

Epidemiological Profile of Medico-Legal Cases at Tertiary Care Centre in Eastern India

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ABSTRACT

INTRODUCTION: There is an increasing rate of mortality and morbidity amongst the medico-legal cases in India. Knowledge of these cases is necessary to initiate a medico-legal case, treat such cases and further disposal in hospital. It is also needed to implement changes in the law and safety at work, home and roads. The aim of the study was to determine the epidemiological profile of medico-legal cases reported to Tertiary Centre in West Bengal during the study period and to study the epidemiological profile of different medico-legal cases in the hospital.

METHODOLOGY: This study is a retrospective hospital based observational study which was conducted in the casualty of tertiary hospital in Eastern India from November 2018 to January 2021. It is a tertiary care centres with referrals from in and around the state.

RESULTS: In our study we saw a decreasing trend of Medico-legal cases as the years passed by. A male preponderance of the cases (60%) compared to females.

THE RATIO OF MALES: Female was 1.5:1. 57% of our Medico-legal cases were road traffic accident and 18% were fall from height and found dead cases respectively. 36% (505) cases were in the 31-40 years age group followed closely by the 41-50 years age group 30% (421). This was followed by 51-60 years (11%) and 21-30 years and 61-70 years (10% each).

CONCLUSION: The aim of raising a Medico-legal case is to inform the police and application of medical knowledge in practice. The attending doctor needs to tackle the case with medical bent of mind and describe the alleged circumstances in simple language and describe relevant

findings.

KEYWORDS: Medico-legal cases; Road traffic accidents; Fall from height; Tertiary care setups.

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INTRODUCTION

Medico-legal cases are on the rise in India. The spectra is wide and varies from road

traffic accident to death of an individual. It depends up on the suspicion of the treating registered medical practitioner. A Medico-legal case (MLC) is defined as “any case of injury or ailment, where the attending doctor, after history taking and clinical examination considers that investigations by law enforcement agencies are warranted to ascertain circumstances and fix responsibility regarding the said injury or ailment according to the law or the case itself brought as MLC by law enforcing agencies for medical or surgical care. Medico-legal cases are an integral part of medical practice that is frequently encountered by medical officers. A case of injury or illness where the attending doctor, after eliciting history and examining the patient, thinks 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. Basis of Medico-legal case: Sec 39 CrPC, 201 IPC, 202 IPC is the legal backing for initiation of medico-legal cases.^{1,2,3}

Profiling of Medico-legal cases is an essential aspect for the prevention of preventable casualties in the future and to study the genuine crime in the area. It would also be helpful to the Medico-legal expert and law enforcing agencies such as the police and the judiciary and ultimately in the process of scientific crime detection and proper administration of justice at large in such cases.

Emergencies report to casualty or accident and emergency department in hospital. It involves interplay of various specialities and pivotal role of medical officer in the interdisciplinary approach. It is purely the responsibility of an attending doctor to decide, when to label a case as Medico-legal. The police should be informed in all Medico-legal cases. Any failure to report the occurrence of a MLC may invite prosecution under sections 176 and/or 202 of IPC.

METHODOLOGY

Aims and Objectives

1. To determine the epidemiological profile of medico-legal cases reported to Tertiary Centre in West Bengal during the study period.
2. To study the epidemiological profile of different medico-legal cases in the hospital.

Methodology

This study is a retrospective hospital based

observational study which is conducted in the casualty of tertiary hospital in West Bengal from November 2018 to January 2021. It is a tertiary care centres with referrals from in and around the state.

The medico-legal register of casualty department is the main source of this study which comprises of information regarding various parameters. Data was tabulated as name, gender, age and manner of causation, diagnosis and disposal and date of injury and date of reporting in the hospital. It was collected from the Medico-legal case register. The collected data was analysed, observations discussed, tabulated and compared with other studies. The data was analysed and results were derived with the help of SPSS version 22, Microsoft Excel and R software.

