ORIGINAL ARTICLE

DEMOGRAPHIC DISTRIBUTION OF HOMICIDAL FIREARM INJURIES IN DERA ISMAIL KHAN

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ABSTRACT

Background: The frequency and pattern of homicidal firearm injuries in various regions of Pakistan has largely gone unreported. This study was conducted to determine the pattern of homicidal firearm injuries in D.I.Khan.

Material & Methods: This retrospective study was conducted at Department of Forensic Medicine, Gomal Medical College from data collected from DHQ Teaching Hospital, D.I.Khan from January 2013 to December 2013. All 160 autopsies files with any cause of death were consecutively included. Autopsy was conducted in accordance with Robert Virchow's technique. The demographic variables were gender, age in years and age grouping. The research variables were; cause of death in all autopsies and regional involvement of the injuries in homicidal firearm victims. Frequency and percentage were given for all the categorical variables while age was analyzed by mean, SD and range.

Results: Out of 160 autopsies performed during study period, 71(44.38%) cases were due to firearm injuries followed by 39(24.38%) due to road traffic accidents. Out of 71 cases due to firearm injuries, 57(80.3%) were males and 14(19.7%) females giving a male: female ratio of 4:1. The mean age of this sample of 71 cases was 34.82±13.53 (12-70) with a range of 58 years. The age group of 21-30 years has maximum frequency. Head, neck & face were commonest area involved in 26(36.62 %) cases.

Conclusion: Homicide firearm victims in D.I.Khan are mostly adult males of young age group. Head, neck and face are the most commonly targeted areas.

KEY WORDS: Homicide; Murder; Death; Firearms; Gunshot Wounds; Trauma; Autopsy; Postmortem Examination.

This article may be cited as: Haider A, Khan J, Kamran S. Demographic distribution of homicidal firearm injuries in Dera Ismail Khan. Gomal J Med Sci 2014; 12:27-30.

INTRODUCTION

Violence is a significant public health problem and homicide is the severest form of violence, depriving a human-being of his fundamental right to live. Homicide is prevalent widely almost all over the world.[1] It is one of the leading causes of unnatural deaths. A study on homicidal deaths showed gunshot wounds as the most common cause of death, followed by stab wounds, blunt trauma and asphyxia.[2]

Besides high death toll firearm injuries cause significant morbidity and long-term physical and psychological disability for individuals, families, and communities.[3] In 2010; guns took the lives of 31,076 Americans in homicidal, suicidal and unintentional shootings. This is the equivalent to more than 85 deaths each day and more than three deaths each hour.[4] Gun related violence is commonly seen in poor urban areas and in conjunction with gang violence, often involving juveniles or young adults.[5,6]

Homicide is a major crime in all codes of law. It is reported and analyzed reliably and regarded serious, socially as well as legally. If interpersonal conflicts resulting in this crime are to be studied we need to consider circumstances, relationships and stages of life of the assailant and the victim.[7]

Violent injuries are common in the low and middle income countries. In 2000, the rate of violence-related deaths in low-to-middle income countries as a whole was more than twice that in high-income countries, although rates vary between regions and within countries.[8] The picture of the violent deaths in Pakistan is not different from other low income countries. Early studies have shown that firearms were a common mode of violent deaths among young males in Karachi, Pakistan.[9]

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This study will help to improve the extent of management offered because the available data of firearm impact on health is scanty. It will help in identifying population at risk and devising strategies accordingly.

This study was conducted to determine the pattern of homicidal firearm injuries in Dera Ismail Khan.

MATERIAL AND METHODS

This retrospective study was conducted at the Department of Forensic Medicine, Gomal Medical College, Dera Ismail Khan, Pakistan, from February 1, 2014 to March 31, 2014. The data was collected from the mortuary at DHQ Teaching Hospital, D.I.Khan, for the period from January 01, 2013 to December 31, 2013. After permission from the hospital authorities, all the 160 autopsies files with any cause of death were consecutively included.

A detailed autopsy was conducted in each case to determine the cause of death. The bodies were first examined externally followed by dissection of the body cavities in accordance with Robert Virchow's technique.

The demographic variables were gender, age in years and age grouping. Age grouping was as; up to 20 years, 21-30, 31-40, 41-50, 51-60, and more than 60 years. The research variables were; cause of death in all autopsies and regional involvement of the injuries in homicidal firearm victims. The causes of death were grouped as; firearm injuries, bomb blast, road traffic accidents, stab wounds, electrocution, asphyxia, poisoning, blunt trauma, others and unknown. The regional involvement of the injuries was categorized as; head, neck & face, thorax, abdomen & lumbar region, extremities, and multiple regions. Data was analyzed by using SPSS version 16 (SPSS Inc., Chicago, IL). Frequency and percentage were given for all the categorical variables while age (continuous variable) was analyzed by mean, SD and range.

RESULTS

Out of 160 autopsies performed during the study period, 71 (44.38%) cases were due to firearm injuries, five (3.12%) bomb blasts, 39 (24.38%) road traffic accidents, two (1.25%) stab wounds, one (0.62%) electrocution, 11 (6.88%) asphyxia, seven (4.38%) poisoning, three (1.87%) blunt trauma, 11 (6.87%) others, and ten (6.25%) unknown.

