

# Profile of medico-legal cases at tertiary care centre

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## Abstract

The casualty department is backbone of every Hospital because almost all cases of Medical emergencies reported 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 study was conducted in a retrospective manner and all the Medico-legal cases which came to the emergency department of the hospital between Jan 2014 to Dec 2014 were studied. The males were the dominant group (67.6%). The most of the victims were of the age group 21-30 years (45.1%). The Road traffic accident cases had the highest incidence in relation to the cause of admission (36.9%), followed by poisoning. Most of the patients (53.2%) reported in the hospital within one hour of sustaining the injury/other causes. 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.

**Keywords:** Medico-legal cases, Tertiary care, Road Traffic Accidents, Assault, Poisoning.

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## INTRODUCTION

The casualty department is backbone of every Hospital because almost all cases of Medical emergencies reported 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. So Medico legal cases constitute substantial proportion of workload. A medico legal case is a case of Injury or illness where attending doctor after eliciting, listing and examining patient; is of opinion 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>3</sup>. Profiling of Medico legal cases is an integral aspect for the prevention

of preventable causalities in future and to study the crime rate in area<sup>4</sup>. In present study an attempt is made to know the burden of Medico legal cases. According to the 2011 census Tumakuru district has a population of 2,678,980, roughly equal to the nation of Kuwait or the US state of Nevada. This gives it a ranking of 150th in India (out of a total of 640). The district ranked 4th place in terms of population in Karnataka after Bengaluru, Belgaum and Mysore. The district has a population density of 253 per square km. Its population growth rate over the decade 2001-2011 was 3.74%. Tumakuru has a sex ratio of 984 females for every 1000 males, and a literacy rate of 75.14%.

## MATERIALS AND METHODS

This study was a retrospective hospital based observational study. Three hundred and ninety three cases categorized as MLC's were studied from the casualty records from Jan 2014 to Dec 2014. Data was collected in terms of age, sex, and diagnosis mentioned in the records. The profile of these MLC's was studied by grouping the total number of such cases (393) during the period Jan 2014 to Dec 2014 under the following heads:

- Road traffic accidents
- Poisoning or ingestion of an unknown substance

- c. Assault
- d. Factory or Crush Injuries
- e. Fall from height
- f. Burns

## RESULTS

1. A total of 453 cases were studied, out of these 318 were male and 135 were females.
2. The age groups to which they belonged to were:

Age(in years)	Number of cases
0-10	87
10-20	26
20-40	241
>40	99

3. The study reveals that the total medico-legal cases managed in the casualty could be categorized as follows:
  - a)RTA: 229(50.55%)
  - d) Poisoning: 96(21.19%)
  - c) Factory Injuries: 45(9.93%)
  - a) Physical Assault: 33(7.28%)
  - e) Fall from Height: 16(3.53%)
  - g) Burns: 34(7.50%)

**Table 1:** Types of medico-legal cases and mortality

Type of MLC	Number of Patients	Mortality
RTA	229(50.55%)	36(15.72%)
Poisoning	96(21.19%)	11(11.45%)
Factory Injuries	45(9.93%)	02(4.44%)
Physical Assault	33(7.28%)	02(6.06%)
Fall from Height	16(3.53%)	01(6.25%)
Burns	34(7.50%)	04(11.76%)

Among the deaths due to road traffic accident, fatal head injury was the major cause of death. Out of 36 deaths from RTA, 10 cases were brought dead to the hospital with crush injury of the head exposing the brain. Organophosphorous poison was the most common poisoning with incidence of suicidal consumption. Hemorrhage and head injury was the cause of death in factory injuries. Shock due to multiple trauma was the cause in case of fall from height in a labor working at the house construction. Septicemia and the hypovolemic shock were the factors contributing to the fatality of burns. In deaths from RTA and poisoning, time of arrival to the hospital after the incidence was a major factor.

**Table 2:** Age and sex wise distribution of medico-legal cases

Age	Male	Female	Total
0-10	61	26	87
10-20	19	07	26
20-40	167	74	241
>40	71	28	99
<b>Total</b>	<b>318</b>	<b>135</b>	<b>453</b>

Maximum numbers of cases of injuries were accidental among young individuals (21- 40 years). The people of

this age group will be outside their house, travelling most of the daytime for earning could be the reason. Among the children's aged less than 10yrs, the road traffic accident while playing on the roads and the accidental ingestion of medicines were the major contributory factors of medico-legal cases

## DISCUSSION

In our study out of a total of 453 patients, 229(50.55%) cases were road traffic accidents, 96 (21.19%) cases were poisoning, 45 (9.93%) were factory injuries, physical assault was 33 (7.28%) cases, 34 (7.50%) cases were burns and 16 (3.53%) cases were fall from height. Similar findings were seen in a study conducted by Harish *et al.*<sup>3</sup> in Bangalore, where road traffic accidents were common among the medico-legal cases at casualty<sup>3,9</sup>. In comparison a study in Safdarjung Hospital, Delhi in 1990 revealed that 54.52 percent of their MLC's were road traffic accidents, assaults comprised 31.27 percent and poisoning cases were 13.66 percent.<sup>5</sup> In a study conducted at an ESI hospital in Delhi, the highest numbers of MLC's were fall from height. The reason for this may be that the people who are covered in ESI scheme are not only industrial workers but their dependents too. Also the types of houses these people are living in are kaccha houses and the roofs mostly don't have boundaries.<sup>6</sup> Even though many factories are there in the surrounding area of our hospital, less number of factory injuries were encountered. The reason could be, making these cases non MLC, for avoiding the interference of the police. Otherwise if all cases were registered as MLC's there would have been a significant increase in the number and percentage of factory injuries. In this study, road traffic accidents form highest number of medico-legal cases. The reason being the national highway, NH4 connecting the major cities pass through Tumkur city. The non-obedience of traffic rules and drunken driving contribute to increase in such incidences. Proper implementation of traffic rules can decrease the number of road traffic accidents. Also proper education of the public about the traffic rules and the consequences of its violation could reduce the number of such cases. Also proper counseling for developing positive attitude and controlling the aggression in youth have to be promoted.<sup>7</sup> The poisoning cases were found to be the 2<sup>nd</sup> highest number of MLC's and majority of the poisoning patients were from the rural area. The reason could be that the agriculture is major profession in rural part of Tumkur and this hospital being a Tertiary care centre, patients are being referred from the peripheral health centres. A study conducted at Maharashtra, revealed that maximum number of cases were of burns (21.87%) followed by assault (19.72%) and poisoning (18.07%).<sup>8</sup>

## CONCLUSION

The casualty department of any hospital not only caters to the needs of patients who reports in emergencies but also carry out legal responsibilities to examine, document and certify medico legal cases, this puts a lot of burden on casualty department. Present study shows maximum number of cases of injuries were accidental among young individuals (21-40 years) and urban inhabitants. Injuries can be prevented by proper education, awareness and training of safety standards which are required to be implemented strictly. The doctors who are involved in handling medico legal cases need to be more trained. Also, due to increase in violence and accidents, the need for round the clock availability of medico legal experts, in as much number needed, in casualty and emergency departments to deal with medico-legal cases is felt. Males and young age group are most commonly involved group in Medico-legal cases. Suicidal poisoning cases have a high incidence in rural population. So the emergency department should be well equipped with all the antidotes and the drugs which are used for the treatment of agricultural poisons. The benefit of tertiary health care center is clearly evident form the results. So, if such centers could be established in rural areas of each district with teaching and training facilities, it will definitely be a boon for rural population of India.

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