

## Pattern of Medico-Legal Cases in the Casualty Department of a Tertiary Care Hospital in the Moradabad District

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### ABSTRACT

**Introduction:** Casualty or now labeled as “Emergency department” by National Medical Commission of India, the name of the department itself explains that every emergency case should enter into any hospital through that department, including Medico-legal cases. Casualty medical officer is the first treating doctor and it is his/her responsibility to determine either the case should be labeled as medico-legal or not and then accordingly intimation to police, documentation and report submission is done in regards to evidence collection and appear in the court as expert witness.

**Objective:** In present study, an attempt is made to know the pattern and magnitude of medico-legal cases.

**Materials and methods:** This is a retrospective, cross-sectional study which was conducted in Teerthanker Mahaveer Medical College & research Hospital, Moradabad to study pattern of medicolegal cases for one year (from 1<sup>st</sup> August 2021 to 31<sup>st</sup> July 2022).

**Observation and Result:** This study revealed that, road traffic accidents (RTA) constituted majority (58.31%) of medico-legal cases followed by poisoning (13.24%) and fall from height (10.14%). Majority of cases were male (73.24%). The most of the cases were in the age group 21-30 years i.e. 34.65%. The most of cases were reported in casualty between 06.00 p.m. to 11.59 p.m. (38.31%) followed by 12.00 p.m. to 06.00 p.m. (32.11%). The maximum case were reported in October (16.06%) followed by November (12.96%). The most of cases reported in Rainy season (July-October) (36.06%) followed by winter (33.24%).

**Conclusion:** In our study, road traffic accidents constituted most common type of medicolegal case and males outrun female cases. Most common age group was 21-30 years. Most cases occurred in the month of October while rainy season was common in regards to seasonal variation. Most of the cases encountered between 06.00 pm to 11.59 pm. Most of the cases were, from outside of Moradabad region constituting.

**Keywords:** Medico-legal cases, Pattern, Road Traffic Accident (RTA), Season, Casualty department.

### INTRODUCTION

Casualty or now labeled as “Emergency department” by National Medical Commission of India, the name itself explains that every emergency case should enter into any hospital through the department, including Medico-legal cases. On duty, casualty medical officer

is the first treating doctor and it is his/her responsibility to determine either the case should be labeled as medico-legal or not and then accordingly intimation to police, documentation and report submission is done in regards to evidence collection and to appear in the court in future, as expert witness. MLC (Medico-legal Register) register

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and documents should be preserved properly, considering their importance in court.

List of medicolegal cases is exhaustive. Cases that are to be treated as medicolegal are : (a) All cases of injuries and burns - the circumstances of which suggest commission of an offense by somebody (irrespective of suspicion of foul play); (b) all vehicular, factory, or other unnatural accident cases specially when there is a likelihood of patient's death or grievous hurt; (c) cases of suspected or evident sexual assault; (d) cases of suspected or evident criminal abortion; (e) cases of unconsciousness where its cause is not natural or not clear; (f) all cases of suspected or evident poisoning or intoxication; (g) cases referred from court or otherwise for age estimation; (h) cases brought dead with improper history creating suspicion of an offense; (i) cases of suspected self-infliction of injuries or attempted suicide; (j) any other case not falling under the above categories but has legal implications.<sup>1</sup>

The first treating doctor can label a case as medico-legal at his/her discretion, if he/she suspects any foul play. All medico-legal cases should be informed to concerned police station. That will help to provide evidence related to case from examination and initiate legal proceedings early also that will prevent doctor from unnecessary allegations from relatives or inquiries by law authority, in future, if any.

## OBJECTIVES

In present study, an attempt is made to know the pattern and magnitude of medico-legal cases in aspect of types of cases, age and sex of cases, time of arrival in casualty department, months and seasons of arrival of cases and to analyze the data and find out suggestion for improvement of medico-legal work, if any.

## MATERIALS AND METHODS

This study was a one year, record based, retrospective cross sectional study of all medico-legal cases registered in medico-

legal register in casualty of TMMC & RC, Moradabad, between time periods, from 1<sup>st</sup> August 2021 to 31<sup>st</sup> July 2022. The data was collected on basis of age group, sex, month-wise distribution, seasonal variation, pattern distribution and on time of arrival of various medico legal cases etc. The data thus obtained was analyzed and observations were presented in tables and compared with other studies.

