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PROFILE OF MEDICO-LEGAL AUTOPSIES IN FORENSIC DEPARTMENT OF KHYBER MEDICAL COLLEGE

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Objectives: To study the complete profile of Medico Legal Autopsy (MLA) cases at Forensics Department Khyber Medical College, Peshawar. **Methods**: Medico-legal autopsies received at Forensic Department, Khyber Medical College, Peshawar in the year 2019 (1st January 2019 to 31st December 2019) were analysed retrospectively. Information regarding the date and time of arrival, gender, age, cause of death, address and time of death, was collected for this study. In addition, the cases were also classified on the basis of whether they were referred from police station or hospital. The details were entered in a preformed questionnaire. Data was collected as such and summarised into suitable categories. Results were shown in the form of Tables, Pie Charts and Bar Charts. Data collected was analysed by SPSS version 20. **Results**: showed that in the year 2019 (1st January 2019 to 31st December 2019) the MLA throughout the year were 752, while most of the cases were males (628 MLA) while the rest were female cases (124 MLA). Maximum MLA were caused by fire arm injury (410 MLA). In addition, maximum number of cases (268) was observed in the age group 21-30 years. **Conclusion**: The study shows that the Forensic Dept. Khyber Medical College Peshawar caters to the needs of the whole province of KPK, in addition to carrying out legal obligation to scrutinize, document and certify medico-legal cases.

Keywords: Medico-legal Cases; Autopsy; Forensic Medicine

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INTRODUCTION

The word "autopsy" is derived from ancient Greek, autopsia, which means "to see for oneself." Autopsy is defined as self-study of a dead body. Autopsies are categorized into two; forensic and clinical. A forensic medico legal autopsy (MLA) is a complex and detailed medical investigation done meticulously and comprehensively by forensic experts while the clinical autopsy is performed by the pathologists[1, 2].

Forensic autopsies are performed to determine the factors leading to and the mechanism of death. Forensic autopsies are done to fulfil legal obligations: deaths can be categorized as natural, accidental, homicidal, suicidal, or undetermined[1, 2, 3]. Clinical autopsies are carried out to determine the disease that caused death or for research purposes. To get a better picture of the circumstances around the death it is pertinent to co-relate with case records of the subject in case of deaths in hospital[4]. The method of the two types of the autopsies is same, and their role is complementary yet there are differences in several aspects[2]. Autopsies are still accepted globally as the gold standard in identifying the factors leading to death[5]. Autopsies often unravel diseases that could not be identified before death[6].

An autopsy unravels facts, rules out foul play in addition to providing a true picture of the cause of death[7]. Clinical autopsies are not usually done in Pakistan because of religious and social reasons. Dead bodies are buried early and mutilation of dead bodies is considered highly disrespectful[7]. Medico legal autopsies not only give the cause and manner of death but also give important statistical data related to legal incidents in the cities and regions where the autopsies are conducted[8].

The number of forensic autopsies depends on the legislation of the particular country[9]. The major obstacle in performing autopsies is the cultural concept that autopsies are sacrilegious. The concept of mutilation of the dead body is unacceptable in traditional societies[10, 11]. In Pakistan Medico legal/forensic autopsy is a statutory duty are performed by a forensic expert after a magisterial inquest[12].

Several studies have been done on the type of medico legal autopsies cases in Pakistan as well as globally. The types of cases vary in their respective countries based on the socioeconomic status, customs and religion of the area. The profile of medico legal autopsies helps in determining the death statistics of an area. The purpose of the study was to evaluate and audit the frequency of death patterns in MLA cases brought to the Forensic department Khyber Medical College Peshawar as well as to get information regarding different variables like gender, age, manner of death etc. The information may subsequently be used in public interest by law enforcement agencies in future.

MATERIAL AND METHOD

Medico-legal autopsies received at Forensic Department, Khyber Medical College, Peshawar in the year 2019 (1st January 2019 to 31st December 2019) were analyzed retrospectively after permission was sought from the relevant authorities. The required information was collected by reviewing medico-legal records from the medico legal registers at Forensic department Khyber Medical College. A pre-tested structured proforma was used to collect the data regarding demographic profile, information regarding the date and time of arrival, gender, age, cause of death, address and time of death, was collected for this study. In addition, the cases were also classified on the basis of whether they were referred from police station or hospital. The details were entered in a preformed questionnaire. Quantitative data was collected as such and summarized into suitable categories. Qualitative data was summarized by showing frequencies and percentages and the results were shown in the form of tables, pie charts and bar charts. Data collected was analyzed by SPSS version 20.

RESULTS

During the time period of the study i-e throughout the year 2019, Forensics Department of Khyber Medical College received a total of 752 medico-legal autopsies among which 628 were male cases while 124 were female cases in addition, maximum number of cases (268) were observed in the age group 21-30 years while the least number (1) was noted in newborns and infants. Significant numbers of cases were also observed in age groups of 31-40 years (141) and 11-20 years (102).

