

PATTERN OF HOMICIDAL DEATHS IN PESHAWAR AND EFFECTS OF BAN ON LOCAL MANUFACTURING OF FIREARMS

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ABSTRACT

Background: Homicide is the most common manner of unnatural deaths and many types of weapons are used including firearms. **Objectives:** To determine the weaponry pattern in the homicidal deaths in Peshawar, Pakistan and review of literature for determining the effects of ban on firearm restrictions. **Design:** Non interventional (descriptive) type study. **Place and duration of Study:** This study was conducted on 759 autopsies which were performed in the mortuary at the department of Forensic Medicine & Toxicology, Khyber Medical College, Peshawar, during July 2002 to June 2003. **Subjects and Methods:** Out of 759 autopsies 509 cases were of homicidal in nature which were scrutinized on the basis of proper histories and examination of the bodies. **Results:** The study revealed the preponderance of firearm fatalities, which were 89.19% of the total homicidal deaths. These deaths were more common in rural population (57%) and amongst males (85.65%). Mostly the victims were young people in their prime and productive years of life i.e. between 21-40 years. Most of the firearms deaths resulted from high velocity rifled weapons (91.62%). The firearm injuries were mostly located on the head, neck and face (49.50%). Homicidal deaths due to firearms were noted in (89.19%) of cases. **Conclusion:** Our study revealed high frequency of firearms use for homicidal deaths even after ban on firearm. It is suggested that the illegal trafficking of firearms should be controlled and implementation of the laws regarding weapons should be practiced, rather than the new legislation.

Key words: Firearms, Homicides, Weapons, Control on Firearms

INTRODUCTION

Instruments (weapons) purposely designed for assault, progressed rapidly. With the discovery of gunpowder, came progressively more powerful firearms. By definition weapon is an article made or adapted for causing bodily hurt.¹

Trauma-producing agents (weapons) of forensic importance have been classified in many ways. They have been grouped under headings such as mechanical force, thermal actions, chemical agents, electromagnetic force, asphyxia, and embolic trauma. As seen in medico legal practice, combinations of trauma frequently occur, having been caused by a single agent.² Injuries are caused by application of physical violence to the body, depending upon how they are caused e.g. by blunt force, sharp weapon or firearms.³ Firearms are the chief source of causing wounds throughout modern world.

Homicide is the killing of one person by another.¹ When one person kills another, the crime needs investigation to bring the culprit to justice.

Autopsy is the main investigation to establish whether the death is or not due to natural causes. If it is not due to natural disease then it must be attributed to one of these reasons: accident, suicide or homicide.² There has been a global increase in crimes and so in homicide.³ The reason for this is many folds and it needs a thorough probing into the changing social, economical, and cultural scenario.

The most lethal form of violence in USA is gun violence.⁷ From 1987 to 1993, the firearm homicide rate doubled for those aged 15-24 in USA.⁴ In 2000, 75685 people (27/100000) suffered non-fatal firearm gun shot injuries.⁵ The easy availability of weapons and wide spread exhibition of violence in media has shown a reflection of the same in our country. The main causes of homicide / unnatural deaths in society are attributed to financial, social and family disputes. Homicide is the most common manner of unnatural deaths in Peshawar. The percentage of homicidal deaths in the year 1999 reported at Forensic Medicine Department Khyber Medical College, Peshawar was 82.6 %. The firearms were used in the maximum number of cases 88.0 %.¹⁰ Previously firearm weapons were freely available in Peshawar, out of which mostly weapons were locally made. So that Government banned the local manufacturing of these weapons believing that pattern of wounding should be changed due to ban on manufacturing of these notorious weapons. So the study of the weaponry patterns in homicidal deaths at Peshawar

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was planned and review of literature was conducted, to determine the effect of ban on firearms.

MATERIAL & METHODS

This study encompassed autopsy examinations of all homicidal deaths reported at Forensic Medicine Department, Khyber Medical College, Peshawar during one year (2002-2003). It observed the distribution regarding the sex of individuals / victims, the habitat, age distribution of the deceased, and the weaponry patterns for such deaths revealed at autopsy examination.

