

# A RETROSPECTIVE STUDY OF COMPARISON OF SPECTRUM OF MEDICO-LEGAL CASES AND OUTCOMES IN THE EMERGENCY DEPARTMENT OF A TERTIARY CARE HOSPITAL

**Dr. Ravikumara R<sup>1\*</sup>**

<sup>1\*</sup> Assistant Professor, Department of Emergency Medicine, Sri Siddartha Medical College and Research Centre, B.H Road, Agalkote, Tumkur, Karnataka, India. Pin-527107.

**Corresponding Author: Dr. Ravikumara R**

Assistant Professor, Department of Emergency Medicine, Sri Siddartha Medical College and Research Centre, B.H Road, Agalkote, Tumkur, Karnataka, India. Pin-527107.

## **Abstract:**

**Introduction:** A medico-legal case is defined as a case of injury or ailment where after medical examination of the patient, treating doctor thinks that some investigations by law enforcing agencies are essential. This is the responsibility of a registered medical practitioner to inform the police in doubtful cases. Casualty department deals with the various types of medico-legal cases such as road traffic accident, burn cases, poisoning, and sudden deaths.

**Materials and Methods:** Medico-legal cases registered for one year were included from May 2022 to May 2023. A total of 478 cases were registered, out of which 459 were selected, and 19 cases were removed from the study due to incomplete documentation in records. Data was recorded in proforma regarding the demographic profile, the pattern of MLC, and hospital outcome.

**Results:** Among the 459 medico-legal cases, there were 275 (60 %) males and 184 (40%) females. The frequency of age distribution in less than 20 years of age group was 19.4%, 21 to 40 years age group 56.10%, 41 to 60 years age group 19.7%, and more than 61 years age group 4.8%. The mean age group was 33.12 years. The frequency of pattern of MLC cases as follows, Road Traffic accidents 36% (169), Poisoning 23% (105), Assault 20% (96), Bite 75 (13%), 60%, Others 5% (34) and Burns 3 % (40). Among 459 cases registered, 53% were discharged, 6.8% died, 26.2% went AMA, and 14% were managed on an OPD basis.

**Conclusion:** Medico-legal cases are common in the male population. The majority of the cases are in the age group of 21 to 40 years. The most common pattern was Road Traffic accidents and also the leading cause of death. A significant number of cases refused hospital care went against medical advice.

Emergency Department is designed to receive cases from different backgrounds presenting as emergencies. Overcrowding is common and interferes with triage and resuscitation to the neediest first.

**Key Words:** A medico-legal, road traffic accident, burn cases, poisoning, and sudden deaths.

## INTRODUCTION

A medico-legal case is defined as a case of injury or ailment where after medical examination of the patient, treating doctor thinks that some investigations by law enforcing agencies are essential.<sup>1</sup> This is the responsibility of a registered medical practitioner to inform the police in doubtful cases. Casualty department deals with the various types of medico-legal cases such as road traffic accident, burn cases, poisoning, and sudden deaths.<sup>2</sup> Casualty medical officer is the first doctor dealing with such types of cases. Therefore important functions of casualty medical officer is to describe and interpret the injuries accurately.<sup>3</sup>

Medico-legal case is an integral part of medical practice that is frequently encountered by medical officers working in emergency department. For such patients, not only treatment, but exhaustive documentation is also mandatory.<sup>4</sup> 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. In the present study an attempt is made to know the workload of medico-legal cases and their pattern.<sup>5</sup>

This study aims to determine the frequency and pattern of medico-legal cases with their outcome reported at the emergency department of a tertiary care hospital.

## MATERIALS AND METHODS

**Study design:** A retrospective study

**Study Duration:** May 2022 to May 2023.

**Study Location:** Department of Emergency Medicine, Sri Siddartha Medical College and Research Centre, B.H Road, Agalkote, Tumkur, Karnataka, India. Pin-527107.

**Study participants:** Medico-legal cases registered for one year were included from May 2022 to May 2023. A total of 478 cases were registered, out of which 459 were selected, and 19 cases were removed from the study due to incomplete documentation in records.