During this study, 15 different causes of death were noted. Among these, highest number (410) of deaths occurred due to firearm injuries. Moreover, RTAs and assaults resulted in 116 and 47 deaths, respectively. The least common cause among all was drug overdose which only caused 1 death.

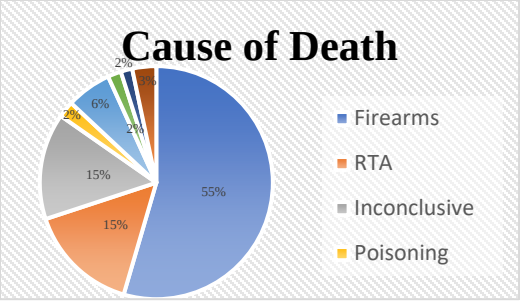

Figure 1. Cause of death

Most autopsies (155) were conducted during the month of May which was followed by April (153) and July (132). On the other hand, only 2 autopsies were performed in December both of which were due to assault. As far as the time of incident is concerned, least number of autopsies were performed between 6am to 12am while at other intervals the numbers were fairly high i.e., 308 (12pm to 6pm), 212 (6pm to 12am) and 207 (6am to 12pm). Male autopsies peaked between 12pm to 6pm (269) while those of females peaked from 6am to 12pm (50). Among a total of 752 cases, 559 were brought by the police which included 471 male and 88 female cases. While 157 males and 36 females were received from hospitals.

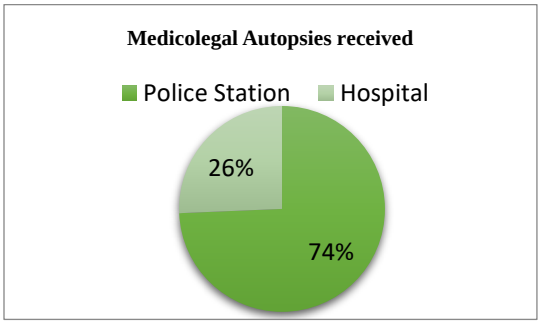

Figure 2. Medico legal Autopsies Received

It was also observed that most of the autopsies received were from Peshawar consisting of 499 males and 98 females. Other neighboring cities contributed to a small number of cases i.e., 155 which included 129 males and 26 females.

Cases received		Percentage
Peshawar Cases	597	79 %
Other Cities	155	21%

Table 1. Cases received

With regards to time between death and autopsy, a major proportion of autopsies, i-e over 80%, were performed within 12 hours of death and about 10% between 12 and 25 hours. The remaining (approx. 10%) autopsies were either conducted within a week or more than week after death.

DISCUSSION

During the time period of this study i.e., throughout the year 2019, Forensics Department of Khyber Medical College received a total of 752 medico-legal autopsies among which 628 (83.5 %) were male cases while 124 (16.5%) were female cases. This may be due to the fact that compared to females, male is usually more involved in outdoor activities as well as social events as per cultural norms. In addition, males usually have a natural predisposition towards violence. The results are consistent with other similar studies carried out within Pakistan. In a study carried out in Faisalabad (80.40 %) were male and (19.6%) females[13]. Another study from Abbottabad also reported that the majority of MLA cases were male cases[14]. In similar study held at DHQ Hospital Rawalpindi out of a total of 318 autopsies performed, 75% (239) were male and 25% (79) were females[15]. In another study from Faisalabad 71.77% of the autopsies performed were of males and 28.23% were females. The male to female ratio was 2.54:17. In a study from India male cases comprised 61%, while female cases were 39%[16]. Another study from India had similar results, 82% were male cases and 18% were female cases[17]. Another study from India also reported that 69% of MLA cases were males and 31% cases were females[18]. In a study from Ethiopia the ratio of male to female was 3:1 in the MLA performed[19].

In our study maximum number of cases (268) was observed in the age group 21-30 years while the least number (1) was noted in new-borns and infants. Significant numbers of cases were also observed in age groups of 31-40 years (141) and 11-20 years (102). In a study from Abbottabad 40% victims were between the ages of 20–29 years[14]. In a study from Rawalpindi the most common age group was 21-30 years[15]. In a study in Faisalabad unnatural deaths were reported more frequently (24.7%) in the age group 20-29 years[13]. In a similar study from India 26.5% of the cases were in the age group of 20-30 years and the least number of cases were in the age group above 70 years[16]. A similar study from Ethiopia noted that most common age

group was 16-30 years (41.5%) followed by the age group 31-55 years (38.3%)[19].

