

HOMICIDAL DEATHS BY FIREARMS IN PESHAWAR: AN AUTOPSY STUDY

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Background: Medico legal autopsies can be valuable sources of information about the distribution of causes of reported deaths, particularly in homicidal cases. The present study provides information regarding the homicidal deaths due to firearm injuries in the district of Peshawar, NWFP, Pakistan. **Methodology:** This descriptive study was conducted over the period of the year 2004. Data were collected from the autopsy records of the Department of Forensic Medicine, Khyber Medical College Peshawar and included all reported unnatural deaths from urban and rural areas of district Peshawar on whom autopsies were conducted in the department. **Results:** Homicidal deaths constituted 77.7% (492/633) of all autopsies for the year 2004. Of 492 homicidal deaths, a vast majority of 452 (91.87%) were caused by firearm injuries. Among these, the male to female ratio was 5.5:1. The most common firearm weapon (418/452, 92.5%) were high velocity rifled weapons (Kalashnikov, rifles, pistols), followed by low velocity rifled weapons (18/452, 3.98%) and shotguns (16/452, 3.54%). A total of 956 injuries were found in various body areas, giving an average of over two injuries per person. The head, face and neck sustained the highest injuries (257, 26.9%), followed by the chest (248, 25.9%) and abdomen (149, 15.6%); the extremities, buttocks and genitalia together sustained 302 (31.6%) injuries. **Conclusion:** The vast majority of reported homicides in Peshawar are caused by firearm injuries, which bring up issues related to possession of firearms and changes in cultural attitudes towards use of firearms, if a decrease in firearm-related homicides is desired.

Key Words: Firearms, Homicide, Autopsy.

INTRODUCTION

Throughout the world deaths due to firearm weapons have increased tremendously. In the United States, the most frequent method of killing in cases of homicide and suicide is by means of firearms.¹ More than 25000 people die every year in the USA by injuries caused by firearms.² In England and Wales, the most frequent firearms are shotguns, both in cases of homicide and suicide, but firearms as a whole is a less frequent method of killing than in many other countries.³

In Pakistan, the number of deaths due to firearm weapons has also increased due to easy availability of all the sophisticated and modern weapons. Pakistan, having a border with tribal areas and Afghanistan, is famous for the presence of every type of firearm weapons. The locally made arms and ammunition are easily available in the market at a nominal price without any control, prohibition or restriction from the government law enforcing agencies.⁴

A study from the neighbouring country of Turkey reports a figure of only 21% homicides in 2951 autopsies reported during the period 1997-2001.⁵ However 54.83% of the homicides involved firearms.

Data from the Department of Forensic Medicine and Toxicology, Khyber Medical College Peshawar for the last ten years reveal that about 700

– 800 medico legal autopsies were performed annually, out of which 75% autopsies were of the victims of firearm injuries.⁶

Examination of the victims of firearm injuries need to ascertain the characteristics of entry wound such as muzzle imprint, burning (flame effect), smudging (the smoke effect), tattooing or stippling and the collar of abrasion (only in rifled weapons). The exit wound will not show these characteristics, except the everted margins of different sizes.



Figure 1. Typical stellate shaped entry wound showing tattooing effect



Figure 2. An entry wound with visible shining projectile

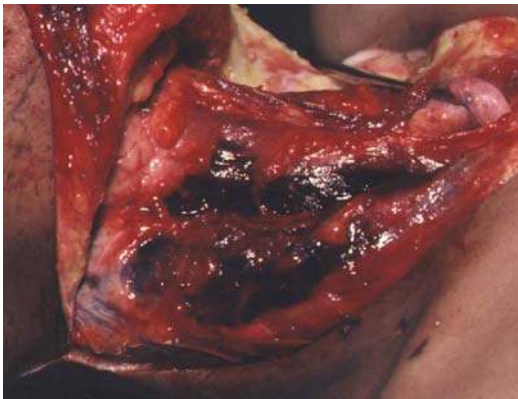


Figure- 3 Multiple entry wounds dissected at autopsy

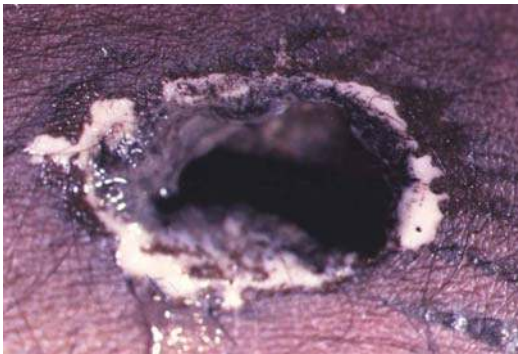


Figure 4. An exit wound with everted margins

MATERIAL AND METHODS

The present descriptive study was conducted at the Department of Forensic Medicine and Toxicology, Khyber Medical College, Peshawar from January to December 2004. The Department performs autopsies of all police stations of district Peshawar. Cases were referred by both urban and rural police stations. The study was based on the total autopsy records of reported medico legal deaths of the department for the year of study. Cases of homicidal deaths were

selected from the total autopsy records on the basis of history of firearm injury, clothes examination and general physical examination of the dead body. Victims were grouped on the basis of locality (urban / rural), gender, firearm weapon used and the regions of the body injured by the firearm weapon.

