

Profile of Firearm Autopsies in Multan- A Five Year Study

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ABSTRACT

Aim: To outline the pattern of firearms injuries and deaths in Multan and compare it with the pattern seen in other cities of Pakistan and in other countries.

Method: Data was collected of 140 cases of firearms injuries autopsied in the mortuary of Nishtar Medical College, Multan from January 2010 to December 2014. The parameters studied were age, sex of the victim, body parts injured in fatal attacks and manner of death. Data was tabulated using SPSS version 18 and analyzed by using descriptive analysis.

Results: The peak incidence was between 21-30 years age (31.42%). Male to female ratio was 3:1. The chest (40.55%) followed by abdomen (26.11%) and head (24.44%) were the areas primarily targeted. 77% were victims of homicidal attacks, 19% suicidal and 4% accidental.

Conclusion: There is a need to prevent illegal firearm influx at the international level, lifestyle adjustments among youth especially males, strict implementation of laws in the society and gun-violence reduction programs.

Key words: Fatal firearm injuries, autopsy, homicide, Multan

INTRODUCTION

Firearms are the most destructive lethal weapon in vogue in the modern day society. Every year, hundreds of thousands of people die from firearm related injuries worldwide¹. According to the World Health Organization, firearms are used in two thirds of all homicidal cases and one fifth of suicidal cases². In USA, there are 30,000 firearm-related deaths every year³. In a study in Italy, firearm related mortality rate was 0.84 per 100,000 population⁴. In Turkey, firearm injuries are the leading cause of homicidal deaths and the third most common cause of suicidal deaths after poisoning and hanging⁵. Deaths from firearms have been on the rise in developing countries like ours mainly due to surge of sectarian religious clashes, political violence and armed robberies⁶. Several studies from Pakistan documented use of firearms as the best means of committing murder^{7,8}. This can be attributed to easy availability of firearms as almost all kinds of weapons are manufactured in the tribal areas apart from being smuggled across the border from the neighboring country, Afghanistan⁹. Several studies on patterns of firearm related deaths have been conducted in almost all the western countries. However, in Pakistan where illegal use of firearms is very common, proper documentation of deaths due to firearms are available of only few cities.

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OBJECTIVE

To outline the pattern of firearms injuries and deaths in Multan and compare it with the pattern seen in other cities of Pakistan as well as in other countries.

MATERIAL AND METHODS

A retrospective examination was made of autopsy records of deaths due to firearms in the Department of Forensic Medicine of Nishtar Medical College, Multan from January 2010 to December 2014. Data was collected for 140 cases by using a structured proforma. The parameters studied were age, sex of the victim, body parts injured in the fatal attacks and manner of death. Data was tabulated using SPSS and analyzed by using descriptive analysis.

RESULTS

The age of the victims ranged from 8 to 66 years. Majority of them belonged to age group 21-30 years 44(31.42%). Second most common age group was 31-40 years 33(23.57%). Extremes of ages showed the least incidence 6(4.27%) as shown in table 1.

Table 1: Distribution of Victims of Firearm Injuries according to Age and Gender

Age group	Male (%)	Female (%)	Total (%)
Birth-10	4 (2.85)	0	4 (2.85)
11-20 Yrs	11(7.85)	8 (5.71)	19 (13.57)
21-30 Yrs	32 (22.85)	12 (8.57)	44 (31.42)
31-40 Yrs	28 (20)	5 (3.57)	33 (23.57)
41-50 Yrs	19 (13.57)	4 (2.85)	23 (16.42)
51-60 Yrs	11(7.85)	4 (2.85)	15 (10.71)
>60 Yrs	2(1.42)	0	2 (1.42)
Total	107(76.42)	33 (23.57)	140 (100)

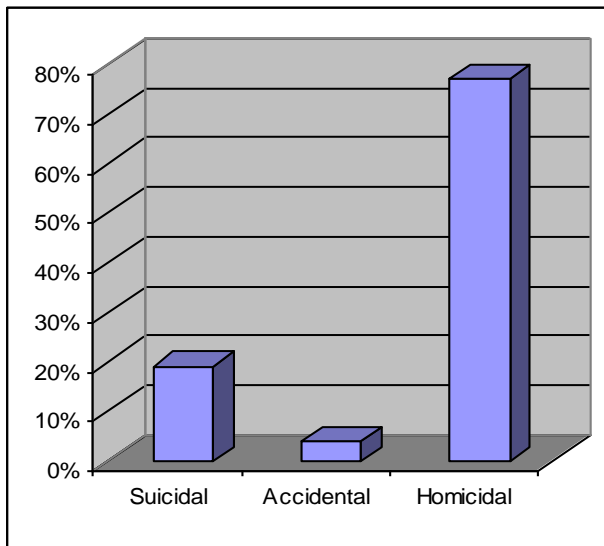
The most commonly involved body region was chest (73, 40.55%) followed by abdomen & pelvis (47, 26.11%), head, neck and face (44, 24.44%) and extremities (16, 8.88%) respectively as shown in table 2.

