

ANALYSIS OF MEDICOLEGAL AUTOPSIES OF UNNATURAL DEATHS IN MARDAN, PAKISTAN

Shahid Iqbal¹, Muhammad Khalid¹, Abdullah¹, Ihsanullah², Bilal Ahmad³

¹Department of Forensic Medicine, Bacha Khan Medical College, Mardan KP Pakistan

²M.Phil Scholar, Abdul wali Khan University, Mardan KP Pakistan.

³Staff Nurse, BSN, College of Nursing, MTI Mardan.

ABSTRACT

Background: A medicolegal autopsy is a scientific examination of a deceased person's corpse conducted to ascertain the cause and method of death as well as to confirm or rule out any suspicion of foul play about the dead person.

Objectives: This prospective investigation aimed to examine 169 medicolegal autopsies performed at Mardan Medical Complex Hospital in 2018. In addition to providing important information for medicolegal inquiries in the area, the research sought to ascertain the reason and manner of death, evaluate gender and age distribution, and pinpoint the most common causes of unnatural deaths.

Study design: A Prospective study

Duration and setting: Cases were sent to the Mardan Medical Complex Hospital Mardan's medicolegal division between January 1 and December 31, 2018.

Methods: Included were all 169 deceased corpses that the police had requested be autopsied. Age, gender, mode of death, kind of weapon used, and place of residence were taken into account while analysing criminal fatalities. Numbers and percentages were used to represent the data and results that were gathered.

Results: 169 medicolegal autopsies were performed in a single year. There were 42 (24.85%) girls and 127 (75.14%) men. The number of accidental fatalities was much higher than the number of homicidal (61, 36.09%) and suicide (40, 23.66%) deaths (65, 38.46%). Accidents involving cars caused the majority of fatalities, which were then followed by weapons, both blunt and pointed. Ninety-two (53.25%) cases were from rural regions, while forty-seven (46.74%) were from urban areas.

Conclusion: Males were more prevalent than females. The age range of 20 to 29 was found to be the most often afflicted. The majority of unnatural death victims were killed in car accidents, then by firearms. There were more casualties in rural areas than in cities.

Keywords: Autopsy, Cause of death, Unnatural Death, Homicide, Suicide, Accidents

INTRODUCTION

Human life has an inevitable end: death. According to science, death is the definitive and irreversible

termination of the vital activities of the body's three most important organs—the heart, lungs, and brain. The medical discovery or findings that led to the death are known as the cause of death, and the mode or way of death, whether natural, homicidal, suicide, accidental, or unknown, is known as the manner of death. ¹Disease or ageing are the causes of natural deaths. Any death brought on by external factors (poisoning or injury) is considered unnatural. This category covers deaths brought on by purposeful harm, such as murder or suicide, as well as deaths brought on by accidental damage that occurs accidentally ².

Correspondence: Shahid Iqbal

Lecturer

Department of Forensic Medicine, Bacha Khan Medical College, Mardan, Pakistan

Email: zain696.si@gmail.com

Mobile: +92-343-2738696

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The death of one person due to the actions of another is known as a homicide. Any death that results from an accident is considered an accidental death. The act of purposely and freely ending one's own life is referred to as suicidal death. When the cause of death cannot be identified by autopsy or toxicological testing, some unnatural deaths remain unexplained. One social and mental health measure is the incidence of strange death³.

Medical-legal death investigations are conducted in the majority of nations to identify the guilty party and impose punishment to fulfil the goals of justice, appease grieving families, and calm the general public. This is essential to preventing crime and advancing justice, peace, and harmony in society.

Sudden deaths or inexplicable deaths when the medical cause of death is uncertain or unknown are subject to an inquest⁴. Ends that need a medicolegal inquiry may include fatalities that are known or believed to have been caused by unnatural causes. Several inquest systems for death investigations include those run by the police, magistrates, coroners, medical examiners, and others. Finding out information related to the death is the aim of an inquest. Normally, upon receiving a complaint of a criminal incident, the police investigator is supposed to investigate further, preserve and inspect the crime scene, gather evidence, and create an investigating strategy.

In contrast, in a criminal death occurrence, the police report the deceased to the medical examiner for a postmortem autopsy. They then gather information from the autopsy and medical records to piece together the facts. The majority of thorough autopsy reports provide details on violent crimes and potential or suspected criminal fatalities and may also include pertinent information about suicide, accidental, or unexplained deaths.

Both police and magistrate inquests are conducted in Pakistan⁵. A police station officer or another authorised police officer conducts an inquest. They may also look into fatalities that resulted from violence, sudden, unexpected, suspicious, criminal deaths, or deaths connected to medical or surgical procedures when there is a claim of medical negligence. The magistrates' judicial inquiry addressed the issue of the cause of death in fatalities that occurred while the person was in custody. The

criminal investigation process aims to gather evidence that will demonstrate the conduct of an infraction and the roles that different people played in those acts. After gathering evidence and establishing the accused's guilt or innocence, the investigating officer (IO) prepares the case to be presented to the trial court.

