

Frequency and Pattern of Medicolegal Cases at Lahore General Hospital: Implications for the Legal and Medical System

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ABSTRACT

Objective: Medicolegal cases constitute a significant workload of cases presenting to a public hospital. The aim of this study was to evaluate the frequency and pattern of medicolegal cases brought to the Forensic Medicine Department of Lahore General Hospital, Lahore.

Method: A retrospective cross-sectional study was carried out at the Forensic Medicine & Toxicology Department of Post Graduate Medical Institute, Lahore. Data was collected from medicolegal registers, and variables such as age, sex, month-by-month distribution, type of case, type of weapon, reporting time, police station, and the possibility of fabrication were analysed.

Results: A total of 4288 cases were reported between 1st January 2021 and 31st December 2021. Most cases (76.6%) were male; the mean age was 29.64 ± 11.86 years. Cases of physical assault accounted for 83.1% of the total cases, followed by sexual abuse (4.7%) and firearm (4.1%). Blunt weapons were commonly used (81.1%). Most cases (83.5%) were reported for medicolegal examination within 24 hours of an incident. The most cases were registered in May, and the police station Kahna had the most reported cases (25.3%). Fabrication was reported in 5.3% of cases.

Conclusion: The study provides valuable insights into the workload and patterns of medico-legal cases in Lahore. The findings highlight the need for strategies to improve the medico-legal system, including timely and accurate reporting of cases. Law enforcement authorities can utilise the information to identify potential risk areas and implement preventive measures.

Keywords: Assault, Blunt trauma, Injuries, Forensic Medicine, Firearm

INTRODUCTION

A medicolegal case is “a case of injury or ailment, etc., in which investigations by law enforcement agencies are essential to determining the responsibility regarding the causation of the said injury or ailment”.¹ Every Hospital's emergency department is considered its backbone. It not only responds to medical and surgical emergencies around the clock, but it also handles a significant number of medicolegal cases, which encompass accidents, assaults, burns, poisoning, sudden deaths, suicide, homicide, any suspicious deaths, and cases referred from the law enforcement agencies or judiciary.² Medicolegal cases are an essential part of the medical profession and are often faced by medical practitioners in public hospitals. In such cases, providing legal and medical facilities amounts to a significant percentage of responsibilities in these hospitals.³ Providing medicolegal services is a sensitive job. A doctor in such a situation is expected to treat the patient and perform exhaustive documentation to fulfil the legal duty. Studying the profile of medico-legal cases offers valuable insights into the nature, patterns, and prevalence of medico-legal issues in a specific geographical area.⁴ In the present study, an effort is made to evaluate the burden and pattern of the medicolegal cases. By examining the types of cases, frequency, and surrounding circumstances, law enforcement authorities can identify potential risk areas and implement preventive measures, targeted interventions, and guidelines to minimise such incidents.

Our study assessed the frequency and pattern of the medicolegal cases presented to the Forensic Medicine Department of Lahore General Hospital, Lahore. This study highlights the vulnerable age group, month, and gender-wise distribution of cases, police station, type of cases reported, reporting time for examination, commonly used weapons, and the prevalence of fabrication in medico-legal cases. This provides vital information for the administration to devise strategies to improve the medico-legal system and ensure timely and accurate reporting of cases.

METHODS AND MATERIALS

From 1st January to 31st December 2021, a retrospective cross-sectional study was carried out at the Forensic Medicine & Toxicology Department of Post Graduate Medical Institute/Ameer-ud-Din Medical College, Lahore. All the medicolegal cases registered with police stations affiliated with Lahore General

Hospital, Lahore, irrespective of the mode of injury, i.e., homicidal, accidental, and suicidal, were included in the study. The data was collected from the medicolegal registers, entered into the Microsoft Excel worksheet, and analysed using version 25 of Statistical Package for Social Sciences (SPSS). The following variables were considered for studying the characteristics of medicolegal cases:

Demographic information of the patients, i.e., sex and age, month-by-month distribution of cases, type of case, type of weapon, the time duration between incident and reporting for examination, the police station of the reported case and possibility of fabrication. The study conformed to the ethical principles the World Medical Association's Declaration of Helsinki laid down for medical research involving human subjects. The ethical review board of the institution approved it.