Total 759 autopsies were performed in the mortuary at the department of Forensic Medicine & Toxicology, Khyber Medical College, Peshawar, from July 2002 to June 2003. Out of which 509 cases were of homicidal in nature and were studied in detail. These cases were selected on the basis of proper histories and examination of the bodies. Relevant records of the cases e.g. medico legal certificates; bed head tickets, operation notes and Police records were scrutinized. Examination of clothes has been done. The sites and sizes of the cuts / tears / bullets holes and the distribution of the blood stains in relation to underlying wounds were noted.

External examination of the injuries in all the regions of the body was conducted. The injuries were charted and numbered in each region. The sizes, shapes and exact sites of the injuries were noted. Internal examination was conducted and all the viscera and organs in the three main cavities (cranial, thoracic and abdominal cavity) were examined. Most of these victims had multiple firearm injuries. The injuries were studied and grouped according to the weapon used such as sharp weapon's injuries, blunt weapon's trauma and firearm's injuries.

Both males and females of all ages who died of homicidal infliction were included. Cases from both rural and urban habitat were included. Doubtful cases about the manner of deaths were excluded. Deaths due to poisonings and dead bodies undergoing putrefaction were excluded from the study. The fetuses that died in uterus because of the death of the mother were also excluded.

RESULTS

Out of 509 autopsies having homicidal history of death, done at Forensic Department, KMC, Peshawar, in 454 autopsies the cause of death was firearm injuries.

Both the urban and rural police stations refer their cases to this department for autopsy. In a total number of 509 autopsies, 292 (57%) autopsies came from rural areas, 146 (29%) autopsies were from urban area and 71 were referred from other districts of the province. Thus the firearm deaths were more in the rural areas as compared to urban set up.

Fig. I: Residence wise distribution of Homicide Victims

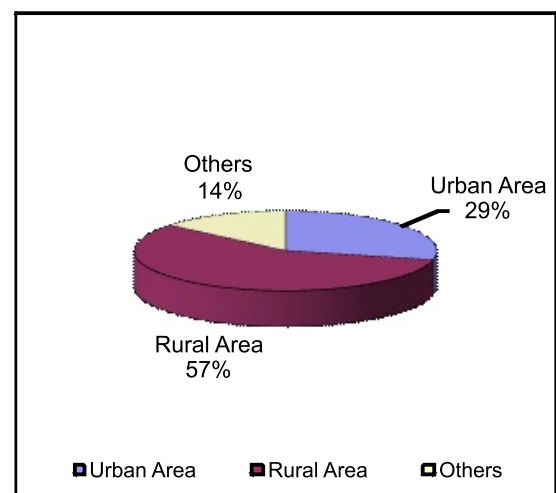


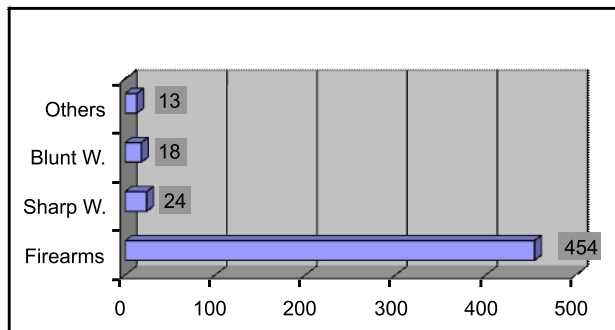
Table No. I: The age distribution of the deceased.(N=509)

Ages	Number	Percentages
0-10	16	3.14 %
11-20	44	8.64 %
21-30	184	36.14 %
31-40	134	26.32 %
41-50	57	11.19 %
51-60	37	7.26 %
61-70	28	5.50 %
70-Above	9	1.76 %

The male subjects (436) 85.65 % dominated the females number (73) 14.34 % with a ratio of 6:1 In the age group distribution, mostly the victims were young people in their prime and productive years of life. 184 (36.14%) cases were in the age group of 21-30 years. 134 (26.32%) cases were in the age group of

31-40 year. The lowest number of victims were at the extreme of ages, 16 were in the age group of 0-10 years and 09 (1.76%) victims were in the age group of 70-above.