During our study, 15 different causes of death were noted. Among these, highest number (410) of deaths occurred due to firearm injuries. This is because in a region, such as Khyber Pakhtunkhwa, firearms are available easily and on demand, gunshot injuries become fairly common. The other two conspicuous causes were RTAs (116) and assaults (47) which indicate a lack of traffic regulations and deliverance of justice. The homicide rate in Abbottabad was found to be 4.22/100,000 per year[14]. In another study deaths were caused by fire arms in 42% of the cases, injuries by sharp and blunt objects constituted 7.55% and 3.76% respectively. Death in some cases was caused by road traffic accidents, poisoning, strangulation and electrocution[15]. A study from Multan concluded that is identified that out of 139 (63.5%) cases majority of deaths were homicidal, 30.7% deaths were declared accidental. Majority of the homicides (42.5%) were caused by firearms while (23.3%) were caused by sharp weapons. 5.8% of the deaths were suicides. Poison was used in 36.4 % of suicide cases while 27.3% cases were of hanging[20]. Similar results were also noted in the studies held at Quetta and Hyderabad respectively[21-22]. In Another study from Faisalabad the major cases of death were noted to be firearms related, the road traffic accidents were the second most common cause of death followed by Asphyxia [7.] In a study from Faisalabad homicides comprised 50.6% of the cases, 28.6 % were accidental deaths, 3.9 % were suicides and 2.7% deaths were from natural causes, while in cause of death couldn't be determined in 14.11 % of the cases. Unnatural deaths were reported more frequently in the age group 20–29 years involving (24.70%) cases[13]. In a study from Abbottabad most of the deaths were caused by firearms[14]. In studies carried out in Bahawalpur and Faisalabad, 80% of all cases autopsied were homicides[23-24]. In a similar study from India 37.5% of the deaths were from burn injuries, 22% deaths were from road traffic accidents while poisoning caused deaths in 15.5 % of the cases[16]. In a study from Turkey homicide was the cause in 21% of the medico legal autopsies conducted[25]. A similar study from Ethiopia noted that 38.4 % of the cases were accidental deaths, 27.5 % were natural deaths, 16.6% were homicides and 12% were suicides and in 5.4% of the cases cause of death could not be determined. Blunt weapon injuries were the cause of majority of homicides followed by firearm injuries. Road traffic accidents caused the majority of accidental deaths. Majority of suicides were committed by hanging, 10% by poisoning. In 38% of the natural death cases heart disease was the causative factor of death followed by respiratory diseases in 20% of the cases[19]. Studies in India and Turkey have also reported this same age group, with 28-40% of all homicides being in the age bracket of 20-29 years age group to be the most vulnerable [8,26-27]

According to this study most autopsies (155) were conducted during the month of May which was followed by April (153) and July (132). On the other hand, only 2 autopsies were performed in December. A study from Abbottabad reported that deaths were more common during the daytime and in summer months14. A similar study from India noted that most of the autopsies were performed from May to August16. Another study from India noted that most of the autopsies were performed in the month of July [9]

Among a total of 752 cases, 559 were brought by the police which included 471 male and 88 female cases. While 157 males and 36 females were received from hospitals. It was also observed that most of the autopsies received were from Peshawar consisting of 499 males and 98 females. Other neighbouring cities contributed to a small number of cases i.e., 155 which included 129 males and 26 females.

With regards to time between death and autopsy, a major proportion of autopsies, i-e over 80%, were performed within 12 hours of death and about 10% between 12 and 25 hours. The remaining (approx. 10%) autopsies were either conducted within a week or more than week after death.

CONCLUSION

This study concluded that Firearm injuries were the major cause of deaths noted in the medico legal autopsies. The reason behind this could be decreasing tolerance and easy access and availability of weapons. Strict implementation of law and rules regarding possession of weapons need to be implemented. Limiting firearm possession is the need of the hour. Public awareness through mass media can be helpful. The second most common cause of death was road traffic accidents. Untrained drivers and blatant disregard to traffic rules are the major factors. Policy makers and law enforcement agencies should look into this matter.

