DEMOGRAPHICS OF FIREARM HOMICIDES AN AUTOPSY STUDY

Hakeem Afridi, Fasseh uz Zaman, Saleem ur Rehman, Muhammad Naeem, Mohammad Yousaf, S. Hussain Abbas, Zia ul Islam

Department of Forensic Medicine and Toxicology, Khyber Medical College, Peshawar - Pakistn

ABSTRACT

Objective: To analyze the demographics of victims of fatal firearm injuries inflicted with homicidal intent.

Material and Methods: This descriptive study was performed from January 2013 to December 2013. Record of autopsies performed on homicide victims in Peshawar district was obtained and analyzed. The variables included in results were age, gender, manner of death, cause of death and areas of body involved in firearm injuries.

Results: Reports of of 1430 autopsies in the district Peshawar were analyzed. Out of these 1309 (91.54%) were alleged homicidal cases. Among these homicidal cases, 1055 (80.59%) were homicides caused by firearms. Among the Firearm homicides male to female ratio was found to be 8.75:1. Most affected age groups were 20-29 years (36.1%), 30-39 years (22.7%) and 40-49 years (14.1%). The areas of body frequently involved included Chest 53%, Head & Neck 47.1% and Abdomen 28%.

Conclusion: The incidence of firearm homicide in Peshawar has increased dramatically over the past decade. The vast majority of homicides in Peshawar are being conducted with firearms which bring up issues related to up gradation of firearm management facilities in the regional hospitals and tightening of legislation regarding small arms control.

Key Words: Firearm, injury, Homicides, Autopsies.

INTRODUCTION

Medico legal autopsies can be a valuable source of information regarding the demographic data and injury pattern prevalent in firearm homicides. Homicide (Latin: homicidium, Latin: homo human being + Latin: caedere to cut, kill) is the act of a human killing another human[1]. Throughout the world firearms remain the most important means of homicide. A rise in firearm homicides is being reported in many countries including United States of America[2]. In fact, a study conducted in United States of America found a direct relationship between rise in homicides and gun ownership[3,4]. In England and Wales, firearm homicide remains rare as compared to US but it has shown a significant rise in the previous decade[5,6]. And most of firearm homicides were reported in the rural region[7].

In Pakistan the ease of availability of all types of firearms has drastically increased the incidence of firearm related homicide.

Address for Correspondence:
Dr. Hakeem Afridi
Professor
Department of Forensic Medicine and Toxicology,
Khyber Medical College, Peshawar - Pakistan
Cell: 0333-9131334
E-mail: drhakimafridi@gmail.com

MATERIAL AND METHODS

The current study was conducted on autopsy reports submitted at all police stations in district Peshawar from January 2013 to December 2013. Exclusion was performed on the basis of duplication tests in SPSS. All duplicate reports were removed from the database. The remaining reports were classified according to manner of death. Then further scrutiny was performed for homicidal deaths. Among the autopsy reports of alleged homicide only those reports were selected which employed firearm as a means to homicide. These reports were further classified according to age group, gender, body areas involved, and involvement of internal organs and incomplete reports were eliminated. Resulting data was fed into SPSS 17 and descriptive analysis was done.

RESULTS

During 2013, 1430 autopsies had been conducted in Peshawar district. Out of these 1430, alleged homicides were 1309 (91.54%), while accidental deaths were 120 (8.39%). No suicides had been reported. Among the homicidal cases Firearms constituted the major group with a count of 1055 (80.59% of homicides), followed by bomb blasts (4.51%), poisoning (1.53%)

Table 1: Segregation of Autopsy Reports on the basis of Gender and Age Group

Age group	Gender		Count	Percengage
	Male	Female		
0 – 9 years	9	1	10	1.0
10 – 19 years	59	16	75	7.3
20 – 29 years	333	40	373	36.1
30 – 39 years	208	26	234	22.7
40 – 49 years	136	10	146	14.1
50 – 59 years	107	10	117	11.3
60 – 69 years	30	0	30	2.9
70 – 79 years	11	0	11	1.1
80 – 89 years	3	0	3	.3
Undetermined	31	3	34	3.3
Total	927	106	1033	100

Table 2: Differences in firearm homicide between rural and urban areas of Peshawar

Area	Count & Percentage
Firearm Homicides in Rural Areas	813(78.7%)
Firearm Homicides in Urban Areas	220(21.3%)
Total	1033(100%)

Table 3: Classification of firearm homicides according to involvement of area of body

Region Involved		No. of patients & percentage
Head & Neck	Head (including Face)	435(42.1%)
	Neck	72(7.0%)
	Head and Neck (Combined)	487(47.1%)
Trunk	Chest	548(53.0%)
	Abdomen	289(28.0%)
Limbs	Limbs	14(1.4%)

and other causes (including hanging, blunt weapons, sharp weapons, strangulation by ligature and physical torture).

Table 1 summarizes the classification of firearm homicides in Peshawar according to gender and age group. Importantly, at this point, only complete reports were considered for further evaluation. About 20 reports were eliminated because they had incomplete data as regards to age, gender and organ involvement. According to the data, the victims of firearm homicides were commonly found among the 20-29 years age group followed by 30-39 years age group (22.7%), 40-49 years (14.1%), 10-19 years (7.3%). The 20-49 years age group represented 72.9% of all firearm homicides in Peshawar. Both extremes of the age spectrum were found among the autopsies. 3.3% of the cases had undetermined age. Males were found dominantly throughout the age groups with a ratio of Male:Female being 8.75:1.