Medical-legal autopsies are performed in the Mardan Medical Complex, a tertiary care hospital in Mardan. The city of Mardan is the second-most populous district in Pakistan's Khyber Pakhtunkhwa Province. Police personnel from several police stations in the district's rural and urban regions recommend cases for autopsy.

MATERIAL AND METHODS

The current research was carried out from January to December 2018 at the medicolegal division of a tertiary care hospital in Mardan, Khyber Pakhtunkhwa.

The research includes 169 instances referred for postmortem autopsy by law enforcement. Authorised medical personnel appointed by higher authorities conducted the autopsies.

The deceased's full autopsy, including a general physical examination, a cloth examination, an internal and external body examination, and medicolegal investigations, was performed at the mortuary.

Age, sex, residence, event as reported in the police inquest report, the deceased's friends and family, the circumstances leading up to their death, the autopsy results, the laboratory results, and the final opinion were all gathered. The proforma data was input, tallied, and examined.

Ethical permission

The state or police authorises the medicolegal autopsy of a deceased person. The police or judge will order a medicolegal autopsy. In certain situations, the dead's family members' approval is unnecessary.

RESULTS

Table 1 displays that In 2018, 169 deceased individuals who were sent to the Mardan Medical Complex Hospital Mardan had autopsies completed.

42 (24.85%) and 127 (75.14%) of the 169 corpses were female.

The age distribution of the deceased male and female corpses in Mardan in 2018 is shown in Table

2. The most susceptible age group was that of 20 to 29 years old, where 45 men (26.62%) and 10 women (5.91%) were reported to be in attendance. The second most sensitive age group is 10–19, where 26 male deaths (15.38%) and 20 female deaths (11.84%) were recorded. However, the 30-39 age range is equally sensitive for male deaths (15 (8.87%).

Table 3/4 reveals that of the 127 (75.14) male deaths, 58 (34.13%) were accidental, 47 (27.81%) were homicidal, and 20 (11.83%) were suicidal. Of the 42 total female deaths, 7 (4.41%) were accidental, 14 (8.28%) were homicidal, and 20 (11.83%) were suicidal. In 2018, the percentage of fatalities from road accidents was almost half, accounting for 63 (37.28%) of all deaths.

Table: Five Displays Ninety (53.25%) of the 169 cases were from rural regions, while 79 (46.74%) came from urban areas.

DISCUSSION

“All those diseases, morbid conditions, or injuries which either resulted in or contributed to death and the circumstances of the accident or violence which produced any such fatal injuries” is what the World Health Organisation calls “cause of death.”⁶ Natural and artificial causes of death exist.

Unnatural death occurs when a person dies without natural causes. These early, unnatural deaths are caused by murder, accident, and suicide⁷, each with legal consequences. The investigating authority orders a medicolegal (ML) autopsy to answer questions concerning the victim’s identity, cause of death, time of death, circumstances of death, etc., to help solve the crime.⁸

Unnatural deaths in Pakistan must be investigated by police or magistrates and decided by courts. An authorised medical officer performs autopsies at a government hospital. To ascertain the cause of death, a full or partial autopsy is needed. Natural, accident, suicide, murder, or uncertain death refers to how an injury or sickness kills.

Autopsies were done on 169 medicolegal deaths from January 1 to December 31, 2018. Of the 169 deaths, 65 (38.46%) were accidental, 61 (36.09%) were homicidal, 40 (23.66%) were suicides, and 1 (0.59%) were natural (Table 3). Of the 42 (24.85%) female unnatural deaths, 20 (11.83%) were suicides, 7 (4.14%) were accidents, and 14 (8.28%) were murders.

This study found that automobile accidents caused 63 (37.28%) of 169 medicolegal deaths, more than murder or suicide. This supports earlier evidence indicating transportation accidents cause most premature deaths in underdeveloped countries⁹⁻¹³. This is different from Quetta research¹⁴, which says gunshot fatalities have overtaken medical-legal deaths. However, a Danish study indicated that firearms and car accidents caused the most unnatural deaths.¹⁵

This study found 42 (24.85%) more female deaths than male deaths (127, 75.14%), a 3:1 ratio. Other writers agree with the male preponderance outcome.¹⁶⁻¹⁹

Table 1: Sex-wise distribution of autopsies

Sex	Number	Percentage
Male	127	75.14 %
Female	42	24.85 %
Total	169	100 %

Table 2: Age-wise distribution

Age groups (in Years)	Male	Female	Total (%)
0-9	6(3.55%)	4(2.36%)	10(5.91%)
10-19	26(15.38%)	20(11.84%)	46(27.21%)
20-29	45(26.62%)	10(5.91%)	55(32.54%)
30-39	15(8.87%)	4(2.36%)	19(11.24%)
40-49	9(5.32%)	1(0.59%)	10(5.91%)
50-59	18(10.65%)	2(1.18%)	20(11.84%)
60-69	4(2.36%)	1(0.59%)	5(2.95%)
70+	4(2.36%)	00(00.00%)	4(2.36%)

