first to Casualty Department of Hospital, and apart from these Medical

emergencies, Casualty Department also deals with the medico-legal cases more frequently than any other department of Hospital. The on duty doctor in the casualty department has to first stabilize the patient of any emergency. He is also duty bound to register a particular case as a medico-legal case whenever indicated and has to examine the same. So, medico legal cases constitute substantial proportion of workload. Profiling of medico-legal cases also forms an integral aspect for the prevention of preventable casualties in future and to study the crime rate in area.<sup>5</sup>

Organizing statistics about the types of medico legal insults provides an important insight into the trend of social problem occurring in the community. Types of such cases presenting in emergency departments highlight a snapshot of social problems, level of intolerance and value system among individuals in the community. Studying frequency and pattern of these will provide vital data for administrators, philanthropists, social workers and health officials to devise strategies in order to reduce these incidences. Information can also be used by social scientists to probe further into the circumstances which culminated in such events.<sup>6</sup>

### Method

The study was conducted prospectively over a period of one year from 1<sup>st</sup> October 2014 to 31<sup>st</sup> September 2015. The study material consisted of the all medico legal cases registered in the Accident and Emergency Medicine department. The information regarding the cases was collected from the medico-legal register and hospital case files of the patient using a predesigned and pretested proforma. The additional information was obtained by interviewing the patients or attendants of the patients. The data encompassed demographic details of the patient, cause of injury, nature of the injury, time of the incident, seasonal distribution of the cases, time interval between incident and examination, treatment received, manner of the incident and outcome of the case.

### Objectives

1. To analyze causative agents, manner of cases and their outcome.
2. To draw public attention and awareness towards traumatic casualties.
3. To suggest preventive measures, this possibly could reduce incidence of these cases.

### Observations and Results

**Table 1**-Gender wise distribution

Gender	Frequency	Percentage
Male	1524	67.7%
Female	726	32.3%
Total	2250	100.0%

Table-1 shows percentage of male victims (67.7%) was more than the females (32.3%).

**Table 2**-Age Wise Distribution

Age Groups	Frequency	Percentage
0-10	46	2.04%
11-20	266	11.8%
21-30	1003	44.5%
31-40	474	21.06%
41-50	244	10.8%
51-60	115	5.1%
61 & above	102	4.53%
Total	2250	100.0%

Table-2 shows that victims of age group 21-30 years form the majority of cases (44.5%) followed by 31-40 years and 11-20 years 21.06% and 11.8% respectively.

**Table 3** – Rural/Urban Wise Distribution

Domicile	Frequency	Percentage
Rural	1390	61.2%
Urban	869	38.8%
Total	2250	100.0%

Table-3 shows that rural victims (61.2%) are more than the urban which comprised 38.8% of the total cases.