Table 2 summarizes the distribution of firearm homicides among the rural and urban areas of Peshawar. Out of the 1033 homicides done with firearms, 813 were reported in rural areas while only 220 were reported in urban areas. It makes a ratio of about 3.7:1. Table 3 summarizes the injuries to various parts of the body found among the firearm homicides victims. The most commonly targeted regions included Chest (53.0%), Head (42.1%) and Abdomen (28.0%). The head and neck region was found involved in 47.1% of autopsies. Vital structures of Neck were found injured in 7% of cases while limbs injury was found in only 1.4% of autopsies.

DISCUSSION

The aim of this study was to shed light on the demographics of homicidal deaths due to firearms in Peshawar. Similar to the rising incidence of homicides throughout the world[7,8,9,10], our study observed an increase in the incidence and percentage of firearm homicides. This observation also agrees with the increasing incidence of firearm homicides in other cities of Pakistan[11,12,13,14,15,16]. A study from the neighboring country of Turkey reports a figure of only 21% homicides in 2951 autopsies reported during the period 1997-20018. Among these 54.83% involved firearms. In contrast, a study conducted in the Forensic Department

of Khyber Medical College, Peshawar revealed a 75% rate of firearm injuries in medico legal autopsies performed in the year 19999. Another study conducted in the Forensic Department of Khyber Medical College in 2004 gave a homicidal rate of 77.7% among which firearms accounted for 91.87% of the deaths[10]. In 2002 Zafar M et al recorded 447 cases of firearm homicides making 85.96% of all homicides in Peshawar[17]. The number of cases remained relatively stable at 457 in 2004 but the percentage rose to 91.87%. In our study the number of firearm homicides from district Peshawar stands at 1055 (80.59% of all homicides in Peshawar) during the 2013 period. Thus a very steep and worrisome rise in firearm homicides has been noted. In view of the studies conducted on relationship between gun ownership and firearm homicides rates, it can be safely concluded that the recent adverse law and order situation in Khyber Pakhtunkhawa has led to a very steep rise in the number of unregistered small arms[18].

The male to female ratio in Peshawar was observed previously to be 6.2:1 in 2002[17] while it was 5.75:1 in 2004[10]. Now it has been observed to be 8.75:1. It is significantly higher than Faisalabad (3:1)[19], Dera Ismail Khan (4:1)[20], and is also higher than other cities of Pakistan. This may be explained on the basis of the differences in socioeconomical structure of Peshawar and other cities of Pakistan. The highest incidence of firearm homicide was noted among the age group 20-29 (36.1%). The age group 20-49 comprised nearly 72.6% of the entire firearm homicide cases. This number is in agreement with the other studies conducted in Peshawar[9,10,17], and with other cities of Pakistan.

In our study the most frequently involved region of the body was Chest (53.0%), followed by Head and Neck (47%), Head (42.1%) and Abdomen (28.0%). In the study conducted by Zafar M et al[17], the involvement of Head, Chest and Abdomen was 29.13, 37.25, 26.98 percent respectively. Haider A et al[20] recorded Head Neck & Face, Thorax, and Abdomen injuries as 36.62, 26.76 and 15.50 percents respectively. So Head, Chest and Abdomen are usually the most frequently damaged regions of the body in firearm homicidal cases. This observation has been confirmed by our study and can be explained by the tendency of the assailants to target Chest and Head because of the presence of vital organs in these regions.

The significance of damage pattern found in the autopsies can be evaluated by comparing with a study performed by Shah MM et al[21] in 2007. They conducted the study on Firearm Injuries treated in Emergency Department of Lady Reading Hospital, Peshawar. They found that the most affected region of the body was abdomen 44.6% followed by chest 14.9%. This was associated with damage to various viscera including intestines, liver, kidney, spleen, bladder and inferior vena cava. However, the survival rate of firearm victims was 93.2%, with only 6.8% wounds proving fatal. As such it can be speculated that the actual pattern of firearm injuries sustained by live victims can be significantly different from that found in the autopsies, because the modern surgical methods can ensure survival in most of the non-vital organ damage patients presenting to ER in time.

Considering the data in this study, the rise of firearm injuries in district Peshawar is worrisome. The need for a strict gun possession control and tightening of the legislation in this regard has increased manifold during the past decade. Even though various estimates put the prevalence of unlicensed small firearms at 18 million in Peshawar district, the number of licenses issued for small arms have been merely 2 Million from 1970 to 2000[18]. If we are ever to desire a decrease in homicide incidents in Peshawar, a strict gun control should be emphasized.

CONCLUSION

The chest, head and abdomen was the various parts involved in firearm homocide victim.

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AUTHOR'S CONTRIBUTION

Following authors have made substantial contributions to the manuscript as under:

Afridi H: Concept and management.

Zaman F: Bibliography

Rehman S: Data collection

Yousaf M: Analysis and interpretation of data collection.

Abbas SH: Literature review and typing.

Islam ZU: Statistics.

Authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.

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