

Forensic Autopsy: An Analysis for Cause of Death at Medicolegal Section of Liaquat University Hospital, Hyderabad

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ABSTRACT

Background: Human life is very precious and death ends this in natural or unnatural way. Medical jurisprudence differentiates whether the death has occurred as a natural process or there is some unnatural, criminal act behind.

Aim: To access various causes of death.

Study Design: Observational study

Place and duration of study: Department of Forensic Medicine & Toxicology, LUMHS Jamshoro & Liaquat University Hospital Hyderabad from 1st January 2015 to 31st December 2019.

Methodology: Nine hundred and eighty two death cases reported during this 5-year period were included. Data was obtained from the relatives and available evidences on a predesigned proforma with no age limits and death as the inclusion criteria, excluding the non-medicolegal deaths.

Results: There were 445(45.3%) road traffic accidents, 164(16.7%) fire arm injury, 150(15.3%) asphyxial death, 78(7.9%) assault, 34(3.5%) train accident, 18(1.8%) poisoning, 12(1.2%) electric shock, undetermined 9(0.9%) and 72 (7.3%) other cases.

Conclusion: Most of the deaths were caused by road traffic accidents followed by fire arm and asphyxia.

Keywords: Forensic autopsy, Road traffic accident, Fire arm injury, Asphyxial death

INTRODUCTION

Death is the ultimate end of life requiring the lawful disposal following a valid cause behind, sudden, unknown, suspicious and unnatural deaths invite scientific inquiries. Autopsy (postmortem examination) is the gold standard to find out the cause of death since very long times (15th century)¹. The knowledge of cause of death, number of deaths in any region is quite important for public interest which requires civil registration and vital statistics but in 2/3 countries of the globe deaths are not registered so the cause of death remains unreliable². Unlawful killing of one human by another human is the murder as stated in the Pakistan Penal Code section 300³.

Various common patterns for causing deaths are assaults with sharp or blunt weapons, strangulation, fire-arm, hanging, drowning, poisoning and burning, killings of human is observed in all regions and cultures of the globe^{3,4}. Multiple factors associated to increasing medicolegal death cases like rapid growth of population, poverty, stress, unemployment, illiteracy, economic crisis, terrorism, insurgency, addiction or drug abuse, easy approach to weapons⁵. The autopsy rate was reported to be 1 in every 10 deaths in the USA and violent deaths were more common⁶. Autopsy procedures are very common in forensic practice to ensure the delivery of justice to the public but multiple hindrance are challenging as a matter of fact like political pressure and local influence.

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MATERIALS AND METHODS

This observational study was conducted at Department of Forensic Medicine & Toxicology LUMHS, Jamshoro and Medicolegal section of the Liaquat University Hospital Hyderabad over duration of 5 years from 1st January 2015 to 31st December 2019. This work was based on Medicolegal death cases presented at the above-mentioned Hospital. The information such as bio-data and other necessary information supportive for reaching the cause of death were obtained from close relatives; evidences were obtained after thorough medicolegal examination and autopsy. Information thus obtained was filled in the previously designed proforma. The deaths of all age groups medicolegal cases were included whereas non-medicolegal death cases were excluded. The data was entered and analyzed through SPSS-22.

RESULTS

There were 775 (78.9%) males and 207 (21.1%) female patients (Fig. 1). There were 445(45.3%) road traffic accidents, 164(16.7%) fire arm injury, 150(15.3%) asphyxial death, 78(7.9%) assault, 34(3.5%) train accident, 18(1.8%) poisoning, 12(1.2%) electric shock, undetermined 9 (0.9%) and 72 (7.3%) other cases (Table 1). Death cases were recorded as 86(8.8%) in January, 74(7.5%) in February, 95(9.7%) in March, 94(9.6%) in April, 82(8.4%) in May, 65(6.6%) in June, 85(8.7%) in July, 95(9.7%) in August, 69(7.0%) in September, 85(8.7%) in October,

81(8.2%) in November and 71(7.2%) in December (Table 2).