**Data collection:** Data was recorded in proforma regarding the demographic profile, the pattern of MLC, and hospital outcome.

The pattern of Medico-legal cases (MLC) is categorized into six groups Road traffic accidents, Poisoning, Assaults, Bites, Burns, Others (falls from height, hanging, electric injuries, occupational injuries, etc.).

The outcomes are categorized into four groups such as Discharge- Patients completely recovered after treatment, Death- Patients died in the hospital before or after admission, Against Medical

Advice (AMA)-Patients not willing for admission, Outpatient (OPD) Basis-Patients are evaluated and treated in ED.

**Statistical analysis:** The collected data were analyzed for descriptive statistics by Statistical Package for Social Sciences [SPSS] for Windows, Version 26.0. The results were recorded in frequencies and percentages.

**RESULTS**

Among the 459 medico-legal cases, there were 275 (60 %) males and 184 (40%) females. The frequency of age distribution in less than 20 years of age group was 19.4%, 21 to 40 years age group 56.10%, 41 to 60 years age group 19.7%, and more than 61 years age group 4.8%. The mean age group was 33.12 years.

S.No	Age group	N (%)
1	Less than 20 years	91(20%)
2	21-40 years	253(55%)
3	41-60 years	91(20%)
4	More than 61 years	24(5%)
5	Total	459 (100%)

**Table 1: Age distribution**

S.No	Gender	N (%)
1	Male	275(60%)
2	Female	184(40%)

**Table 2: Gender distribution**

Name	Discharge	Death	AMA	OPD Basis	Total
<b>RTA</b>	73 (16%)	9 (2%)	55 (12%)	32(7%)	169 (36%)
<b>Poison</b>	78 (17%)	9 (2%)	14 (3%)	4(1%)	105 (23%)
<b>Assault</b>	23 (5%)	4 (1%)	41 (9%)	28(6%)	96 (20%)
<b>Bite</b>	48 (10.5%)	4 (1%)	7 (1.5%)	16(4%)	75 (13%)
<b>Burns</b>	7 (1.5%)	1 (0.3%)	1 (0.2%)	31(8%)	40 (3%)
<b>Others</b>	14 (3%)	2 (0.5%)	2(0.5%)	16(4%)	34 (5%)
<b>Total</b>	<b>183 (53%)</b>	<b>29 (6.8%)</b>	<b>120 (26.2%)</b>	<b>127(14%)</b>	<b>459 (100%)</b>

**Table 3: Comparison of Spectrum of MLC with the outcome (n=459)**

The frequency of pattern of MLC cases as follows, Road Traffic accidents 36% (169), Poisoning 23% (105), Assault 20% (96), Bite 75 (13%), 60%, Others 5% (34) and Burns 3 % (40).

Among 459 cases registered, 53% were discharged, 6.8% died, 26.2% went AMA, and 14% were managed on an OPD basis.

The comparison of different patterns of MLC cases with outcomes shows that in the RTA group discharges were 16% and AMA 12%, in the Poisoning group discharges were 17% and AMA

3%, in the Assaults group discharges were 5%. And AMA was 9%, among Bite group discharges were 10.5% and AMA 1.5%, and patients with Burns discharge were 1.5%.

## DISCUSSION

The present analysis revealed that MLC cases were more in males (60%) compared to females (40 %). Our results are similar to the study conducted by Patekar et al males (79.4%) and females (20.6%), and in Jude et al.'s study males were 57.2% and females 42.8%. The predominance of males over females may be due to behavior patterns and more outdoor activities, including working outside to earn their daily bread. In contrast, females usually stay at home and look after the household work.<sup>6</sup>

In the present study, the highest number of MLC cases were in the age group of 21 to 40 years (55%), similar results were found in other studies done by Siddappa et al 60.37%, and in Patekar et al study 57.66%. Results may be due to most active age involving outdoor activities prone to Road traffic accidents, assaults, bites, and increased poisoning due to mental health issues.<sup>7,8</sup>