**Fig 1 – Mode of Injury**

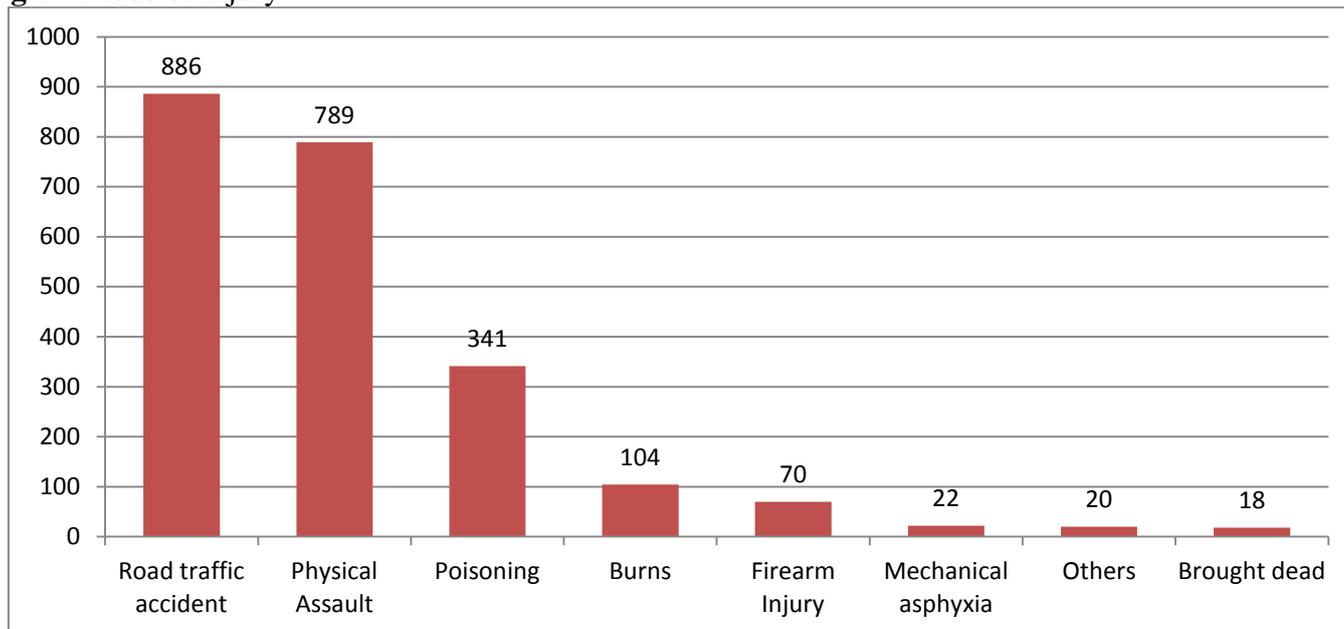


Fig-1 shows the distribution of cases according to their mode of injuries. Road traffic accidents form the major part of the study (39.3%) followed by physical assault (35.06%) and poisoning

(15.15%). Others (0.9%) included cases of Factory accidents, Electric Burns, Sexual Assault cases, routine medical examination for fitness of prisoners.

**Fig 2 – Manner of Cases**

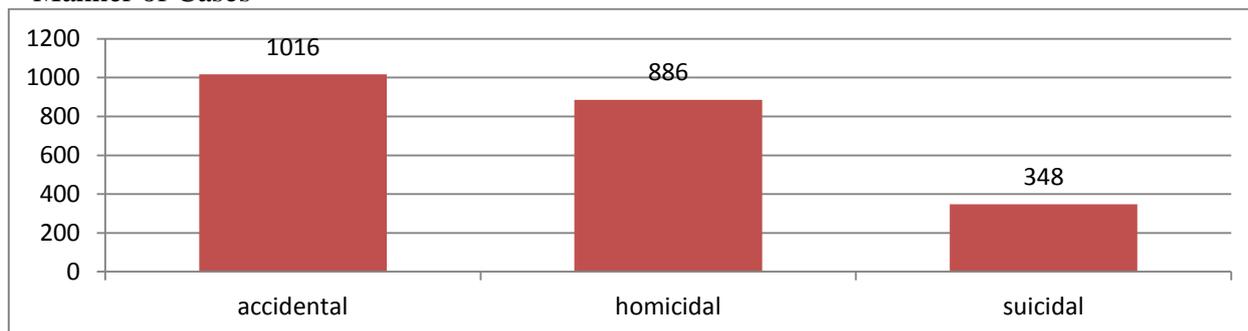


Fig 2 shows the maximum incidence of accidental injuries (45.1%)