Fig. II: Weaponry Pattern in homicidal deaths



The weaponry pattern adopted for homicidal deaths revealed at autopsy examination that the highest number of fatal injuries 454 (89.19%) was due to firearms weapons. These weapons include all types of firearms e.g. high velocity, long barreled, short barreled, rifled and smooth bored. The lowest number of victims 18 (3.5%) was due to blunt weapons while the remaining 24 (4.7%) were due to sharp edged weapons. Some homicidal cases 13 (2.55%) were due to other causes e.g. Strangulation.

The anatomical locations of fatal injuries were determined in all 509 cases. Most of these cases have more than one injury and located on multiple sites of the body. The general area of head including neck and face was the most common site, which accounted for 252 (49.5%) injuries. The number of wounds in chest were 170 (33.39%), which was the next common area targeted in the body. A total of 82 (16.1%) injuries were recorded in the abdominal area during the examination. Both the upper limbs and lower limbs sustained a total of 5 injuries (0.98%).

Table III: Regional distribution of injuries in homicidal cases.

Region involved.	Number	Percentages
Head, Neck, Face	252	49.50 %
Thorax	170	33.39%
Abdomen	82	16.11%
Extremities	5	0.98 %
Total	509	100%

DISCUSSION

The manner of death explains how the cause of death came about. Homicides are one of them. Homicides are very common all over the world. In a study at Cape Town, it was observed that the five main violence and injury mortality categories were homicides 46%, transport accidents 29%, fire 8%, suicide 7% and drowning 2% of all non natural mortality.⁷ In another study in USA homicide remains one of the leading causes of death for young people.⁸ At Loss Angles homicides were the leading cause of traumatic deaths 45.3% followed by accidents 31%. The overall homicide rate per 100,000 population was 14.0.⁹

In our study there were 509 autopsies, which were due to homicidal deaths. Out of which 292 cases (57%) were from rural areas, 146 cases (29%) were from urban areas and 71 cases (14%) were from the whole district of Peshawar excluding Peshawar city. These results are nearly same to a previous study in Bahawalpur in which rural involvement in homicides were more (58.1%) than urban population (42%).¹⁰ These results can also be compared to the work of other investigators in the world. In a study it was observed that as rural areas have a higher percentage of violent deaths than urban areas.¹¹ In another study it was observed that more deaths (from gunshot wounds) occurred in the rural areas than the cities.¹² The results of these international studies are same as our findings. This type of rural and urban habitat shows the general population distribution in our country, which is of rural dominance.

In all over the world males are more involved in homicides than females. In a study on age related patterns of violent deaths, it was observed that males out numbered females in homicides.¹³ In another study it was observed that there were 329 trauma related deaths in Diyarbakr in 1997¹⁴ in which 226 were male (69%) and 103 were females (31%). In a study, 83 homicides (by firearms) were registered in 10 years in which 58% victims were males and 42% victims were females.¹⁵ Our study also indicated the same factor of male preponderance, which was 85.65% in this area. The female victims were only 14.34%. These results are same as in a previous study in Pakistan¹⁰ in which the male victims were 87% and the female victims were only 13%. If we compare these studies it becomes evident that this is because of the facts our society is male dominant and females are usually confined to their homes.

