

# Analysis of Pattern of Medico Legal Cases Registered in the Casualty Department of a Teaching Hospital, Karimnagar, Telangana

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**CONTEXT:** A medicolegal case is any medical case with legal implications. These medico-legal cases differ among regions based on socio-economic status, cultural diversities, capability of law enforcing agencies and the prevailing standards of health care services available in the community.

**AIM:** This study was aimed to know the pattern and magnitude of medico legal cases.

**MATERIAL & METHODS:** It is a record based analytical cross sectional study in which all the MLC cases registered in MLC record book of Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar between January to June 2017 were included. Cases found non medico-legal were excluded. Variables considered were gender, age, time of arrival. Findings were expressed in numbers and percentages.

**RESULTS:** Total cases were 464, of which 355 (76.50%) were males and 109 (23.50%) were females. Maximum cases were from the age group of 21-40 years i.e., 206 (44.39%). Most of the medico-legal cases registered were due to Road Traffic Accidents (53.67%) followed by machinery (factory) injuries (20.25%), poisoning (8.84%), fall from height (6.26%), assault (4.52%), thermal injuries (4.52%), injuries by animals (0.86%), self-inflicted injuries (0.64%), injuries due to violent asphyxia (0.22%), railway injuries (0.22%).

**CONCLUSIONS:** Most of the victims were males, young adults. Most common cases reported as medico legal cases were road traffic accidents followed by machinery injuries and poisoning cases, etc.

**KEYWORDS** | casualty, tertiary care hospital, road traffic accidents, assault, poisoning

## INTRODUCTION

**M**EDICO-LEGAL CASE CAN BE DEFINED AS A case of injury or ailment etc. in which investigations by the law enforcing agencies are essential to fix the responsibility regarding the causation of the said injury or ailment. 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>1,2</sup>

It is the responsibility of a registered medical practitioner to judge each and every case properly and in doubtful cases, it is mandatory to inform the police as required by law. This saves the doctor from unnecessary and needless allegations later.<sup>3</sup>

Any failure to report the occurrence of an MLC may invite prosecution under sections 176 and/or 202 of IPC.<sup>4</sup>

All the medico-legal cases are registered in casualty. Casualty department is very crucial

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to any hospital as all the medical and surgical emergencies first report there. Further, it serves as an outpatient department after the routine outpatient department hours.

Profiling of medicolegal cases is an integral aspect to the prevention of preventable casualties in future and to study the crime rate in area.<sup>5</sup>

In the 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, time of arrival in casualty department and analyze the data and find out suggestion for improvement of medicolegal work in casualty.

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### MATERIAL AND METHODS

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This is a record-based analytical, and cross-sectional study involving medicolegal cases which reported to the casualty of Chalmeda Anand Rao Institute of Medical Sciences, Karimnagar from 1st January to 30th June 2017. All the reported MLC cases in the medicolegal case register were included in this study. Cases found as non-medicolegal and those with incomplete entry were excluded. Information regarding gender, age and time of arrival was collected from the medico legal case register. The collected data was analyzed, observations discussed, tabulated and compared with other studies.

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### RESULTS

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A total of 464 cases were selected for the present study from medico legal case register and the following observations were made. Out of 464 medico legal cases studied, 355 (76.50%) were male and 109 (23.50%) were female. Male to female gender ratio being 3.25:1. (Figure -1) From the present study it is observed that more number of victims in this study population are of 31-40 years age group 105 (22.63%), followed by 21-30 years age group 101 (21.76%). The minimum number of cases were reported in the age group of >70 years 13 (2.80%) followed by 1-10 years age group 16 (3.45%). (Figure 2)

It is also observed that maximum number of cases were reported between 12 p.m. to 6 p.m.

(40.08%) followed by 6 p.m. to 12 p.m. (31.25%), 6 a.m. to 12 p.m. (18.31%). Time of arrival of cases was the time mentioned in medicolegal register, it was observed that minimum cases were reported at night time i.e. 12 a.m. to 6 am (10.34%). It was also observed that maximum numbers of cases were reported between 12 p.m. to 12 a.m. (71.33%) in comparison to 12 am to 12 p.m. (28.65%). (Table - 1)

Present study showed that most of the medico legal cases registered were due to RTA (53.67%) followed by machinery injuries (20.25%) and poisoning (8.84%). Fall from height accounted for 6.26% cases and assault cases accounted for 4.52%. Cause of MLC was thermal injuries in 4.52% cases, injuries by animal in 0.86% cases and self-inflicted injuries in 0.64% cases. Minimum numbers of cases were due to railway injuries (0.22%), violent asphyxia (0.22%). The male to female ratio varied with the type of medico legal case. Males were predominantly involved in most of the medico legal cases. (Table - 2)

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### DISCUSSION

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A case is made in medico legal by the Medical officer whenever an injured, poisoned, burnt cases are brought to the casualty for treatment irrespective of the history of the case. This is done on the presumption that it is the duty of the doctor to assist the police in the proper investigation of the case, to help catch the accused, and also to prevent any untoward incident in society. In every case of injury all observations and details of examination of the injured person must be entered into the accident register by the medical officer with appropriate sketches and diagrams.<sup>6</sup>

A similar study done at a tertiary care hospital in Bareilly, U.P., showed that males were the dominant group (81.44%). Most of the victims were of the age group 21 – 30 years (30.68%). Most of the medico legal cases registered were due to RTA (64.39%).<sup>7</sup> These findings are similar to our study findings.