**Fig 3 – Season Wise Distribution**

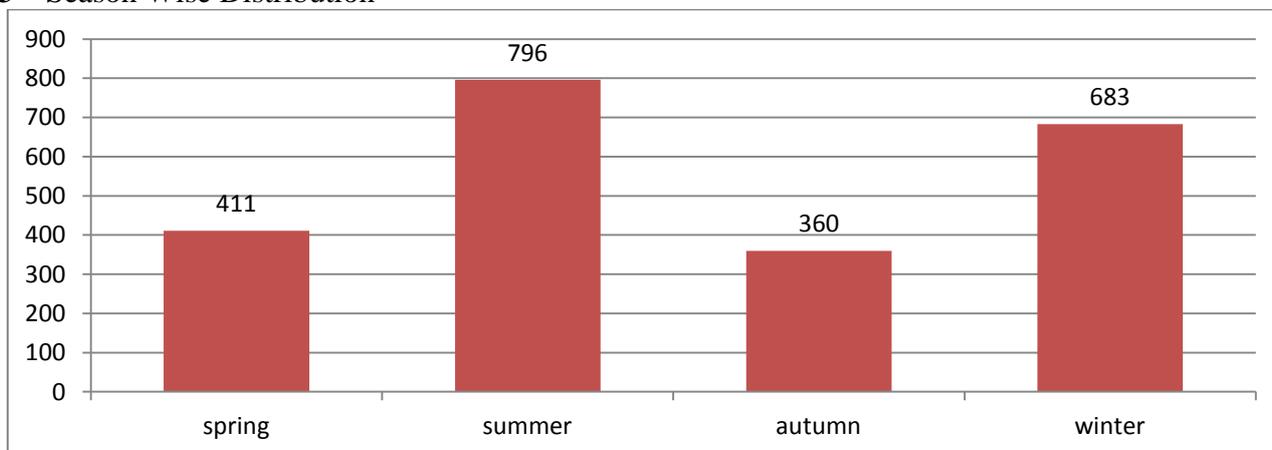


Fig-3 shows that maximum cases occurred during summer season (35.4%) followed by winter season (30.4%).

**Fig 4 – Time of Injury Sustained**

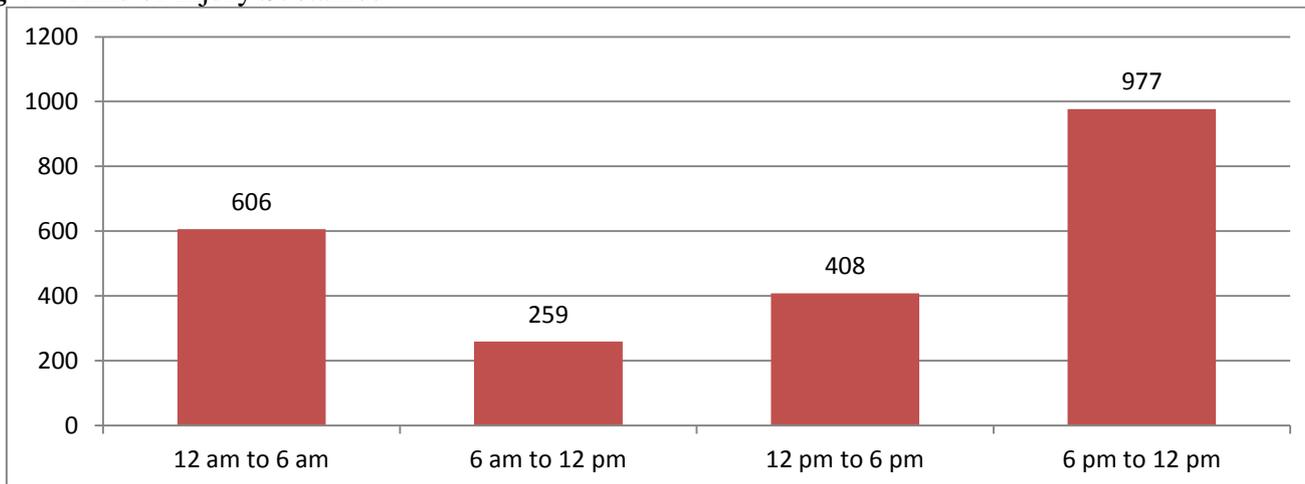


Fig-4 shows that majority of the injuries occur between 6 pm to 12 pm (44.3%) followed by 12 am to 6 am (26.9%).Least of the incidents took place between 6 am to 12 pm (11.5%).