Table 2. Body Region involved

Body Region	No. of Injuries	%age
Head, neck and face	44	24.44
Chest	73	40.55
Abdomen & pelvis	47	26.11
Extremities	16	8.88
Total	180	100

The incidence of homicidal cases was 77% while that of suicidal and accidental cases was 19% and 4% respectively (figure.1)

Fig. 1: Manner of injuries



DISCUSSION

The present study included 140 victims of fatal firearm injuries during a 5 year period in Multan with the incidence of 18.6% of total medicolegal autopsies. This is considerably low as compared to studies from other cities of Pakistan. The frequency of firearm related deaths was 45.3% in Lahore¹⁰, 64.9% in Dera Ismail Khan¹¹ and 77.7% in Peshawar¹². This variation is seen depending on the availability of firearm weapons, and legislative infrastructure of the region. However, it was higher than the studies from other countries. The percentage of firearm deaths was reported 2.09% in India¹³, 12.6% in Italy⁴ and 14.3% in Turkey¹⁴. This can be attributed to the fact that the use of firearm weapon is on the rise with each passing year in Pakistan¹⁵. Weapons are becoming cheaper and

easier to obtain as a result of excessive and at times indiscriminate supply by terrorist groups as well as their unrestrained smuggling from Afghanistan which has the highest rate of homicidal deaths due to firearm in South East Asia¹⁶.

Age range of 21-30 and 31-40 years which is the most productive age group accounted for 31.42% and 23.57% of the cases in our study. This is in accordance with a four year study in Turkey which found that 51.3% cases were in the age group 21–40 years¹⁴. The peak incidence of deaths due to firearms in 21-30 years age group was also reported by studies from Lahore^{9,10}, Dera Ismail Khan¹¹, Peshawar^{12,17} and Larkana¹⁸. Moreover, studies from India¹³, Nigeria¹⁹ and Egypt²⁰ showed similar age predilection. The higher incidence of fatalities in above age group may be explained by the fact that this is the most active phase of life in which the individuals step into the practical life to support their families, facing the challenges and issues of the real world thus being more vulnerable to injuries inflicted by firearms. Another explanation can be that these group of people are more short tempered, aggressive and emotional than both the extreme age groups. However, studies in Africa, USA and Brazil show an earlier age most prone to such deaths²¹⁻²³. This could be because of a difference in the cultural and social background of the society. In western societies, youth become independent at an earlier age and are thus exposed to the violence prevalent in the society at an earlier age.

The present study showed that males were three times more likely to be victims than females in deaths due to firearms. Similar male preponderance was shown by studies conducted in other cities of Pakistan^{6,9-12,17,18} as well as in other countries all over the world^{4,13,14,19,20,23-29}. The degree of this preponderance varies with the level of development of the region and the proactive role of males. The ratio is wider in countries like Turkey¹⁴, Pakistan¹⁷ and Saudi Arabia²⁴ but becomes somewhat narrower in the western countries like Greece²⁵. Some of the reasons for male predilection are that ours being a male dominated society, male members are more exposed to stress and strains of daily life and are generally more aggressive in demonstrating resistance to perceived threats as compared to females who are usually either innocent bystanders or confined to their homes.

The most common body part targeted was chest (40.55%) followed by abdomen and pelvis (26.11%). The body regions involved in firearm injuries do not reflect a uniform pattern. Studies from Lahore⁹, Peshawar¹⁷ and Egypt²⁰ showed chest the most common body region involved thus in line with our

study. However, other studies were not in accordance with our findings. A five year study from Sialkot⁶ reported that the most common site of injury was lower limbs followed by upper limbs. Abdomen (39%) and head (30.30%) were the two most common entry sites for bullets in Kanpur, India¹³. Abdomen (33.68%) and chest (25.53%) were targeted in majority of cases in Larkana¹⁸. In Dammam, Saudi Arabia²⁴, the most common sites were the head (36.7%) and the chest (28.7%). It can be explained as when firearms are used to commit suicide or homicide, the more dangerous areas where vital organs are located such as the head and chest are targeted, but in accidental injuries or in cases in which assailants use firearms only to threaten as in armed robberies, victims are usually injured in less dangerous sites such as the extremities.

Our study showed that firearm injuries are the leading cause of homicidal deaths (77%). 80% of the deaths due to firearms was homicidal in a study from Lahore⁹. In a ten year study from 2002-2011 in Thailand²⁶, homicide (77.2%) was the most frequent manner of death. 71.7% were victims of homicidal attacks among autopsies of firearm-related deaths at Erzurum Branch of the Council of Forensic Medicine in Turkey²⁷. All these studies are in agreement with our study. The high incidence of homicidal deaths in the present study may be due to the significant use of unlicensed firearms, unrestrained smuggling and deteriorating law and order situation in the region.

Suicidal fatalities comprised 19% of the total in this study. However, in contrast to our study, suicides accounted for the vast majority of firearm fatalities in Italy (60.4%)⁴ and Turkey (41.8%)²⁸. This low suicidal rate may be explained by the low socioeconomic status of this area, where very few people can acquire costly firearms and they tend to use easier and cheaper methods like hanging or poisoning to commit suicide.

In the current study, 4% were accidental cases. The frequency of accidental deaths due to firearms has been reported between 0.13-24% in previous studies^{13,20,28,29}. Copeland³⁰ and Ornehult³¹ carried out a detailed study of accidental firearms deaths together with crime scene investigation and reported that accidental injuries due to firearms could have occurred as a result of playing with firearms, showing the weapon to others or because of faulty firearms. These features are similar to the findings of accidental deaths in the current study.

CONCLUSION & RECOMMENDATIONS

Our study showed that the firearm injury is more frequent in third decade of life and the males are

more commonly involved. The most common site of firearm injury is chest and the manner of death is predominantly homicidal.

Research on firearm injuries shows that certain measures may significantly reduce mortality, morbidity and financial burden on the community. There is a need to prevent illegal firearm influx at the international level, lifestyle adjustments among youth especially males, strict implementation of laws in the society and gun-violence reduction programs.

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