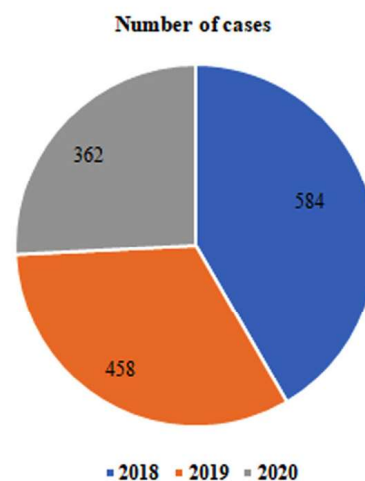
Inclusion criteria: All cases brought to the Tertiary Centre in West Bengal during the study period with known history of medico legal implications.

Exclusion Criteria: 1. The cases with inadequate details regarding age, sex, date and time of incident, was not mentioned, or unavailable in the records. 2. The cases referred from other hospitals or clinics where Medico-legal case was already initiated

RESULTS

Table 1: Year wise distribution of the Medico-legal cases

Year	Number of Medico-legal cases	Percentage
2018	584	41%
2019	458	33%
2020	362	26%
Total	1404	100%



We studied a total of 1404 cases in three years which were of Medico-legal nature. The trend of Medico-legal cases decreased with progression of years. On follow-up with the local police station, 2% of our total cases had FIR lodged and investigations carried out.

Table 2: Gender distribution of the cases

Year	Male	Percentage	Female	Percentage
2018	380	65%	204	35%
2019	247	54%	211	46%
2020	218	60%	144	40%
Total	845	60%	559	40%

60% (n=845) of our study sample was male and 40% were female (n=559). In the three years of the study the gender distribution was much the same and varied between 54-65% for males and 35-46% for females. The ratio of males: female was 1.5:1

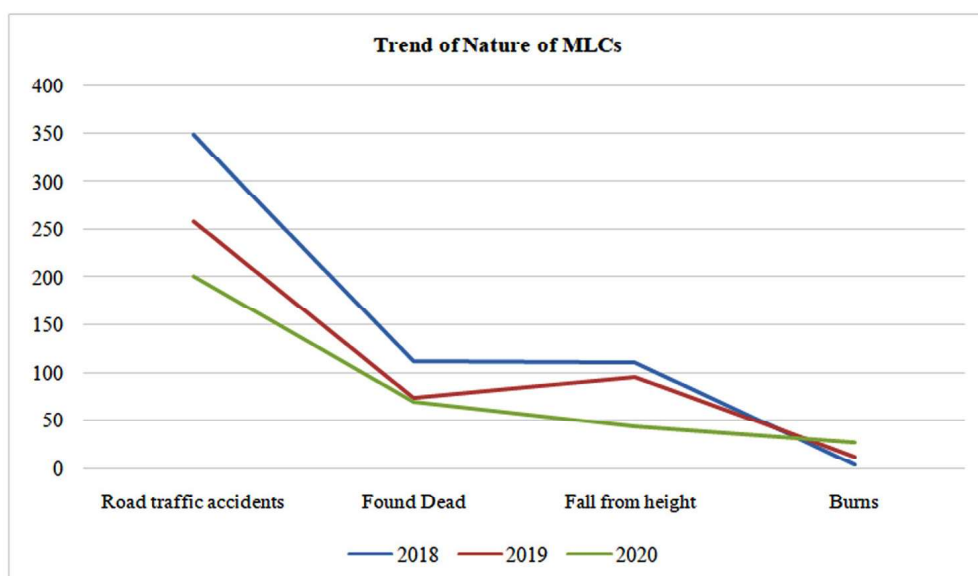
Table 3: Age distribution of the cases

Age Group (in years)	Number	%
0-10	3	2%
11-20	25	10%
21-30	140	10%
31-40	505	36%
41-50	421	30%
51-60	156	11%
61-70	141	10%
71-80	9	1%
>80	4	1%
Total	1404	100%

In our study, 36% (505) cases were in the 31-40 years age group followed closely by the 41-50 years age group 30% (421). This was followed by 51-60 years (11%) and 21-30 years and 61-70 years (10% each).