External examination of the whole body was conducted for the presence of firearm injuries. The injuries were numbered, charted, the size, shape and exact site of the firearm injury related to a fixed anatomical landmark was established. All the diagnostic characteristics of firearm injuries were note. The injuries were examined with the naked eye as well as a magnifying glass lens.

Internal examination of the body included the examination of the viscera and organs in all the main cavities. The track of the projectile was followed and the extent of internal injuries to different viscera and organs was determined.

Data were entered on a proforma and results summarized.

RESULTS

A total number of 633 unnatural deaths were reported to the Department and subjected to autopsy examination during 2004. There were 492 (77.7%) cases of homicidal deaths, out of which 452 (91.87%) were due to firearm injuries (Table 1).

Table 1: Distribution of manner of death in autopsies (n=633).

Manner of death	No. of cases	Percent
Homicide	492	77.7
Firearm	452	91.87
Other causes	40	8.13
Accidental	112	17.7
Undetermined	09	1.42
Suicide	08	1.26
Poisoning	06	0.95
Electrocution	03	0.47
Burns	02	0.31
Explosive device	01	0.15

Demographic data is shown in table 2. The most frequent affected age group was between 16-30 years, while the age group from 16-45 years together comprised 64.3% of cases. The male to female ratio was 5.75:1, while the rural to urban ratio was 1.7:1.

The total number of injuries sustained and their distribution in various body regions involved are shown in Table 3.

Table 2: Demographic data of autopsies of firearm victims (n=452).

Variables	No. of cases	Percent
Ages (years)		
1 – 15	19	4.2
16 – 30	190	42.0
31 – 45	110	24.3
46 – 60	91	20.1
> 60	42	9.3
Gender		
Males	385	85.2
Females	67	14.8
Locality		
Rural	285	63.0
Urban	167	37.0

Table 3. Distribution of total firearm injuries by body regions of autopsies (n = 452).

Variables	No. of injuries	Percent
Body Regions		
Head, neck, face	257	26.9
Thorax	248	25.9
Abdomen	149	15.6
Extremities (including buttocks and external genitalia)	302	31.6
Total	956	100

DISCUSSION

Similar to reports from the United States,¹ our study shows that firearm injury is the leading cause of homicidal deaths in the district of Peshawar, accounting for about 92% of such deaths (Table 1). In the United States, firearms are used in more than 60% of all homicides, over 25% of all assaults, more than 35% of all robberies and in almost half of all suicides.⁷ Our data also agrees with several other studies from various cities of Pakistan, where firearm victims were the leading cause of homicidal deaths.⁸⁻¹³ However a study from Karachi conducted in the year 2002 indicates that firearm injuries and road traffic accidents together form the common causes of medico legal autopsies;¹⁴ this may merely indicate the pattern of a busy city faced with an increasing traffic load.

Almost all age groups were represented with the majority being in the young adult and middle aged persons (16-45 years, 54.3%). Other studies from Pakistan also agree that the most common victims of firearm related homicides are young and middle aged adults.^{8,9,15,16}

The high male to female ratio of 5.75:1 in our study compares well with an earlier study

conducted in 1999 in Peshawar;⁶ a study for the year 1998 from Larkana¹⁰ gives a male to female ratio of 4:1, and another study from North Carolina USA, conducted in 1970-71 gives a male to female ratio of 4.8:1.¹⁷ Females appear to be spared due to their household abodes, loyalty to husbands and families and because they hold an honored place even in disputes and enmities. There is a general increased predilection for males to be victims of firearm injuries throughout the country.^{8,14-16}

The number of autopsies of firearm victims reported from rural areas was more compared to the urban areas (Table 2). This may be attributed to better policing, higher literacy and employments with satisfactory incomes in urban areas. Other studies from Pakistan have not addressed this issue.

A total of 956 firearm injuries were recorded in 452 autopsies, giving an average of about 2 injuries per person. It is obvious that at least one of these injuries was a lethal injury resulting in the death of the victim.