RESULTS

All through the period between 1st January to 31st December 2021, a total of 4288 cases were reported to the Forensic Medicine Department of Lahore General Hospital, Lahore, of which 3284 (76.6%) were male while 1004 (23.4%) were female cases with a ratio of 3:1 between male and female. The mean age in our study was 29.64 ± 11.86, with a minimum age of 01 and maximum age was 90 years. Most of the reported cases, 1742 (40.6%), belonged to the cohort of 21-30 years, followed by 31-40 years 965 (22.5%). Males were more than females in each group, as shown in Table 1. Of the total cases, 3565 (83.1%) were of physical assault, of which 2747 (77.1%) were male, and 818 (22.9%) were females, followed by 177 (4.1%) firearm cases, of which 168 (94.9%) were male, and 9 (5.1%) were female. In our study, sexual abuse was reported in 203 (4.7%) cases, of which females were 160 (78.8%), and males were 43 (21.2%) cases, as shown in Table 2. A blunt weapon was reported in 3173 (81.1%) cases, followed by a sharp-edged weapon in 256 (6.6%), as shown in Figure 1. In most cases, 3580 (83.5%) were reported for examination within the first 24 hours of the incident, as shown in Figure 2. The maximum number of cases, 442 (10.3%), was registered in May, followed by June and July with 415 (9.7%) and 416 (9.7%) cases, respectively. The study's findings showed that the lowest number of cases, 261 (6.1%), was registered in December, followed by 267 (6.2%) in January, as shown in Figure 3. The police station Kahna accounted for most cases, 1083 (25.3%), followed by Nishtar

colony with 937 (21.9%). The possibility of fabrication was reported in 229 (5.3%) cases, with 70 (1.6%) remaining undetermined. Fabrication in female cases was reported positive in 39 (17.0%) cases, while in male cases, it was reported in 190 (83.0%) cases, as shown in Table 3.

Table 1: Stratification of Cases by Age and Sex

Variables	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Age						
01-10	57	1.3	19	0.4	76	1.8
11-20	700	16.3	144	3.4	844	19.7
21-30	1344	31.3	398	9.3	1742	40.6
31-40	693	16.2	272	6.3	965	22.5
41-50	293	6.8	116	2.7	409	9.5
51-60	144	3.4	37	0.9	181	4.2
>60	53	1.2	18	0.4	71	1.7
Total	3284	76.6	1004	23.4	4288	100

Table 2: Stratification of Cases by Sex and Type of Case

Variables	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Physical Assault	2747	64.1	818	19.1	3565	83.1
Sexual Abuse	43	1.0	160	3.7	203	4.7
Firearm	168	3.9	9	0.2	177	4.1
Road Traffic Accident	82	1.9	9	0.2	91	2.1
Potency	165	3.8	0	0.0	165	3.8
Alcohol	54	1.3	0	0.0	54	1.3
Others	25	0.6	8	0.2	33	0.8
Total	3284	76.6	1004	23.4	4288	100

Table 3: Stratification of Cases by Sex and Possibility of Fabrication

Variables	Male		Female		Total	
	Number	Percentage	Number	Percentage	Number	Percentage
Possibility of Fabrication						
Yes	190	4.4	39	0.9	229	5.3
No	3049	71.1	940	21.9	3989	93.0
Undetermined	45	1.0	25	0.6	70	1.6
Total	3284	76.6	1004	23.4	4288	100

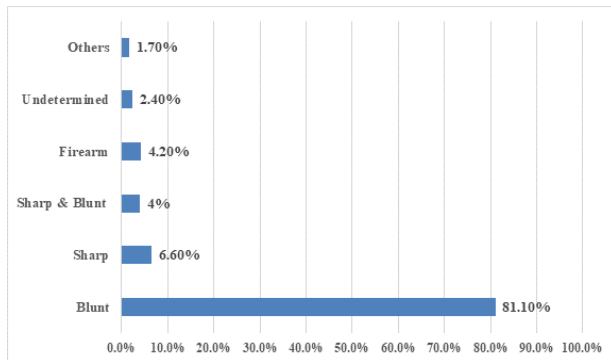


Figure 1: type of weapon used

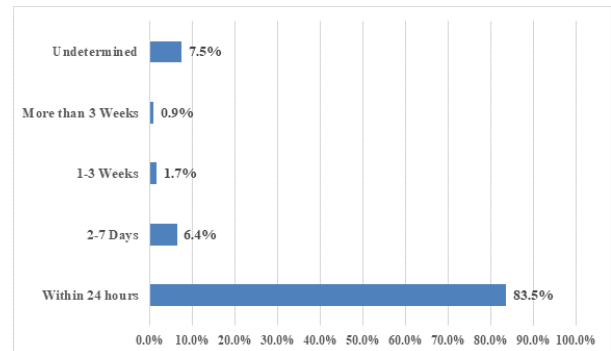


Figure 2: Reporting time for examination

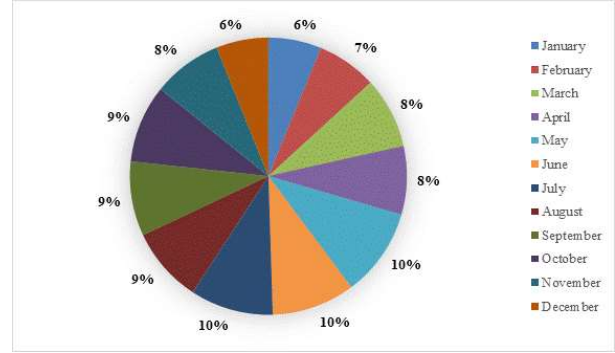


Figure 3: Month-by-month distribution of cases

DISCUSSION

Medicolegal cases constitute a significant element of all emergency cases presented to any hospital's casualty department. Different societal trends, such as socioeconomic, financial, religious, cultural, and geopolitical dynamics, influence its patterns. Organising statistics about the types of medicolegal cases provides an essential insight into the social problems in the community.⁵ Our study revealed that males, 3284 (76.6%), were involved in more medicolegal cases than females, 1004 (23.4%), which complies with other studies.^{6,7} This can be attributed to the fact that the males are more exposed to the environment, resulting in more exposure to trauma.

