

Original Article

Profile of Medico-legal Cases in Casualty of a Tertiary Care Hospital in Delhi

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ABSTRACT

Medico-legal cases are showing rising trend throughout the world. The aim of the present study is to throw light on the profile and pattern of medico-legal cases presenting to casualty department of tertiary care hospital in Delhi. In present study, total number of 2107 medico-legal cases from 1st January 2016 to 30th December 2018 was included. Data was collected from Medico-legal case register in various parameters and was analyzed and discussed. Male predominance was observed in 77.03% cases. Maximum cases reported from the age group of 21–30 years (25.63%) followed by age group of 31–40 years (16.94%). In majority of cases (79.97%), alleged manner of incidence was accident followed by suicide. Majority of cases (70.15%) were of road traffic accident (RTA). Majority of cases (53.30%) reported to casualty within 1 hour from the time of incidence. Such incidences can be prevented by giving awareness through proper education and training of safety standards by administrators through road safety programs

Keywords: Medico-legal cases, Casualty medical officer, Road traffic accident, Casualty

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. 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 ^[1].

Therefore aim of present study is to throw light on the profile and pattern of medico-legal cases presenting to casualty department and to provide real data to various authorities to formulate policy in order to reduce these incidences.

MATERIAL AND METHODS

Present study was a retrospective hospital based observational study conducted at the casualty of Base Hospital, Delhi Cantt, New Delhi. Total number of 2107 medico-legal cases from 1st January 2016 to 30th December 2018 was included in the study. Data was collected from Medico-legal case register in various parameters and was analysed and discussed. All the

medico-legal cases registered at the casualty of Base Hospital, Delhi Cantt were included in the study while brought dead cases were excluded from the study. The collected data was depicted in form of tables, graphs and pie charts by using various parameters and analyzed and compared with other similar studies.

RESULTS

Total numbers of medico-legal cases included in the present study were 2107 from the record of medico-legal cases from 1st January 2016 to 30th December 2018.

Table 1: Gender wise distribution of cases

Gender	Number of cases	Percentage
Male	1623	77.03
Female	484	22.97
Total/M:F Ratio	2107	3.3:1

Table 1 show that out of 2107 cases, 1623 (77.03%) were males and 484 (22.97%) were females. Male to female ratio was 3.3:1.

Table 2: Age Distribution

Age Groups	Number of cases	Percentage
<10	73	3.46
11 to 20	217	10.30
21 to 30	540	25.63
31 to 40	357	16.94
41 to 50	281	13.34
51 to 60	264	12.53
61 to 70	233	11.06
>71	142	6.74

Table 2 show that in the present study, maximum number of cases (540, 25.63%) were from the age group of 21-30 years followed by 16.94% (n=357) from the age group of 31-40 years.

Table 3: Region wise distribution

Criteria	Number of cases	Percentage
Urban	1486	70.52
Rural	621	29.48

Table 3 shows that maximum (1486, 70.52%) cases were from urban area and rest of the cases i.e. 621 (29.48%) were from rural areas.

Table 4: Month wise Distribution

Month	Number of MLC	Percentage
January	206	9.78
February	273	12.96
March	143	6.79
April	146	6.93
May	228	10.82
June	148	7.02
July	111	5.27
August	131	6.22
September	141	6.69
October	132	6.26
November	205	9.73
December	243	11.53
Total	2107	100

Table 4 show that most of the cases were registered in the month of Feb (12.96 %) and minimum in month of July (5.27%).

Figure 1 shows that maximum cases occurred during winter season (44.16%) followed by summer season (31.56%).

Figure 2 shows that majority of the injuries occur between 6 pm to 12 am (43.09%) followed by 12 am to 6 am