**Research Instrument:** It is a retrospective hospital medical record based observational study.

**Data Collection:** Data was collected in a predesigned proforma to collect the information like the age, gender and type of medico-legal cases etc. mentioned in the medical records. The profile of these cases were studied by grouping the total number of such cases during period w.e.f. 1<sup>st</sup> August 2021 to 31<sup>st</sup> July 2022 under following categories : Road traffic accidents, Injuries, Assault, Burns, Falls, Poisoning etc.

**Inclusion Criteria:** All cases which were registered under medico-legal cases were included in this study.

**Exclusion Criteria:** Non-medicolegal cases were excluded.

## Observation and Result

In this one year, from 1<sup>st</sup> August 2021 to 31<sup>st</sup> July 2022, a total 355 cases were reported and studied.

In regards to types of medicolegal cases i.e. labeling a case as medico-legal, the most common cases registered were road traffic accidents i.e. 207 cases (58.31%), followed by poisoning 47 cases (13.24%), fall from height 36 cases (10.14%), assault 27 cases (7.61%), burn cases were 10 in number (2.82%), followed by asphyxial deaths cases were 08 (2.25%), minimum number belonged only 01 case of firearm (0.28%) and sexual assault 01 (0.28%), as shown in table 1.

In this study, most of the cases were males being 260 cases (73.24%) and females were 95 (26.76%). (Table 2)

In our study, maximum number i.e. 123 cases (34.65%) were in the age group of 21-30 years followed by 31- 40 age group constituting 76 cases i.e. 21.41 % (Table 3).

In this study, in regards to month wise distribution, most of the cases occurred during October constituting 57 cases (16.06%) followed by November with 46 cases (12.96%). Minimum number of cases was in April 07 (1.97%) (Table 4).

In regards to seasonal variation, most of the cases were in rainy season constituting 128 cases (36.06%) and least number of cases i.e. 109 (30.70%) were in summer (Table 5).

In regards to time of arrival, most of the cases came to casualty in between 06.00 pm to 11.59 pm i.e.136 cases (38.31%) followed by 12.00 pm to 5.59 pm i.e.114 cases (32.11%). Least cases were from time period between 06.00 am to 11.59 am i.e. 49 cases (13.80%).

**Table 1: Types of medicolegal cases**

Cases	Number	Percentage
RTA	207	58.31
Poisoning	47	13.24
Fall from height	36	10.14
Firearm	01	0.28
Assault	27	7.61
Asphyxial deaths	08	2.25
burn	10	2.82
electrocution	03	0.84
Accidental injury	08	2.25
Trauma by train	01	0.28
Brought dead	04	1.13
Sexual assault	01	0.28
Trauma by animal	02	0.56
Total	355	100

**Table 2: Gender wise distribution of medicolegal cases**

Sex	Medicolegal cases	Percentage
Male	260	73.24
Female	95	26.76
Total	355	100

**Table 3: Age group wise distribution of medicolegal cases**

Age	Medicolegal cases	Percentage
0-10 years	13	3.66
11-20 years	61	17.19
21-30 years	123	34.65
31-40 years	76	21.41
41-50 years	44	12.39
51-60 years	26	7.32
61 and above	12	3.38
Total	355	100

**Table 4: Month wise distribution of medicolegal cases**

Month	Medicolegal case	Percentage
Aug 2021	24	6.76
Sep 2021	26	7.32
Oct 2021	57	16.06
Nov 2021	46	12.96
Dec 2021	41	11.55
Jan 2022	11	3.10
Feb 2022	20	5.63
March 2022	42	11.83
April 2022	07	1.97
May 2022	29	8.17
June2022	31	8.73
July 2022	21	5.92
Total	355	100

**Table 5: Season wise distribution of medicolegal cases**

Season	Medicolegal cases	Percentage
Summer (March- June)	109	30.70
Rainy (July-October)	128	36.06
Winter (November- February)	118	33.24
Total	355	100

In addition, when we studied in regards to region wise distribution of cases, residence of most of the cases was from outside of Morad-abad region constituting 213 cases (60%).

## DISCUSSION

In present study, in regards to the type of medicolegal cases, most of the cases belong to road traffic accidents constituting to 207 cases (58.31%). Findings of our study are consistent with the studies conducted by Yogesh C, Amirthvarshan et al<sup>2</sup>; Kulkarni P & Pandey R K<sup>3</sup>; Siddappa S C & Datta A<sup>4</sup>; Yattoo GH, Jalali et al<sup>5</sup>, and Manju L & Beevi P N<sup>6</sup> where road traffic accidents constituted majority of medico-legal cases. The reason for road traffic accidents being the most commonly encountered medicolegal cases was that the hospital is located on national highway and other reason being non-following of traffic rules or rash driving.