In the present study frequency of the pattern of MLC in descending order is as follows: Road Traffic accidents 36%, poisoning 23%, assault 20%, bite 13%, Others 5%, and burns 3 %. Compared with other studies conducted by Patekar et al (10) RTA was 47.10%, poisoning 15.06%, assault at 6.73%, and Bharti et al studies found road traffic accidents at 39.7%, poisoning at 8.85%, and assault at 18.4%, burns 2.7% and bite 0.44%.<sup>9</sup> Road traffic accidents followed by poisoning were found to be the most common pattern of MLC cases in a majority of studies. RTA is the leading global cause, which may be due to an increase in population, poor road conditions, lack of road safety measures, and drinking and driving. Poisoning was second highest in India, due to the maximum rural population dependent on agriculture. This information clarifies that the ED should have separate rooms for trauma and poison patients.<sup>10</sup>

## CONCLUSION

Medico-legal cases are common in the male population. The majority of the cases are in the age group of 21 to 40 years. The most common pattern was Road Traffic accidents and also the leading cause of death. A significant number of cases refused hospital care went against medical advice.

Emergency Department is designed to receive cases from different backgrounds presenting as emergencies. Overcrowding is common and interferes with triage and resuscitation to the neediest first. In India, the emergency specialty is in a growing phase. This study found trends in medicolegal cases and lacunae in managing at Emergency Department, which can be overcome by the below-listed strategies. Every ED should have a standard operating protocol for managing medico-legal cases. Should have casualty medical officers for documentation and manage records of medicolegal cases. Counseling room with multipurpose social worker for early registration and counseling to patients. Emergency physicians and Residents staff should have

Periodic training to identify and manage MLC cases. The resource allocation should be considered depending on the frequency and pattern of MLC cases. Separate rooms for trauma and poison patient management. Optionally to have a dead body holding room.

## REFERENCES

1. Saxena A, Kumar V, Chaudhary SR, Singh J, Awasthi S. Pattern of Medico-legal Cases in the Casualty Department of A Teaching Hospital, Bareilly, Uttar-Pradesh. *J Indian Acad Forensic Med* 2015;37(4):338-40.
2. Timsinha S, Manjarikar S, Baral MP, Ranjitkar M. Profile of Pattern of Medico-Legal Cases in the Casualty of a Teaching Hospital of Western Region of Nepal. *J Indian Acad Forensic Med* 2015;37(1):46-9.
3. Hussaini SN, Kulkarni CS, Batra AK. Profile of Medico-Legal Cases Coming to Casualty of Government Medical College, Akola. *J Forensic Med, Sci Law* 2013;22(2).
4. Malik Y, Chawla R, Sharma G, Malik P, Singh R, Tripathi A et al.. Profile of Medico-legal Cases in Casualty of a Rural Medical College of Haryana. *J Indian Acad Forensic Med* 2013;35(4):367-8.
5. Marri MZ, Baloch U. Frequency and pattern of medico legal cases reported at Sandeman Civil Hospital Quetta Baluchistan-1 year study. *Med Forum Monthly* 2012;23(9):50-4.
6. Shyam Sundar Mina, Srikanta Basu, Virendra Kumar, Deepika Mina. Profile of Medico-legal Cases registered at a tertiary care children's hospital, Delhi. *Int J Contemporary Pediatr* 2017;4(4):1345-1348.
7. Qudsia.,et al.Physical Trauma-A leading cause of Medicolegal cases at DHQ Abbottabad. *J Ayub Med Coll Abbottabad* 2010;22(2):156-9.
8. Yadav A, Singh NK. Pattern of Medico-legal Cases in rural Area of Faridabad, Haryana. *J Indian Acad Forensic Med* 2013;35(1):60-2.
9. Siddappa SC, Datta A. A Study Pattern of Medico-legal Cases Treated at a Tertiary Care Hospital in Central Karnataka. *Indian J Forensic Comm Med* 2015;2(4):193-97.
10. Abhisek Yadav. Pattern of Medicolegal cases in rural Haryana. *J Indian Acad Forensic Med* 2013;35(1)60-2.