REFERENCES

1. Awan NR. Principles and practice of forensic medicine.1st edn. Lahore, Sublime arts, 2002; p-p 91-130.
2. RB Kotabagi, SC Charati, and D Jayachandar. Clinical Autopsy vs. Medico legal Autopsy. Med J Armed Forces India. 2005; 61(3): 258-63.
3. Subramanyam BV Modi's Medical Jurisprudence and Toxicology. 22nd edn. New Delhi, Butterworth's, 1999; p 124.
4. D'Souza DH, Pant S, Menezes RG. Forensic medicine experts' opinion on medico-legal autopsies in hospital deaths: a questionnaire survey. Med Sci Law. 2013 Oct; 53(4):203-7.
5. Goldman L. Autopsy, Still Necessary, Even if Occasionally Not Sufficient. Circulation AHA. 2018; 137: 2686-88.
6. Schwartz DA, Herman CJ. The Importance of the Autopsy in Emerging and Re-emerging Infectious Diseases. Clinical Infectious Diseases, 1996; 23(2):248-54.
7. Qasim M, Khalid MS, Amjad D, Pal MI. Statistical analysis of forensic autopsies conducted in year 2018 in forensic medicine department, FMU/AHF, Faisalabad. Professional Med J 2020; 27(10):2199-2202.
8. Ahmet H, Nemci C, Mete K, Gulmen M, Hakan O, Ramzan K. Homicide in Adana, Turkey – A 5-year review. Am J Forensic Medicine and Pathology. 2005; 26 (2):141-45.
9. Dekov DP, Ivanov IN, Kostadinov SD, et al, Statistical analysis of the forensic autopsies, performed in the department of forensic medicine of university hospital – pleven for the period 2009-2013. J Biomed Clin Res, 2016; 9(1): 30-36.
10. Bunei M, Muturi P, Otiato F, et al. Factors influencing acceptance of post-mortem examination of children at a tertiary care hospital in Nairobi, Kenya. Ann. Glob. Health. 2019; 85(1):1–8.
11. Lishimpi K, Chintu C, Lucas S, et al. Necropsies in African children: consent dilemmas for parents and guardians. Arch. Dis. Child. 2001; 84(6):463-67.
12. Memon MU, Khalil ZH, Aziz K, Kaheri GQ, Khalil IR. Audit of cases autopsied in the mortuary of Khyber Medical College Peshawar during the year 1999. ANNALS. 2001; 7 (3):190- 93.
13. Naheed K, Nadeem S, Iqbal M, Qasim AP, Sadia S, Siddiqui BA. Medicolegal autopsies; audit of medicolegal autopsies in Faisalabad city. Professional Med J. 2019; 26(5):696-701.
14. Hassan Q, Shah MM, Bashir MZ. Homicide in abbottabad. J Ayub Med Col Abbottabad 2005; 17(1):78–80.
15. Malik R, Chughtai BR, Khursheed RK, Amanat M, Khan SP, Rizvi S. Pattern of unnatural deaths -an audit of autopsies. J Rawalpindi Medical College 2017; 21(1): 97-99.
16. Mugadlimath A, Kadagoudar S, Sheelvanth S, Bambeshwar K. Profile of Medico legal autopsy cases at tertiary care centre in baglakot, Karnataka. Indian Journal of Forensic Medicine and Pathology. 2017; 10(2): 63-66.
17. Murthy MSN, Dutta BN, Ramalingaswami V. Coronary Atherosclerosis in North India Delhi Area. J Pathol Bacteriol. 1963; 85: 93-101.
18. Radhakrishna KV, Makhani CS, Sisodiya N. et al. Profile of medico legal autopsies conducted at tertiary medicolegal centre in south western India. International J of healthcare and Biomedical research.2015; 3(2): 70-75.
19. Solano E E, Mayedo Y O Mayedo, Seyoumk, M. A One-year retrospective study on the pattern of death found at autopsy at forensic pathology department, Menelik II Hospital in Addis Ababa, Ethiopia. -East & Central African Journal of Surgery, 2017; 22 (1) 98-106.

20. Aziz F, Azhar T, Baloch NA.Manners and modalities of unnatural deaths in Multan, PJMHS. 2017; 11(4): 1472-74.

21. Marri MZ, Bashir MZ, Arif M, Maqsood M. Analysis of Medico legal Deaths in Sandeman Civil Hospital Quetta, Baluchistan. JFJMC. 2013; 7 (2):13-18.

22. Yousfani GM, Memon MU. Spectrum of unnatural deaths in Hyderabad: An autopsy study. J of DUHS. 2010; 4(2):54-57.

23. Ali SMA,Ahmed R, Rehman AU.Involvement of manners and modalities in medico-legal deaths in Bahawalpur. The Professional 2000; 7 (2): 234-38.

24. Saeed A, Bashir MZ, Munawar AZ, Iqbal J,Ali SMA,Khalil IU. Analysis of medico-legal autopsies at Faisalabad. The Professional. 2003; 10 (2): 132-41.

25. Hilal A,Cekin N,Gülmen MK et al. Homicide in Adana, Turkey: a 5-year review. Am J Forensic Med Pathol. 2005; 26(2):141-45.

26. Mohanty MK,Kumar TS,Mohanram A, Palimar V.Victims of homicidal deaths-An analysis of variables.J Clin Forensic Med. 2005; 12(6):302-4.

27. Gupta A,Rani M,Mittal AK,Dikshit PC.A study of homicidal deaths in Delhi. Med Sci Law. 2004; 44(2): 127-32.

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