Upper regions of the body comprising of the area including the thorax and above were the most common sites of firearm injuries accounting for 52.8% of the total injuries (Table 3); these were probably the more lethal ones. The remaining injuries were of the abdomen and extremities (including the buttocks and external genitalia). Similar reports have been obtained from other places in the country.^{6,13,18}

Of notable concern is the reported alarming increasing trend of firearm use in a major city such as Lahore.¹⁶ The authors noted in their study of a twelve year period from 1984 to 1995 that there was a doubling of the incidence of firearm related homicidal deaths during this period. They also noted a change in the type of firearm from shotguns in the early years to high velocity rifled weapons towards the latter part of the study period.

Considering the data from the present study, there is a need for strict control over possession of firearms in Peshawar, as well as educating both elders and young adults about the hazards posed by possession and irrational use of firearms, either for offense or defense. Use can be made of existing jirga systems for preaching human and ethical value systems to replace the feudal value systems. Additional controls are required over the tribal areas adjacent to Peshawar (Dara Adam Khel) where firearm manufacture should be discouraged by law or only licensed firearms should be allowed for sale. Additional measures to provide early and effective emergency medical treatment to firearm victims may help to reduce the number of fatalities related to firearm injuries.¹⁸

In view of the need to control and decrease illegal trafficking of firearms, the United Nations

Crime Prevention and Criminal Justice Commission recently passed a resolution encouraging all countries to strengthen their domestic gun control, since weak control in one country can affect the security in others.¹⁹

REFERENCES

1. Wintemete CJ, Teret SP, Kraus JF, Wright MW. The choice of firearm suicide. *Am J Public Health* 1989; 79:824-6.
2. Fateh A. Gunshot wounds in forensic pathology, 11th edition, Philadelphia: J.B.Lippincott Co., 1973. p.79.
3. Chapman J, Milroy CM. Firearm deaths in Yorkshire and Humberside. *Forensic Science International* Dec 1992; 57(2):181-91.
4. Khalil ZH. Regional distribution and variable patterns of firearm injuries in Peshawar (FCPS Dissertation), CPSP Karachi 2001.
5. Ahmet H, Nemci C, Mete G Hakan OM, Ramazan K. Homicide in Adana, Turkey: A 5-year review. *Am J For Med Path* June 2005;26(2):141-5.
6. 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. *Ann King Edward Med Coll Sep* 2001;7(3):190-3.
7. Forest DE, Ganesslen ER, Lee CH. Tool marks and firearm. In: *Forensic Sciences: An introduction to criminalistics*, 1st edition, New York: McGraw Hill 1983. p. 383-412.
8. Mian AR, Majid A, Malik MM, Zaheer M, Goraya SU. Analysis of unnatural Death in Rawalpindi during 1997. *Pak Armed Forces Med J* Jun 1999; 49(1):68-70.
9. Sahito MM, Mughal MI, Chang F, Shah SMH, Pirzada SG, Jamali YA et al. Causes of death in interior Sindh - A medicolegal autopsies study. *Pakistan Postgrad Med J* Dec 2002;13(4):161-4.
10. Qadir G, Aziz K. The study of homicides in Larkana. *Pakistan Postgraduate Med J* 2000; 11(2):79-80.
11. Aziz K, Rana P, Malik SA. Homicide in Lahore. *Pakistan Postgraduate Med J* 1999; 10(1):10-3.
12. Ali SMA, Bashir MZ, Hussain Z, Abidin Z, Kaheri GQ, Khalil IR. Unnatural female deaths in Peshawar. *JCPSP* 2003;13(4):198-200.
13. Bashir MZ, Saeed A, Khan D, Aslam M, Iqbal J, Ahmed M. Pattern of homicidal deaths in Faisalabad. *J Ayub Med Coll Abbottabad* 2004;16(2):1-3.
14. Sultana K. Causes of death ascertained through Postmortem Examination: Results from one-year data of postmortems at Abbassi Shaheed Hospital. *Ann Abbasi Shaheed Hosp Karachi Med Dent Coll Mar* 2002; 7:263-5.
15. Hassan Q, Shah MM, Bashir MZ. Homicide in Abbottabad. *J Ayub Med Coll Abbottabad Mar* 2005;17(1):78-80.
16. Bashir Z, Rana PA, Malik SA, Shaheen A. Pattern of Deaths due to firearms in Lahore - A twelve-year study. *Pakistan Postgrad Med J* Sep 2000;11(3):109-14.
17. Fateh A. *Medicolegal investigations of gunshot wounds*, 1st edition, Philadelphia: J.B. Lippincott Co. 1976. p. 2-158.
18. Bashir MZ, Malik AR, Rana PA, Malik SA, Shaheen MA, Khokhar JI et al. Firearm Related Deaths in Lahore: A Need for Efficient Emergency Services. *Ann King Edward Med Coll Jun* 2001;7(2):102-5.
19. Cukier W. Firearm regulations; Canada in the international context. *Chronic Dis Can* 1998;19(1):25-34.

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