The highest cases were reported in the age group 21-30 years, 1742 (40.6%), followed by 31-40 years with 965 (22.5%). These results are consistent with multiple studies carried out in India.⁸⁻¹¹ This high percentage of cases reported in these age groups can result from a more volatile nature attributed to these age groups. Also, these age groups are more prone to homicidal or accidental injuries owing to their exposure to environmental factors related to the workplace, recreation or on roads. This vulnerability is further amplified by a lack of education, improper socialisation, and poor economic situation. Due to being bread earners and decision-makers, the involvement of this age group has a tremendous socioeconomic impact not only on an individual level but also on one's family in specific and society in general.⁵

Our study revealed that the assailant's weapon in most cases to inflict injury to the victim was a blunt weapon in 3173 (76.9%) cases, followed by a sharp-edged weapon in 256 (6.3%). Firearms were reported in 164 (4.0%) cases. These results are comparable with the study conducted by Burq et al. at Kasur that reported blunt weapons in 65.68%, sharp weapons in 12.53% and firearms in 4.17% of the cases.¹² But these results contrast another study in Lahore by Tajummal et al., who reported blunt weapons in 43.19% and sharp weapons in 1.40%.¹³ This can be attributed to the fact that the study conducted by Tajummal et al. included more developed areas of Lahore, while our study included more underdeveloped areas. Although firearm injuries contribute significantly to the morbidity and mortality rate globally, especially in Western countries, where two-thirds of homicidal injuries and deaths are attributed to these firearms¹⁴, our study documented only 4.17% of cases attributed to the firearm. This can be explained by the more accessible approach to acquiring a firearm in Western countries than in Pakistan.

The present study revealed that most of the cases, 442 (10.3%), were reported in May, followed by June and July with 415 (9.7%) and 416 (9.7%) cases, respectively. These findings are in contrast with a study carried out at Rawalpindi by Malik et al., where it was reported that the highest number of cases were recorded during August (10%), followed by November (9%), and January (9%).³

It was observed that most of the cases were of physical assault, 3565 (83.1%), followed by sexual assault, 203 (4.7%), and 177 (4.1%) of firearm cases. In contrast to our study, Mahesh et

al.¹⁵ reported road traffic accidents (31.97%) as the leading medicolegal cases in Gujrat, India, followed by physical assault (24%). More road traffic accidents can be attributed to rapid urbanisation and motorisation in their study region. In Pakistan, road traffic accidents are rarely reported to the emergency department as medicolegal cases, which can explain the low number of registered cases in this study.

Sexual abuse was reported in 203 (4.7%) cases, of which 160 (78.8%) were females and males were 43 (21.2%) cases which is comparable with the findings of Tamuli et al. and Santos et al.^{16,17}. This can be attributed to the cultural taboos in reporting these cases and the societal shame involved with it. Also, the fact that Pakistan law does not consider the sexual assault of a boy as male rape, rather than viewing it as unnatural sexual assault, is another hindrance in reporting these cases.

CONCLUSION

In developing countries like Pakistan, the increasing number of medicolegal cases is a neglected epidemic. An organised profile of all medicolegal cases helps address the problem's magnitude and devise comprehensive preventive strategies to mitigate it. The present study showed that most of the medicolegal cases were of physical assault, with a majority of cases, 40.6% belonging to the age group 21-30 years. This study recommends proper counselling for developing positive attitudes and controlling aggression in youth. The study provides valuable insights into the workload of medicolegal cases in a tertiary care hospital which can guide the appropriate allocation of resources and personnel to handle these cases. The study's findings on case distribution, reporting time, and weapon types can assist in identifying potential risk areas and developing preventive measures in collaboration with legal authorities and law enforcement agencies. This study also recommends additional research to collect nationwide data and establish a national database on the incidence and aetiology of medicolegal cases. Understanding these cases' frequency, patterns, and characteristics will facilitate the development of appropriate training programs to improve the knowledge and skills in effectively managing and documenting such cases.

Limitation: Our study comprises only one tertiary care hospital, and more extensive studies are required to determine the more accurate incidence of diverse types of cases in our society. Because of a retrospective study, we could not stratify medicolegal cases with educational status. Being an urban population, results from our study may not accurately indicate the incidence in a rural population and exclusive studies about rural people are required.

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