Out of 71 homicidal firearm victims, 57 (80.3%) were males and 14 (19.7%) females giving a male: female ratio of 4:1. The mean age of this sample of 71 cases was 34.82±13.53 (12-70) with a range of 58 years. For all the 71 cases, frequency and percentage by age grouping was as; six cases (8.5%) up to 20 years, 28 (39.4%) in 21-30, 13 (18.3%) in 31-40, 13 (18.3%) in 41-50, eight (11.3%) in 51-60, and three (4.2%) cases in more than 60 years with age group 21-30 years having maximum frequency.

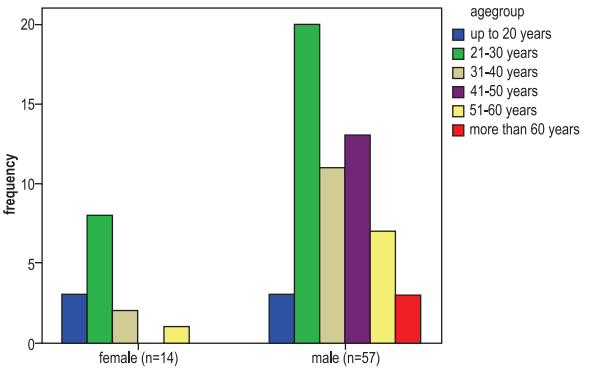

Figure 1. Gender & age groups cross-tabulatoin in homicidal firearm victims (n=71).

Table 1: Regional distribution of injuries in homicidal firearm victims (n=76).

S.No.	Body region	Frequency	Percent
1	Head, Neck & Face	26	36.62 %
2	Thorax	19	26.76 %
3	Abdomen & lumbar region	11	15.50 %
4	Extremities	03	04.22 %
5	Multiple regions	12	16.90 %
	Total	71	100 %

The regional distribution of injuries in homicidal firearm victims are given in Table 1. The most common site of injury was head, neck & face.

DISCUSSION

The study was aimed to know the various epidemiological and medico legal aspects related with the victims of the homicide. Our study showed that males were 4.5 times more likely to become victims of homicide by firearm weapons as compared to females. Similar male predisposition of dying a homicidal death has been reported in almost all parts of the world.[10, 11] 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 Pakistan, Turkey and Saudi Arabia,[12,13] but becomes somewhat narrower in the western parts of the hemisphere in places like Greece.[14]

The age most prone to death by homicidal firearm weapon was 21-30 years (39.4 %). Studies in Turkey and India show a similar age of predilection.[12, 15] This was in accordance with the studies by Pradip K et al, [16] Sachidananda et al[17] and Avneesh et al.[18]

The high incidence of fatalities in above age group may be explained by the fact that they are more often required to deal with the outer world to pursuit their work. Another explanation can be that these group of people are more short tempered than both the extreme age groups. However, studies in Africa, USA and Brazil showed an earlier age group most prone to such deaths.[19, 20]

Twenty-six (36.62%) of deaths in our study belonged to Head, neck and face firearm injuries, followed by thorax 19 (26.76 %), multiple regions 12 (16.90 %), abdomen & lumbar region 11 (15.50 %) and extremities three (4.22 %). The body regions involved in firearm injuries do not reflect a uniform pattern. In our study, the most frequently targeted part was the head, neck and face while in a previous study from Peshawar[22] the chest was the part most frequently involved and also in similar studies in Greece[23] and Finland.[24] In a study in Turkey, the most common site for entrance wound was also chest.[25] In Dammam, Saudi Arabia, the most common sites of firearm injury were the head (36.7%) and chest (28.7%).[26] Other studies reported the head, neck and face as the most frequently injured areas.[27,28] The body part mostly exposed to injury was head.[29] Since injury to head is usually fatal; may be that is the reason why the assailant prefers this easy form of homicide. Multiple firearm injuries were seen in 16.90 % of our cases, as would be expected in cases where high velocity automatic weapons are used. This is in line with other studies where automatic weapons are commonly used.[30] Other studies where the motive was to kill the victim show a similar pattern of regions of the body involved. However, where the motive was not to kill but was to injure the person without causing his death,[31] the areas involved were primarily the limbs.[32,33] In the light of these observations it might be concluded that cultural background predisposes the choice of weapon. Because of the reasons like, growing literacy, urbanization and sudden increase in terrorist activities making firearms freely and cheaply available, has made possible for more people to go for it. The other major reasons to be attracted towards it is its inherent quality, for it can be used conveniently from considerable distance, and gives the opportunity to the shooter to escape.

CONCLUSION

Homicide fire arm victims in Dera Ismail Khan are mostly adult males of young age group. Head, neck and face are the most commonly targeted areas.

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CONFLICT OF INTEREST
Authors declare no conflict of interest.
GRANT SUPPORT AND FINANCIAL DISCLOSURE
None declared.