

# Audit of Firearm Autopsy Cases in District Sahiwal

Shahid Nadeem, Altaf Pervez Qasim, Umm-e-Habiba, Fareeha Tariq, Junaid Altaf Qasim

## ABSTRACT

**Background:** Firearm injuries are the major problem that severely affects the victims, their families, health care delivery as well as criminal justice system. Firearm fatalities are more common in rural areas of the developing countries like Pakistan. Easy availability of the guns has drastically enhanced the incidence of firearm related deaths. Many studies on fatal firearm injuries have been published but their pattern and targeted areas usually remain underreported. **Objective:** To explore the pattern of fatal firearm injuries and their distribution over the body areas; and to know the demographic profile of those victims autopsied in District Sahiwal, during year 2016. **Study design:** Descriptive Study. **Setting and Duration:** The study was conducted by examining the autopsy record of three hospitals in Sahiwal District i.e. District Headquarter (DHQ) Teaching Hospital Sahiwal, Haji Abdul Qayum Hospital Sahiwal and Tehsil Headquarter Hospital (THQ) Chichawatni during the calendar year 2016. **Methodology:** The data was collected from the record of all autopsy cases conducted at above mentioned three hospitals during the study period. The cases of firearm related deaths were segregated and studied in detail. The variables were age, gender, residential background of the victims and body areas involved. The dead bodies having injuries other than firearms were not included. **Results:** During the calendar year 2016, total 178 cases were brought for autopsy whereas 73 were the victims of firearms. The data collected, entered on the Performa and analyzed which showed that 60.3% victims of firearms were between 20-39 years of age. Male to female ratio was 2.5:1. The chest was the most affected body region in (41.1%) cases followed by abdomen and pelvis (37%), head (35.6%) and extremities were involved in (26%) victims. As regards residential background of the victims; 78.1% cases belonged to the rural areas and 15.1% were living in urban area. **Conclusion:** Most of the victims targeted by firearm were young males from rural community and injuries over the chest were the leading cause of death. Therefore, there is dire need to tighten the legislation regarding use of firearms as well as to modify the aggressive behavior and lifestyle of youth.

**Keywords:** Audit, firearm fatalities, homicide, autopsy, Sahiwal

### Corresponding Author

**Dr. Altaf Pervez Qasim**

Associate Professor / Head  
Department of Forensic Medicine  
Sahiwal Medical College, Sahiwal  
Contact: +92 300-9651475  
Email: drapq95@yahoo.com

Submitted for Publication: 15-06-2017

Accepted for Publication: 07-08-2017

**Article Citation:** Nadeem S, Qasim AP, Habiba U, Tariq F, Qasim JA. Audit of Firearm Autopsy Cases in District Sahiwal. APMC 2017;11(3):187-90.

## INTRODUCTION

The firearm weapon is considered as one of the most devastating and fatal weapon. Many physicians and other health professionals recognize that the use of firearm is just not criminal violence issue but also a major public health problem.<sup>1</sup> Scientific studies indicate that the health risks of a gun at home are greater than benefits.<sup>2</sup> The access to firearm weapons has been described as "universal" risk factor.<sup>3</sup> In United States of America, more than 32,000 persons die and over 67,000 injured as a result of firearm related violence each year.<sup>4</sup> During the year 2015, in England and Wales, 7,866 firearm offences were recorded.<sup>5</sup> As guns become easily available, people are more likely to die during violent crimes.<sup>6</sup> One of every four or five serious crimes of violence and one of ten homicides are committed by youth and teen agers.<sup>7</sup> The factors for increased firearm rates among youngsters may be violence exposure in childhood, poor upbringing

and aggression. In developing countries like Pakistan, firearm fatalities are increasing because of easy availability of firearm weapons as well as poor legislation. The homicide rate in Faisalabad has been documented as 8.3/100,000 of population /year, the firearm was used in 50% of cases.<sup>8</sup> In order to formulate the strategies to prevent firearm injuries & deaths; proper studies should be conducted and documented in different cities of Pakistan.

### Objective

The objective of the study is to explore the pattern of fatal firearm injuries and their distribution over the body areas; and to know the demographic profile of those victims autopsied in District Sahiwal, during year 2016.