Our study showed the maximum homicidal deaths in the age group of 21-30 years. The ages of the victims in this area were exactly the same as in a previous study at Bahawalpur¹⁰ in which the age group mostly involved in homicides was 21-30 years. Our results about the age involvement in this area were almost the same as in other studies.⁹

¹⁵ In our study rationales for this finding seems to be the protected group of 0-10 years and 50-above in our society, as the kids and olds are cared more and hence making them less vulnerable to injury. Our study also revealed that weapons involved were mostly the firearms 454 (89.19%) of all homicides and the second method adopted for homicidal purpose was the use of sharp edged weapons 4.71% in this area. The study at Newfoundland¹⁶ in which sharp edged weapons were the most common method and the study of Costa Rica¹⁷ in which cutting/piercing were more common methods used for murders contradict our results. This is because of the fact that in Newfoundland and Costa Rica firearms are not freely available. While our study corresponds with the previous study at Bahawalpur¹⁰ and a study at Peshawer¹⁸ in which firearms were the most commonly used weapons for homicides. In another study at USA¹⁹ it was estimated that the dramatic increase in the US homicide rate from 1985-93 was due to a steady increase in firearms homicides. Firearms were used in nearly 70% of all homicides at USA. The frequent use of firearms in these studies as well as in our study is because of the fact that firearms are freely available to the people of these areas. The worldwide smuggling of firearms and failure of legislations in this regard is playing a major role.

Injuries were recorded in all the cases and review of these injuries indicated that maximum numbers of 252 injuries were inflicted on the area of Head, Neck and Face. It is due to the common belief that the most important vital organs of the body on which life depends are lodged in the areas of head, neck and face. The chest had 170 injuries, the second most commonly effected region of the body. The abdominal region of the body revealed 82 injuries in this study, in which one or more important viscera was injured leading to death. Homicidal shooting caused few firearm injuries to the extremities and in this study the upper and lower limbs shows only 5 fatal injuries in 509 victims. In a similar study at Oslo and

Copenhagen²⁰ in which homicide by firearm were discussed, it was found that most victims were shot in the head. In another study at Texas²¹ it was stated that firearms wounds to the head are often fatal and routinely encountered in the practice of Forensic Pathology in USA. On the contrary to our results there was a study in Eastern Saudi Arabia²² on firearm fatalities, in which it was found that most victims were shot in chest (41%) and then head (34%). Same were the results in a study at Sweden²³ on homicidal and suicidal sharp force fatalities in which most wounds were found in chest and abdomen in victims of homicide. But as in our study the firearms were the most common weapons used for homicides so the head and neck was the ideal site for infliction leading to immediate and sure death.

Homicide was the most common manner (82.6%) of unnatural death in Peshawer in the year 1999 and the firearms were used in the majority number of cases (88.0%).⁶ Weapons were freely available in Peshawer in the past due to there local manufacturing in tribal areas. After that, this local manufacturing was banned by the Government so that the pattern of wounding should be changed and the rate of homicide due to firearms should be lowered down after the ban. Our study of recent weaponry pattern in homicidal deaths at Peshawer revealed that there is no change in the occurrence of homicidal deaths due to firearms after the legislation on arms, as compare to previous study⁶ in 1999. As opposed to our results, in a study at Colombia²³ in which effect of ban on carrying firearms on homicides was studied. It was concluded that the incidence of homicides was lower during periods when the firearms carrying ban was in effect compared with other periods. Unlike those who advocate gun control, criminals understand that banning firearms helps criminals. Smugglers and clandestine machine shops supply the underworld with every thing from hand guns to fully automatic weapons.^{24,25}

CONCLUSION

Our study revealed high frequency of firearm injuries during autopsy. Beyond seeking to control the lethal weapons used in violence, clinicians have focused interventions on the route cause of violent behavior. These interventions encompass many activities already within the purview of health professionals, including screening, patient education, treatment and advocacy.

The education of the people should be enhanced

about weapons. The illegal trafficking of firearms should be controlled and decreased. Implementation of the laws regarding weapons should be in practice rather than the new legislation.