Some studies like by Malik Y, Chawla R et al<sup>7</sup> and study by Yadav A and Singh NK<sup>8</sup> differ from our study which showed maximum cases were from poisoning, the reason may be these hospitals being in rural area.

In our study, poisoning cases were second in number constituting 47 cases (13.24%).

In our study most of the cases were males 260 out of 355 i.e. (73.24%), which is a similar finding in most of the studies like Kulkarni P, Pandey R K<sup>3</sup>; Siddappa S C, Datta A<sup>4</sup>; Yattoo GH, Jalali et al<sup>5</sup>; Manju L, Beevi P N<sup>6</sup> and by Malik Y et al<sup>7</sup>, the reason being males are usually involved in driving and outdoor activities.

In our study, maximum cases i.e. 123 cases were in the age group of 21-30 years i.e. 34.65%. This is similar to most of the studies done like study done by Gupta Ashok and Bholu Kumar Singh<sup>9</sup>; Saxena A, Vinod Kumar et al<sup>10</sup>, and also by Siddappa S C, Datta A<sup>3</sup>, supporting the fact that young adults are of driving age group and more involved in outdoor activities. The risk taking behavior is more commonly seen among this age group. They are usually reluctant to follow the established safety measures compared to old experienced drivers.

In this study, in regards to month wise distribution, most of the cases occurred during October constituting 57 cases (16.06%)

followed by November with 46 cases (12.96%). Study by Saxena A, Vinod Kumar et al<sup>10</sup> showed maximum cases in month of November (17.05%) followed by July (12.5%), likely reason may be winter though usually from November.

In our study region, winter starts from late October leading to fall in temperature and appearance of dense fog on roads, causing decrease in visibility and making driving dangerous.

In regards to seasonal variation, most of the cases were in rainy season constituting 128 cases (36.06%) similar finding were seen in study by Saxena A, Vinod Kumar et al<sup>10</sup> also in study by Garg V, Verma Sk et al<sup>11</sup> and study by Hussaini SN, Kulkarni CS et al<sup>12</sup>, as in rainy season roads are very slippery and visibility is also decreased thus increasing the chances of accidents.

In our study, most of the cases were in between 06.00 pm to 11.59 pm i.e. 136 cases (38.31%). This is contrast to findings in the study by Siddappa S C, Datta A<sup>4</sup> and study by Saxena A, Vinod Kumar et al<sup>10</sup> where most of the cases were between 12.00 pm to 06.00 pm followed by cases between 06.00 pm to 11.59 pm, supporting the accepted fact that night time driving is more prone to accidents.

In our study, in regards to region wise distribution of cases, most of the cases were residing outside of Moradabad region constituting 213 cases (60%) and 142 (i.e. 40%) cases from Moradabad region. The cases were reason being most cases were of RTA and hospital is situated on highway, so travelers from outside Moradabad, encountered in road traffic accident constituted majority of the cases.

## CONCLUSION

In our study, in regards to indication for medico-legal, the most common cases registered were road traffic accidents i.e. 207 cases (58.31%).

Most of the cases were males being 260 cases (73.24%).

Maximum cases i.e. 123 cases were in the age group of 21-30 years.

In regards to month wise distribution, most of the cases occurred during October constituting 57 cases (16.06%).

In regards to seasonal variation, most of the cases were in rainy season constituting 128 cases (36.06%).

In regards to time of arrival, most of the cases came to casualty in between 06.00 pm to 11.59 pm i.e.136 cases (38.31%).

In regards to region wise distribution of cases, residence of most of the cases was, from outside of Moradabad region constituting 213 cases (60%).

## RECOMMENDATIONS

Considering the change of the name of Casualty to Emergency department by NMC, adequate qualified manpower/staff should be provided round the clock to department to handle medical as well as legal cases.

Indiscriminate labeling of a case as medico-legal should be avoided so that unnecessary burden of doctor as well as police authority should be reduced.

All treatment records and allied documents should be stored in emergency department itself.

Preserved samples should be handed over to concerned police personnel immediately and reports should be preserved in the department, itself.

Uniform comprehensive guidelines should be given by NMC in regards to handling of medico-legal cases.

NMC may consider introduction of targeted course (online/offline) in regards to handling of medico-legal cases which will be compulsory for all doctors.

Road safety awareness programs should be conducted by traffic police on frequent basis, especially for young adults.

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