Table 4: Manner wise pattern of deaths during the year 2018

Pattern of death	Cause	Male	%age	Female	%age	Total	%age
Accidental	RTA	57	33.72%	6	3.55%	63	37.28 %
	FAI Accidental	01	0.59%	01	0.59%	02	1.18 %
	Total	58	34.13%	07	4.14%	65	38.46 %
Homicidal	Firearm	41	24.26%	10	5.91 %	51	30.17 %
	Blunt	02	1.18%	01	0.59%	03	1.77 %
	Sharp	01	0.59%	01	0.59%	02	1.18%
	Hanging	03	1.77%	2	1.18%	05	2.95 %
	Total	47	27.81%	14	8.28%	61	36.09 %
Suicidal	Firearm	09	5.32%	05	2.95%	14	8.28%
	Hanging	01	0.59 %	00	00.00%	01	0.59 %
	Poisoning	10	5.91%	15	8.87%	25	14.79 %
	Total	20	11.83%	20	11.83%	40	23.66 %
Natural death		00.0	00.00	01	0.59 %	01	0.59 %
TOTAL		127	75.14%	42	24.85%	169	100 %

TOTAL	127(75.14%)	42(24.85%)	169(100%)	Total	131(77.51%)	38(22.48%)	169(100%)
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Table 3: Manner of Death Distribution with respect to gender.

Manner	Male (%)	Female (%)	Total (%)
Accidental	58(34.31%)	7(4.41%)	65(38.46%)
Homicide	48(28.40%)	14(8.82%)	62(36.68%)
Suicide	20(11.83%)	20(11.83%)	40(23.66%)
Natural death	1(0.59%)	00(00.00%)	1(0.59%)
Putrefied DNA	00	1(0.59%)	1(0.59%)
Total	127(75.14%)	42(24.85%)	169(100%)

Table 5: Area wise distribution

	Male	Female	Total
Rural	66(39.05%)	24(14.20%)	90(53.25%)
Urban	65(38.46%)	14(8.28%)	79(46.74%)

This study found that 20-29-year-olds were most affected. 55 (32.54%). This supports past analysis²⁰⁻²³ that found this age group had the highest medicolegal fatality rates. This may be because this age group is more sensitive and active and had independent childhoods that exposed them to various abuses and traumas.

Traffic accidents killed 63 (37.28%) of the study participants. These cases were mostly male, with 57 (33.72%) and 6 (3.55%) male. Men are more at risk than women because of their mobility, outdoor work, and travel.

This study found 65 (38.46%) firearm-related deaths—51 (30.17%) murders and 14 (8.82%) suicides. Our data showed that 40 (23.66%) of the study participants committed suicide. Women committed 15 (8.87%) suicides using poisons and 5 (2.95%) with weapons.

This study and others²³⁻²⁷ show how widespread firearms are here. This may be because many in this region keep weapons at home as status symbols. This

study found that most victims were from rural areas, which may be due to a lack of weapon knowledge and availability. Vehicle and activity densities are greater in cities.

Firearm-related fatalities and suicides remain a US public health issue. The US had 27,394 firearm-related deaths and 44,955 suicides among 10–19-year-olds in 2015–2016²⁸.

Suicide techniques fall into two categories: Use of a weapon or shotgun, hanging, cutting, piercing, leaping from heights, and being driven over by a train or vehicle are violent techniques; insecticides, gas poisoning, suffocation, and drug overdose are nonviolent.

Road accidents frequently cause injuries and deaths and are the most undesirable travel incidents. Despite being preventable, RTA is a worldwide health concern. Any injury caused by a vehicle accident on a public route is a road traffic injury.³² A traffic collision involving at least one moving vehicle might be lethal or nonfatal. Road users, including pedestrians, cyclists, seniors, and children, are particularly susceptible.³³ Young, hardworking adults are most affected or killed. Urbanisation and population growth increase transport demand, which drives car demand and causes pandemic traffic accidents. According to research, traffic accident injuries are a major public health concern in Pakistan³⁴. A 2018 NTRC Islamabad accident report showed 5309 road deaths and 9536 non-fatalities in Pakistan³⁵.

CONCLUSION

This research demonstrates that road traffic accidents and guns, which largely kill young people, are becoming frightening. Government policy should prioritise road user safety and illicit gun control.

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Authors Contribution

Concept & Design of Study: Shahid Iqbal1,

Drafting: Muhammad Khalid1

Data Analysis: Abdullah1, Ihsanullah2,

Critical Review: Bilal Ahmad3

Final Approval of version: Shahid Iqbal1,



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