## METHODOLOGY

A descriptive study was conducted after collecting the data by examining the record of all autopsy

cases of firearm related injuries and deaths. Study period was from 1<sup>st</sup> January to 31<sup>st</sup> December, 2016. Total 178 dead bodies brought for autopsy and 73 cases of firearm fatalities were segregated and studied in detail. The findings recorded in the structured Performa and analyzed. The variables were victim's age, gender, region of the body affected during firearm violence and residential background (rural / urban) of the victim. The compiled data was analyzed in SPSS version 17.0 and descriptive analysis / evaluation was done using frequencies and percentages.

## RESULTS

During the calendar year 2016 (January to December, 2016) total 73 cases of firearm fatalities were recorded among all autopsy reports. The peak incidence of firearm injuries was observed in 60.3% cases belonging to the 3<sup>rd</sup> decade of life i.e. 20-39 years followed by 21.9% in the age group 40-59 years and 12.3% in the individuals having age upto 19 years. Minimum incidence was shown by extremes of ages whereas the least affected age group was 60-79 years showing the incidence of firearm injuries of 5.5%. The results are depicted in table 1 below.

As regards residential background of the victims; 78.1% cases belonged to rural area and 15.1% cases were inhabitants of urban area as shown in table 2 below Whereas the predominance of males over female is give in table 3 showing involvement of 52 (71.2%) males and 21 (28.8%) females giving male to female ratio of 2.5:1. Chest was the most affected body area in 30 (41.1%) victims followed by abdomen and pelvis 27 (37%), head and neck 26 (35.6%) and extremities were affected in 19 (26%) cases as shown in table 4.

**Table 1: Age groups of the victims**

Age in years	No. of cases	Percentage
Up to19	9	12.3%
20-39	44	60.3%
40-59	16	21.9%
60-79	4	5.5%
<b>Total</b>	<b>73</b>	<b>100%</b>

**Table 2: Residential background**

Area	No. of cases	Percentage
Rural	57	78.1%
Urban	11	15.1%
Unknown	5	6.8%

**Table 3: Gender distribution**

Gender	No. of cases	Percentage
Male	52	71.2%
Female	21	28.8%

**Table 4: Victims of fatal firearm injuries in relation to affected body regions**

Site of injury	No. of cases	Percentage
Head and Neck	26	35.6%
Chest	30	41.1%
Abdomen / Pelvis	27	37%
Extremities	19	26%

**Table 5: Segregation of the firearm autopsies in three hospitals of District Sahiwal**

Name of Hospital	Total cases	Firearm cases	Percentage
DHQ Teaching Hospital, Sahiwal	115	44	38.3%
Haji Abdul Qayum Hospital, Sahiwal	25	12	48%
THQ Hospital, Chichawatni	39	17	44%

## DISCUSSION

In this study out of the total 178 medicolegal autopsies, 73 (41%) cases were reported to be died due to firearm injuries. These observations are in line with those of a study conducted in Faisalabad<sup>18</sup> showing that firearms were the most commonly used weapon responsible for killing 47% victims. Results of this study indicated that most of the victims belonged to rural areas which is consistent with the findings of studies already conducted in different cities of Pakistan<sup>9,10</sup> whereas the results are not in line with those in western world because firearm fatalities in those countries are more common among inhabitants of urban areas.<sup>11</sup>

The victims of firearm related deaths were segregated in the age groups up to 19 years, 20-39 years, 40-59 years and 59-79 years. it was observed that the highest incidence of firearm mortality was seen among age group of 20-39 years in 44 (60.3%) cases followed by 21.9% in the age group 40-59 years, 12.3% in the victims of 0-19 years and 5.5% cases belonged to the ages of 60-79 years. Involvement of the young adults belonging to 3<sup>rd</sup> & 4<sup>th</sup> decade of life in such activities has also been documented in a study conducted by Qasim AP et

al.<sup>18</sup> Male to female ratio in our study was 2.5:1. It is lower than the ratio documented in the studies conducted in Peshawar & Dera Ismail Khan.<sup>12,13</sup>

Firearm injuries and related deaths were recorded predominantly in young males of rural area. This difference may be due to proper legislation and high literacy rate in urban area as compared to rural indwellers. Most frequently affected body region was chest involving 30 (41.1%) victims followed by abdomen in 27 (37%), head and neck in 26 (35.6%) and extremities were involved in 19 (26%) cases. These findings are consistent with those of the studies conducted in other places of country.<sup>14,15,16</sup> Violent injuries are the eighth leading cause of death in the world.<sup>17</sup> Deaths due to firearm weapons have been increased tremendously throughout the world.<sup>19</sup> The reduction in incidence of firearm violence requires interventions through systemic approach. The main risk factors are having a firearm weapon at home, clashes and fights, robberies, poor problem solving skills, increased level of aggressiveness among people, exposure to violence in childhood and easy availability of guns. Hence, we can say that by limiting gun ownership and proper licensing system for gun purchasers, we can effectively decrease the firearm related violence.