Fig. 1: Frequency of the gender

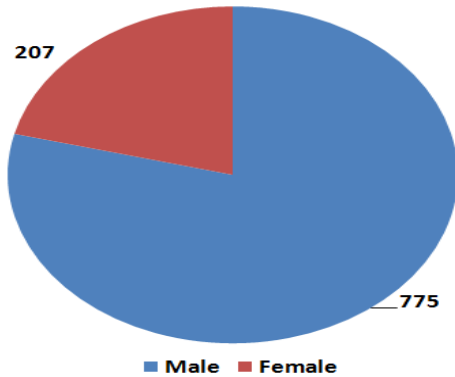


Table1: Frequency of various causes of deaths (n=982)

Cause of Death	No.	%
Road traffic accident	445	45.3
Fire arm injury	164	16.7
Asphyxial death	150	15.3
Assault	78	7.9
Train accident	34	3.5
Poisoning	18	1.8
Electric shock	12	1.2
Undetermined	9	0.9
Others	72	7.3

Table2: Distribution of deaths cases according month-wise (n=982)

Month	No.	%
January	86	8.8
February	74	7.5
March	95	9.7
April	94	9.6
May	82	8.4
June	65	6.6
July	85	8.7
August	95	9.7
September	69	7.0
October	85	8.7
November	81	8.2
December	71	7.2

DISCUSSION

Dekov et al⁶ found accident as cause of death as 62% in the autopsies while we found accidents in 45% of our study autopsies, males were 76% and females were 23% in their study whereas in our study males were 79% while females were 21%, they reported maximum number of autopsies 106(10.9%) in the month of July while we observed maximum autopsies in March and August but no big difference between various months 95(9.7%) in each, there is clear inconsistency between the two studies. The mean age reported by them was the international studies are available on the current topic enhancing its importance. Jitendra et al⁷ reported in his study results that the majority of cases (81.84%) presented as MLCs were accidental cases, 9.73% were suicidal cases while 8.42% were homicidal cases, 9.21% poisoning cases, assaults cases were reported as 8.02% and dead bodies received were

3.09%, these findings were inconsistent to findings which showed highest number of cases of assault 75.9% followed by 13.5% of RTA. They also reported maximum number of cases presenting in March that was 11.11% followed by 9.28% of the September in his monthly distribution of MLCs that was inconsistent to our results with maximum 10.67% cases seen in June and 10.23% in April as second highest cases reporting month.

Another inconsistent result was seen from the study results of Malik et al⁸ who declared poisoning as the observed maximum number of cases reported. Hussain et al⁹ found burn cases on top in his research work that was also an inconsistent finding as compared to our study results. MLCs are different depending on the regional distribution in terms of their nature, frequency and percentage a Pakistani study from Rawalpindi, Pakistan by Malik et al¹⁰ revealed August as the month with maximum number 314 (10.41%) of MLCs followed by November and January 298 (9.88%) and 288 (9.55%) respectively. His study showed 3015 patients of MLCs to visit the tertiary care hospital and most of them (38%) were of RTA and 32% were physical assault while 19% were reported to be sharp weapon injury. This study was also inconsistent to the present study in monthly distribution and frequency and percentage along with the nature of the MLCs even in the same country.

Forensic autopsy is very important in cases such as suspected suicide, homicide, accidents, the drug misuse or alcohol, health care mistreatment, and when death is unexpected or when there is prolonged post-mortem delay, decomposition of the body, or otherwise difficulty identifying the deceased.¹¹ Study findings by Asif et al¹² suggested seasonal relation of mortality which they reported to be lowest in August which was not consistent with our findings that may be attributed to climate difference between the two studies. Variation in mortality according to seasons was also reported in international publications but we couldn't find such major variation which may be due to nature of study.^{13,14} Abbas et al¹⁵ reported 63.7% males and 36% females in their study with 23% deaths due to accidents that was inconsistent with our findings. Further studies are recommended for evaluation of cause of death in general community which was not covered in our current study and it was even not the domain of current study.

CONCLUSION

Most of the deaths were caused by road traffic accidents followed by fire arm and asphyxia.

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