**Fig 5 –Time period between incident and examination**

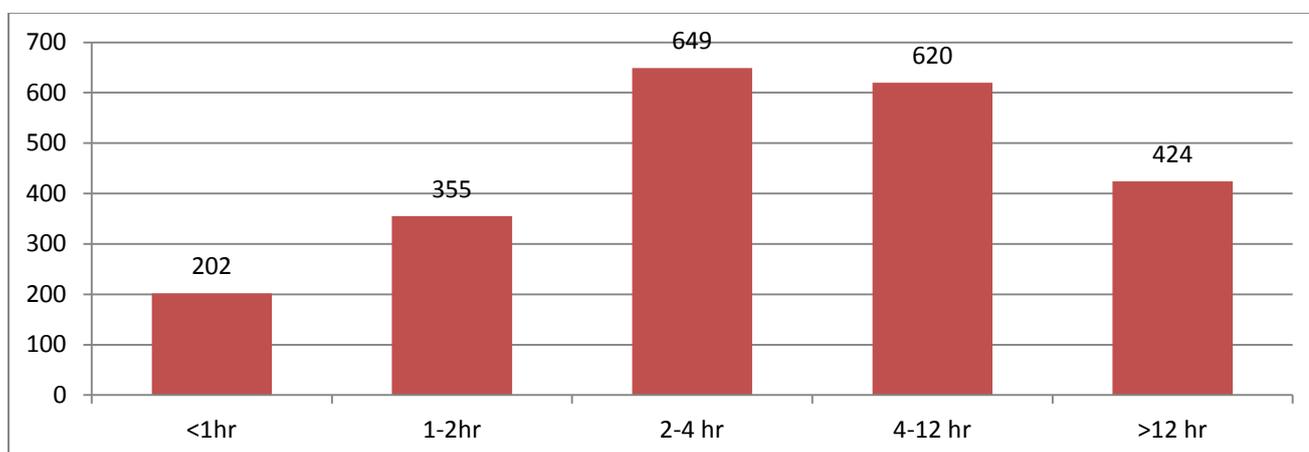


Fig-5 showing that majority 649 (28.8 %) cases were examined within 2-4 hrs after the incident and only 202 (8.9%) of the cases were examined within one hour of the incident.424 (18.8%) cases reported more than 12 hours after the incident.

**Fig 6 – Outcome of Cases**

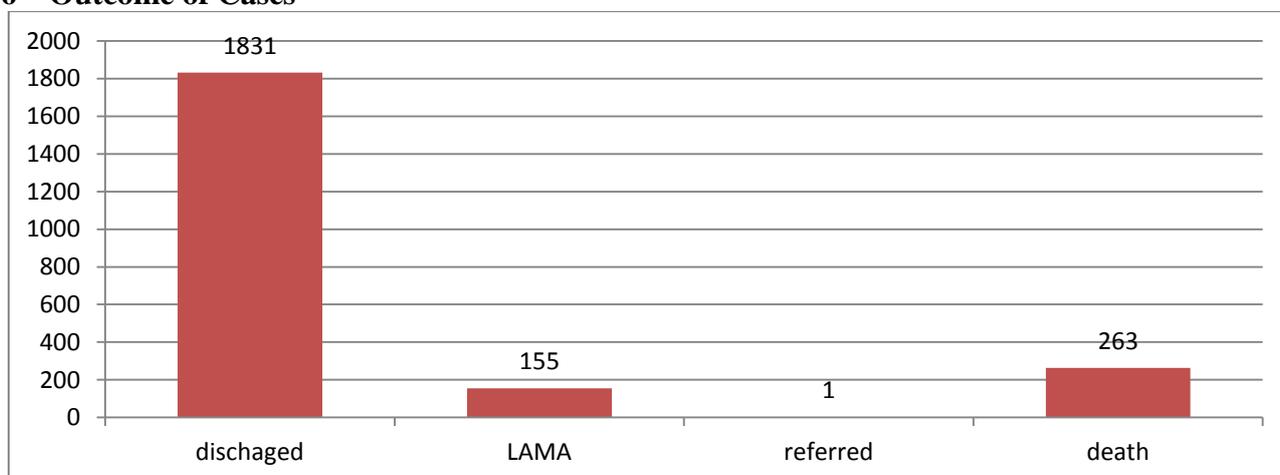


Fig-6 shows the distribution of cases according to their outcome. Majority of the cases 1831(81.3%) were discharged, 155 (6.8%) were LAMA,1 (0.044%) case referred to higher center and 263 (11.7%) died.

## Discussion

In the present study 2250 medico-legal cases were admitted in accident and emergency department during the period of one year (October 1<sup>st</sup>, 2014 to September 31<sup>st</sup>, 2015).