Table 4: Profile of Medico-legal cases

Type of cases	2018	%	2019	%	2020	%	Total	%
Road traffic accident	348	60	258	56	201	55	807	57
Found dead	112	19	74	16	69	19	255	18
Domestic assault	5	-	4	-	6	-	15	1
Fall from height	110	18	96	21	44	12	250	18
Poisoning	5	-	14	-	12	-	31	2
Snake bite	Nil	-	Nil	-	3	-	3	-
Burns	4	-	12	-	27	7	43	3
Total	584	100	458	100	362	100	1404	100



DISCUSSION

Medico-legal cases are cases of injury or illness where the attending doctor after eliciting history and examining the victim feels that some investigation by law enforcement agencies is essential to establish and fix the responsibility of the case with the law of the land. Knowledge of profiling of Medico-legal cases is essential to cater to the needs of accident and emergency department of a hospital in terms of drugs, standard operating procedure, awareness of health care workers and their suitable modifications if needed. This also helps in implementation of safety measures and change in policy or existing laws to suit the need and health of the public.^{1,2,3}

We studied a total of 1404 cases in three years which were brought to the accident and emergency department of tertiary care in Eastern India. The cases were analysed statistically. Cases of road traffic accident were a majority (57%). Fall from height (18%) was the second most common group in our study along with found dead cases (18%). A similar trend of road traffic accidents followed by fall from height were noted by Sidappa *et al.*⁶

Garg *et al.*⁴ found 54% of the total medico-legal cases to be of road traffic accidents. Kumar *et al.*⁵ Sidappa *et al.*⁶ found maximum cases of medico-legal cases to be road traffic accidents. Haridas *et al.*⁷ found road traffic accident followed closely by falls. Brought dead was 6% of their total number of Medico-legal cases. This was in contrast to us where fall from height and found dead were similar in incidence of about 18% of total Medico-legal cases.

Like in all studies, there was a male preponderance in the study. The ratio was 1.5: 60% (n=845) of our study sample was male and 40% were female (n=559). In the three years of the study the gender distribution was much the same and varied between 54-65% for males and 35-46% for females.

In our study, 60% of the study population were male and 40% were female. This was similar to findings of Hussaini *et al.*⁸, Sidappa *et al.*⁶, Yattoo *et*

*al.*⁹, Kumar *et al.*⁵ The predisposition to male sex in Medico-legal cases is assumed to be due to more road exposure activities in male, construction work employment and in agriculture work. Another factor that can cause propensity of males for Medico-legal cases are high risk behaviour like using seatbelts, helmets, speeding.

In landmark judgement of Pt Parmananda Katarav Union of India & Ors in 1989, it is now compulsory that in emergency all statues are suspended and all efforts are made to save the life of an individual. Also all hospitals can handle Medico-legal cases and to save the time and harassment of doctors, Medico-legal register is sufficient in court of law.

The unique thing we noted in this region is that most common affected age group is 30-50 years. Most of the studies have found 21-30 years as commonly affected.¹⁰⁻¹³ This being a younger age with financial independence is a prone age group for maximum number of medico-legal cases. This could be due to multiple levels of stress in lives family, children and job. This was followed closely by 41-50 years age group. This could be due to onset of diseases in this age bracket which may make them prone for accidents on road. Further research, of the age and type of vehicle will aid in suggesting changes to the lawmakers.

CONCLUSION

The aim of raising a Medico-legal case is to inform the police and application of medical knowledge in practice. The attending doctor needs to tackle the case with medical bent of mind and describe the alleged circumstances in simple language and describe relevant findings.

Conflict of Interest: Nil

Source of Funding: Nil

Ethical issues: Taken from the Institute CH/Kol/2021/Aug

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