REFERENCES

1. Parikh CK, ed. Textbook of Medical Jurisprudence & Toxicology. 5th Ed. Bombay: CBS Publisher, 1995: 260.
2. Wang ZG. An over view of recent developments in the management & research of trauma. *AnnAcad Med Singapore*. 1997; 54-9.
3. Hoyert DL, Kochanek DK, Murphy SL. Deaths: Final data for 1997, National Vital Statistics Reports 47,19. Hyattsville, National Center for Health Statistics;1999:27.
4. Wintemute FJ. The future of firearm violence prevention, *JAMA*.1999; 282:475-478.
5. Federal Bureau of Investigation. Uniform Crime Reports for the United States: Crime in the United States 2000: Uniform Crime Reports. Washington, D.C: U.S. Department of Justice, 2001.
6. Memon MU, Khalil ZH, Aziz KA. Audit of cases autopsied in the mortuary of Khyber Medical College Peshawar during the year 1999. *Anal of K.E. Med. Coll* 2000; 7(3), July-sep;190-193.
7. Lerer LB, Matzopoulos RG, Phillips R. Violence and injury mortality in the Cape Town metropole. *S Afr Med J*.1997 March; 87(3): 298-301.
8. Dahlberg LL, Potter LB. Youth violence. Development pathways and prevention challenges. *Am J Prev Med*. 2001 Jan; 20(1 Suppl): 3-14.
9. Demeteriodes D et al. Epidemiology of major trauma and trauma deaths in Los Angeles County. *J Am Coll Surg*.1998 Oct; 187(4): 373-83.
10. Ali SMA et al. Weaponry patterns in the homicidal deaths in Bahawalpur. *Prof Med J*. 2000; 7(4): 514-16.
11. Dresang LT. Gun deaths in rural and urban settings: recommendations for prevention. *J Am Board Fam Pract*. 2001 March-Apr; 14(2): 107-15.
12. Chapdelaine A, Mourice P. Firearms injury prevention and gun control in Canada. *CMAJ*. 1996 Nov 1; 155(9): 1285-9.
13. Christoffel KK, Anzmger NK, Merrill DA. Age related patterns of violent deaths, Cook County, Illinois, 1997 through 1982. *Am J Dis Child*.1989 Dec; 143(12): 1403-9.
14. Yagmur Y, Kiraz M, Kara IH. Looking at trauma and deaths: Diyarbakir city in Turkey. *Injury*. 1999 Mar; 30(2): 111-4.
15. Bretsky PM et al. Epidemiology of firearm morality and injury estimates: state of Connecticut. *Am Emerg Med*.1996 Aug; 28(2): 176-82.
16. Avis SP. Homicide in Newfoundland: a nine year review. *J Forensic Sci*.1996 Jan; 41(1): 101-5.
17. Lester D. Suicide and homicide in Costa Rica. *Med Sci-Law*.1995 Oct; 35(4): 316-18.
18. Khalil ZH. Regional distribution and variable pattern of firearm injuries in Peshawar. Dissertation FCPS-2001. Karachi: CPSP. 2001.
19. Polumstein A, Rosenfeld R. Explaining recent trends in US homicide rates. *J Crim Law Criminology*.1998; 88: 1175-1216.
20. Hougen HP, Rogde S, Poulsen K. Homicide by firearms in two Scandinavian Capitals. *Am J Forensic Med Pathol*. 2000 Sep; 21(3): 281-6.
21. Cina SJ et al. Multifactorial analysis of firearm wounds to the head with attention to anatomic location. *Am J Forensic Pathol*.1999 Jun; 20 (2): 109-15.
22. Elfawal MA, Award OA. Firearm fatalities in Eastern Saudi Arabia. *Am J Forensic Med Pathol*.1997 Dec; 18(4): 391-6.
23. Villaveces A et al. Effect of a ban on carrying firearms on homicidal rates in 2 Colombian cities. *JAMA*-1. 2000 March; 283(9): 1205-9.
24. American Academy of Pediatrics Task Force on violence. The role of the pediatrician in youth violence prevention in clinical practice and at the community level. *Pediatrics*.1999; 103: 173-78.
25. Kellermann AL et al. Public opinion about guns in the home. *Inj-Prev*.2000 Sep; 6(3): 189-94.