Road traffic accidents comprised of maximum number 886 (39.3%) followed by physical assault 789 (35.06%) and poisoning 341 (15.15%). This is in consistence with the studies conducted by Vishal Garg et al<sup>7</sup> and Dileep Kumar et al<sup>8</sup>. It can be explained by the fact that state of Jammu & Kashmir is passing through a major socio-demographic, epidemiological, technological and media transition. There has been rapid increase in number of vehicles. There is also absence of safety policies, poor road conditions and ignorance regarding the law.

All accidental causes contributed maximum cases 1016 (45.1%) in the study, homicidal cases and suicidal attempts remained 886 (39.3%) and 348 (15.46%) respectively. There is overwhelming majority of the male victim 1524 (67.7%), consistent with other studies<sup>[8-11]</sup>. It is due to greater male exposure on roads, construction area and farms.

The most common age group affected was 21-30 years, included 1003 (44.5%) cases and almost half of the victims were between 31-40 years, 474 (21.06%) cases. This is consistent with the studies available from India and other countries<sup>[6-13]</sup>. This age group is the most active phase of life, physically and socially and hence outnumbers the other age groups.

The majority of cases comprised of rural population 1390 (61.2%) as compared to the urban 860 (38.8%). These findings are consistent with study conducted by Garg et al<sup>7</sup>. It can be explained by the fact that majority of population lives in rural areas and these areas have a lower level of education, comparative lower level of policing, poor condition of basic amenities and also the land disputes that run into generations which all contribute to the greater number of these cases in rural areas.

Season wise distribution of cases revealed that majority i.e. 35.4% presented during summer season. This finding is similar to the findings of Siddhart Timsinha et al<sup>10</sup> and Qudisia et al<sup>14</sup>. In summer season Kashmir witnesses peak influx of tourists from India and abroad, also there is huge rush of seasonal workers. Besides summer months are more active period, there is great deal of work or outdoor activities making people more prone to injuries. All these factors contribute to increased medico legal incidences in summer.

Majority (43.4%) of the incidents took place between 6 pm-12 pm i.e. in evening hours while as minimum number (11.5%) of the incidents took place in between 6 am to 12 pm. i.e. morning hours. This is in consistence with the findings of Garg et al<sup>7</sup>. Maximum incidence of MLCs takes place in evening hours because in this time of day people are maximally involved into their activities hence leading to more incidents while in morning hours people are fresh stress level is at its lowest hence least incidents take place during morning hours.

Most of the cases (28.8%) reached hospital for examination and treatment between 2-4 hours after the incident followed by 27.6% of the cases which reported between 4-12 hr of the incident. This finding is different from the Abhishek Yadav et al<sup>15</sup> where most of the cases 53.2 % reported within 1 hr of the incident. It can be explained by the fact that most of the incidents take place in rural areas of Kashmir from where the patients are referred to SKIMS for specialized treatment.

Majority of the cases 1831 (81.3%) were discharged in a clinically satisfactory condition, 155 (6.8%) left against medical advice, 1 (0.044%) cases were referred to higher center, and 263 (11.7%) died out of the injuries sustained and their complications. This is in consistence with the studies of Garg Vishal et al<sup>7</sup> and Abhishek Yadav et al<sup>15</sup>. Majority of the patients were discharged after successful treatment from the hospital whereas as only one patient was referred to a higher centre. This shows the effectiveness of

the treatment provided to emergency patients in a super speciality setting.

### Conclusion

The present study shows that causes of maximum injury cases are accidental in nature (45.1%). Road traffic accidents, physical assault and poisoning cases continue to be a growing menace, incurring heavy loss of valuable man-power and human resources in the form of death and disability along with a corresponding drain of potential economic growth.

The basic principles of injury prevention are education, engineering, uniform enforcement of law & order, pre-hospital care and the evaluation. Proper education, training for safety standards and behaviour modification are interlinked; and are required to be implemented in the community to prevent all kind of injuries including domestic violence. Further large number of prospective studies should be carried out that would assist various organizations to set various causative risk factors, circumstances, chain of events; and the preventive measures accordingly. In our opinion, the above considerations certainly are result oriented and will be extremely helpful to manage the health of all community

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