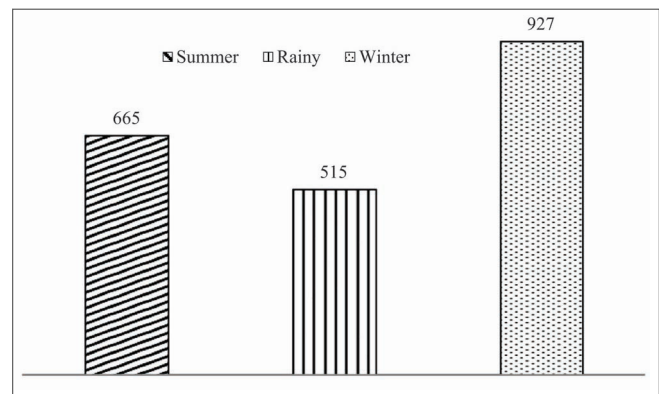


Figure 1: Season wise Distribution

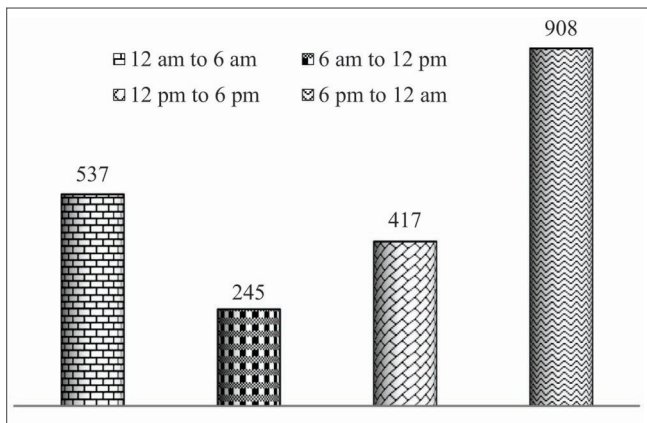


Figure 2: Distribution of Time of Incident of MLCs

(25.49%). Least of the incidents took place between 6 am to 12 pm (11.63%). Opinion was taken from single department in 64.93% cases, 2 department opinions were sought in 26.72% cases, whereas more than two departments were involved in 8.35% cases (Table 5). Surgery department was called for intervention in maximum number of cases i.e. 69.96%, followed by orthopaedics department in 58.99% cases and other departments were also referred as shown in Table 6.

Majority of cases (53.30%) reported to casualty within 1 hour from the time of incidence, whereas 4.51% cases reported after 12 hours of incidence (Figure 3).

Table 5: Distribution of opinion of other department taken in MLCs

No. of the Department	No. of Cases	Percentage
One Department Opinion	1368	64.93
Two Department Opinion	563	26.72
More than Two Department	176	8.35

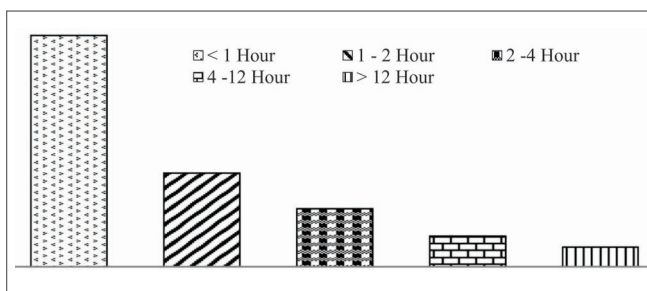


Figure 3: Distribution of time taken for reporting to hospital

Table 6: Distribution of individual departmental opinion taken in MLCs

Name of the Dept	Number of Cases	Percentage
Surgery	1474	69.96
Orthopedics	1243	58.99
Neurosurgery	505	23.97
Plastic Surgery	252	11.96
ENT	147	6.98
Ophthalmology	109	5.17
Medicine	756	35.88
Paediatrics	632	30.00
Gynaecology	6	0.28

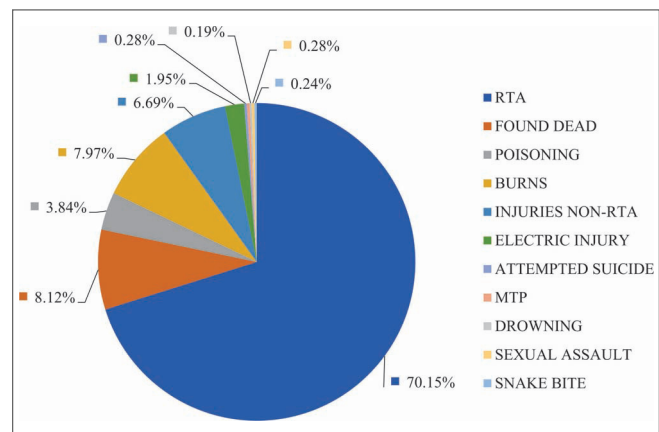


Figure 4: Spectrum of Medico Legal Cases

Out of total cases reported to casualty, majority (70.15%) were of road traffic accident (RTA), followed by found dead in 8.12%, Non-RTA injuries cases amount to 6.69% including 3 cases of assault in which one case was registered under POCSO and other cases were fall from height, assault etc. The cases of burns were 7.97% cases and 3.84% poisoning cases (Figure 4).

Alleged manner of incidence was accidental in 79.97% cases, suicidal in 8.88% of cases and homicidal in 2.99% of cases and in 8.16% manner was undetermined as cases brought were Found Dead (Figure 5).