A study done by researchers in Bengaluru, has shown that assault (50.3%) constituted

| TYPE            | DISTRIBUTION         | RTA         | MACHINERY  | POISONING  | FALL FROM HEIGHT | ASSAULT    | THERMAL INJURIES | INJURIES BY ANIMAL | SELF-INFLICTED | VIOLENT ASPHYXIA | RAILWAY INJURIES |
|-----------------|----------------------|-------------|------------|------------|------------------|------------|------------------|--------------------|----------------|------------------|------------------|
| AGE GROUPS      | 0-10Yrs              | 3(1.20%)    | 5(5.32%)   | 2(4.88%)   | 3(10.35%)        | 1(4.76%)   | 2(9.52%)         | NIL                | NIL            | NIL              | NIL              |
|                 | 11-20Yrs             | 47(18.87%)  | 11(11.70%) | 12(29.26%) | 3(10.35%)        | 1(4.76%)   | 4(19.06%)        | 1(25%)             | NIL            | NIL              | 1(100%)          |
|                 | 21-30Yrs             | 56(22.49%)  |            | 11(11.70%) | 15(36.58%)       | 5(17.24%)  | 7(33.34%)        | 5(23.81%)          | NIL            | 2(66.67%)        | NIL NIL          |
|                 | 31-40Yrs             | 55(22.09%)  |            | 25(26.60%) | 6(14.63%)        | 5(17.24%)  | 7(33.34%)        | 5(23.81%)          | 2(50%)         | NIL              | NIL NIL          |
|                 | 41-50Yrs             | 41(16.46%)  | 20(21.28%) | 1(2.45%)   | 6(20.67%)        | 1(4.76%)   | 3(14.28%)        | 1(25%)             | 1(33.33%)      | 1(100%)          | NIL              |
|                 | 51-60Yrs             | 28(11.25%)  | 16(17.02%) | 4(9.75%)   | 5(17.24%)        | 3(14.28%)  | 2(9.52%)         | NIL                | NIL            | NIL              | NIL              |
|                 | 61-70Yrs             | 11(4.42%)   | 2(2.13%)   | NIL        | 2(6.91%)         | 1(4.76%)   | NIL              | NIL                | NIL            | NIL              | NIL              |
|                 | >70Yrs               | 8(3.22%)    | 4(4.25%)   | 1(2.45%)   | NIL              | NIL        | NIL              | NIL                | NIL            | NIL              | NIL              |
| GENDER          | MALES                | 199(79.92%) | 71(75.50%) | 21(51.21%) | 26(89.65%)       | 18(85.72%) | 13(61.90%)       | 3(75%)             | 2(66.67%)      | 1(100%)          | 1(100%)          |
|                 | FEMALES              | 50(20.08%)  |            | 23(24.50%) | 20(48.79%)       | 3(10.35%)  | 3(14.28%)        | 8(38.10%)          | 1(25%)         | 1(33.33%)        | NIL NIL          |
| TIME OF ARRIVAL | MORNING (6AM-12PM)   | 43(17.27%)  | 20(21.28%) | 8(19.52%)  | 3(10.35%)        | 6(28.57%)  | 2(9.52%)         | 1(25%)             | 2(66.67%)      | NIL              | NIL              |
|                 | AFTERNOON (12PM-6PM) | 105(42.16%) | 33(35.11%) | 16(39.02%) | 12(41.37%)       | 8(38.10%)  | 8(38.10%)        | 1(25%)             | 1(33.33%)      | 1(100%)          | 1(100%)          |
|                 | EVENING (6PM-12PM)   | 79(31.73%)  | 29(30.85%) | 12(29.26%) | 12(41.37%)       | 4(19.05%)  | 8(38.10%)        | 1(25%)             | NIL            | NIL              | NIL              |
|                 | NIGHT (12AM- 6AM)    | 22(8.84%)   | 12(12.76%) | 5(12.20%)  | 2(6.97%)         | 3(14.28%)  | 3(14.28%)        | 1(25%)             | NIL            | NIL              | NIL              |

Table 1: Pattern of Medicolegal cases.

| PATTERN OF MEDICOLEGAL CASES | FREQUENCY(PERCENTAGE) |
|------------------------------|-----------------------|
| Road traffic accidents       | 249(53.67%)           |
| Machinery                    | 94(20.25%)            |
| Poisoning                    | 41(8.84%)             |
| Fall from height             | 29(6.26%)             |
| Assault(manual/weapon)       | 21(4.52%)             |
| Thermal Injuries             | 21(4.52%)             |
| Injuries by animal           | 4(0.86%)              |
| Self-inflicted injuries      | 3(0.64%)              |
| Violent asphyxial injuries   | 1(0.22%)              |
| Railway injuries             | 1(0.22%)              |
| Total                        | 464(100%)             |