Figure 6 shows the distribution of cases according to their outcome. Majority of the cases 1257 (89.99%) were discharged, 21(1.0%) were LAMA, 17(0.81%) case

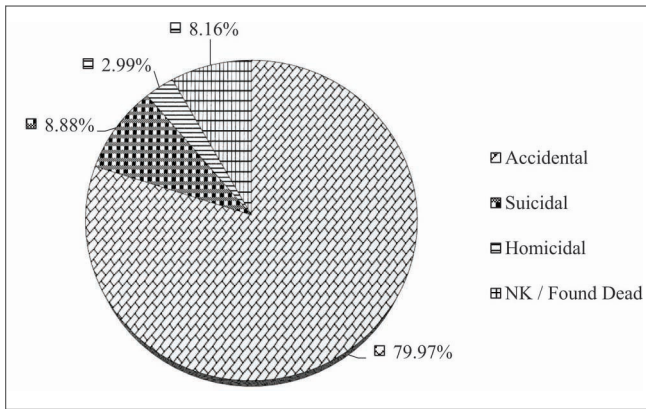


Figure 5: Distribution of Alleged Manner of incidence of MLC

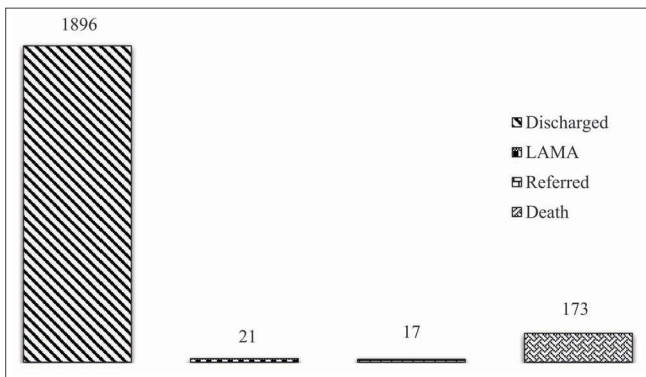


Figure 6: Distribution of Final Outcome of the Cases

referred to higher center and 173(8.21%) died during the course of treatment.

DISCUSSION

In the present study, males (77.03%) outnumbered females (22.97%) and male to female ratio was 3.3:1. Studies done by various authors (Garg *et al.*^[2] Malik *et al.*^[3] Hussaini *et al.*^[4]) also reported male predominance over female. Reason behind this may be that males are more exposed to outdoor activities.

In the present study, maximum number of cases (540, 25.63%) were from the age group of 21-30 years followed by 16.94% (n=357) from the age group of 31-40 years. Similar findings were observed by studies done by Marri *et al.*^[5] Hussaini *et al.*^[4] Sangwan *et al.*^[6]. This age group is the most working age group in society

and have hyper temperament. This may be the reason behind involvement of younger age group.

In present study, most of the cases were registered in the month of Feb (12.96%) & minimum in month of July (5.27%). Study done by Sangwan *et al.*^[6] observed results different to present study i.e. maximum cases in month of May. Majority of cases (53.30%) reported to casualty within 1 hour from the time of incidence, whereas 4.51% cases reported after 12 hours of incidence. Our findings are consistent with study conducted by Tomar *et al.*^[7] Yadav *et al.*^[8] and Siddappa *et al.*^[9] who observed majority of cases reported in casualty within 1 hour of incidence. Reason behind this may be that urban population has easy access to tertiary care hospital and have more health awareness in comparison of rural population.

Out of total cases reported to casualty, majority (70.15%) were of road traffic accident (RTA), followed by found dead in 8.12%, Non-RTA injuries cases amount to 6.69% including 3 cases of assault in which one case was registered under POCSO and other cases were fall from height, assault etc. The cases of burns were 7.97% cases and 3.84% poisoning cases. Studies done by various authors (Tomar *et al.*^[7] Garg *et al.*^[2] Haridas *et al.*^[10] and Timsinhas *et al.*^[11]) Poor road conditions, increasing road density, poor road lighting etc. may be the reason behind this. Studies done by Malik *et al.*^[12] and Yadav *et al.*^[8] observed that maximum cases reported to casualty were of poisoning which differ from results of our study. Study done by Hussain *et al.*^[4] found maximum number of burn cases reported to casualty.

In present study, alleged manner of incidence was accidental in 79.97% cases, suicidal in 8.88% of cases and homicidal in 2.99% of cases and in 8.16% manner was undetermined as cases brought were found dead. Similar results were observed by the Sangwan *et al.*^[6]; Tomar *et al.*^[7] and Siddappa *et al.*^[9] Study done by Yadav *et al.*^[8] found different results from present study where accidental cases (38.1%) were almost equal to assault cases (39.6%).

Opinion was taken from single department in 64.93% cases, 2 department opinions were sought in 26.72% cases, whereas more than two departments were involved in 8.35% cases. Surgery department was called for intervention in maximum number of cases i.e. 69.96%, followed by orthopaedics department in 58.99% cases. Results of present study are consistent with the findings of Tomar *et al.*^[7] and Timsinha *et al.*^[11].

CONCLUSION

In majority of places, duty of casualty medical officer is performed by MBBS doctor who is not specialist in handling medico legal cases. Therefore medico-legal work should be done under the supervision of forensic expert to avoid imprecision in giving the opinion. The present study showed that male outnumbered female and maximum cases were of younger generation. Most common etiology was of Road Traffic Accident. Such incidences can be prevented by giving awareness through proper education and training of safety standards by administrators through road safety programs.

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