Table 2: Distribution of medico legal cases according to their pattern (n=464)

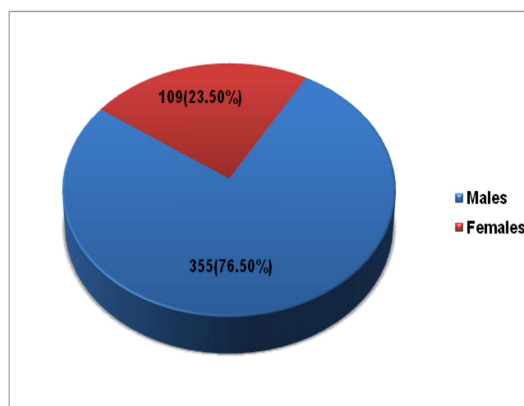


Figure 1: Distribution of medico legal cases according to their Gender (n=464)

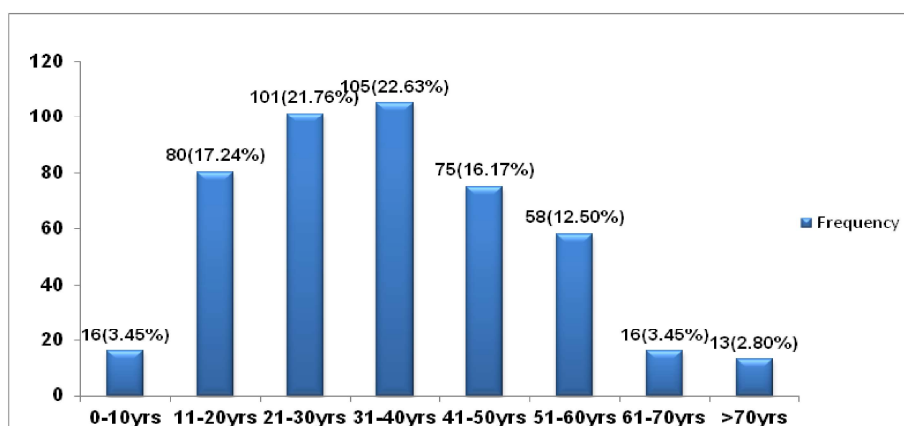


Figure 2: Age wise distribution of medico legal cases reported (n=464)

the majority of medico legal cases followed by poisoning (18.43%). This finding is in contrast to our findings. In their study, majority of the victims were males (68.74%) and maximum number of cases were in the age group of 21 – 30 years (43.22%).<sup>8</sup> These are consistent with our study findings.

In our study it was observed that most of the victims were males (76.50%). Our findings are consistent with study conducted by Trangadia MM *et al.*,<sup>9</sup> (males 72.77%), Hussaini SN *et al.*,<sup>10</sup> (males 74.03%). The predominance of males over females may be attributed to the male dominance in the society and males who work outside to earn their daily bread are more vulnerable, while females usually stay at home and look after the household work.

In our study maximum numbers of cases reported to casualty were from age group 31-40 years (22.63%) followed by 21-30 years (21.76%) and 11-20 years (17.24%), almost similar to other authors studies.<sup>7,8,9,10</sup> This may be due to fact that individual of these age group lead more active life, involved more in the outdoors, sports and recreational activities and take risk, which leads to more injuries and accidents among these group.

Maximum incidence of medico legal cases took place between 12 pm to 6 pm (40.08%), this is similar to other author studies<sup>7</sup>, as during this time of day most of people are involved in their activities. This is because as the day progressed the frustration of the person increased and the temperature, humidity environment also increased during this time period of day. Our study also showed that minimum number medico legal cases reported to casualty between 12 am to 6 pm (10.34%), because people usually remain asleep.

Present study showed that maximum cases reported to casualty were RTA (53.67%). This finding is consistent with other study Atul saxena *et al.*,<sup>7</sup> contrast with Karhik SK *et al.*,<sup>8</sup> showing that assaults were maximum, in our area assault cases most of the time referred to Govt. District Hospital. Next to RTA other

medico legal cases reported casualty were machinery injuries (20.25%) noted in our study but it differed with other studies<sup>7,8</sup>, because in our study place granite industries and agriculture works were more so injuries were more with machinery.<sup>11</sup> after machinery injuries, poisoning cases (8.84%) were commonly reported. Malik Y<sup>12</sup> and Yadav A<sup>13</sup> studies observed that maximum cases reported to casualty were of poisoning which differ to our study.

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#### CONCLUSION

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The casualty department of any hospital is not only deal medical and surgical emergencies but also carry out legal responsibilities to examine documentation and certify medico-legal cases, this puts a lot of burden on casualty department and on first contact doctor, most of time they are MBBS only. The doctor those are involved in handling medico legal cases need to be more trained.

The present study shows that majority of the victims are males as compare to females. Younger age group (21-40 years) is more commonly affected. RTA cases were highest in number among all registered medico-legal cases. This can be reduced by implementing strict road traffic rules as well as by improving the road condition by concerned authorities, at the same time giving proper education, awareness and training of safety standards by administrators, health officials, social workers and NGOs to the general population. **IJFMP**

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