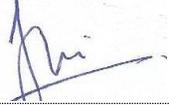
## CONCLUSION

The incidence of firearm mortality is high in district Sahiwal. Majority of victims were young males belonging to the rural areas and most of the injuries happened to be in the chest region. A multidisciplinary, interprofessional collaboration is critical to bring about the meaningful changes to reduce the burden of firearm injuries and death on persons, their families, communities, and the society.

## REFERENCES

1. Shepherd RS. Simpson's forensic medicine. CRC Press; 2003.  
<https://scm2016.files.wordpress.com/2014/05/simpson-forensic-medicine.pdf>
2. Hemenway D. Risks and benefits of a gun in the home. *Am J Lifestyle Med* 2011;5(6):502-11.
3. Rawson B. Aiming for prevention: Medical and public health approaches to small arms, gun violence, and injury. *Croat Med J* 2002;43(4):379-85.
4. Fowler KA, Dahlberg LL, Haileyesus T, Annett JL. Firearm injuries in the United States. *Prev Med*. 2015;79:5-14.
5. Grahame Allen, Noel Dempsy. Firearm Crime Statistics: England and Wales. Commons library Briefing, 2016.  
[www.researchbriefings.files.parliament.uk/documents/CBP-7654/CBP-7654.pdf](http://www.researchbriefings.files.parliament.uk/documents/CBP-7654/CBP-7654.pdf)
6. Zimring FE. "Firearms, Violence and Public Policy." *Sci Am* 1991;265(5):24-30.
7. Cook PJ, Laub JH. The unprecedented epidemic in youth violence. *Crime and Justice* 1998;(24):27-64.
8. Bashir MZ, Saeed A, Khan D, Iqbal J, Ahmed M. Pattern of homicidal deaths in Faisalabad. *J Ayub Med Coll Abbottabad* 2005;16:2-9.
9. Hussain Z, Shah MM, Afridi HK, Arif M, Ayub J. Homicidal deaths by firearms in Peshawar: an autopsy study. *J Ayub Med Coll Abbottabad* 2006;18(1):44-7.
10. Arshad M, Zafar H. Frequency and presentation of firearm deaths in Islamabad during 2014 based on autopsy reports. *Isra Med J* 2016;8(1):52-4.
11. World Health Organization (WHO). Injuries and violence: the facts. Geneva, Switzerland: WHO; 2010. Available at [http://whqlibdoc.who.int/publications/2010/9789241599375\\_eng.pdf](http://whqlibdoc.who.int/publications/2010/9789241599375_eng.pdf); 2010. Accessed 20 February, 2017.
12. Afridi H, Zaman F, Rehman S, Naeem M, Yousaf M, Abbas SH, Islam Z. Demographics of Firearm Homicides. An Autopsy Study. *J Med Sci* 2015;23(1):7-10.
13. Haider A, Khan J, Kamran S. Demographic distribution of homicidal firearm injuries in 2013 at DHQ hospital Dera Ismail Khan. *GJMS*. 2014;12(1):8-10.
14. Qasim AP, Ali MA, Baig A. Firearm fatalities in rural setting: autopsy based study at Tehsil Headquarter Hospital. *Med Forum* 2016;27(3):31-5.
15. 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. *Annals* 2001;7(3):190-3.
16. Bashir MZ, Malik AR, Rana PA, Malik SA, Shaheen MA, Khokhar JI. Firearm related deaths in Lahore: a need for efficient emergency services. *Ann King Edward Med Coll* 2001;7(2):102-5.
17. Murray CJ, Lopez AD. Mortality by cause for eight regions of the world: global burden of disease study. *The Lancet* 1997;349(9061):1269-76.
18. Qasim AP, Awan ZA, Ansari JA. Critical appraisal of autopsy work. *APMC* 2016;10(4):194-202.
19. Hagraas AM, Kharoshah MA. Medico-legal evaluation of firearm injuries during the period from 2005 to 2010 in the Suez Canal Area, Egypt: A retrospective study. *IALFS* 2012;2(1):1-10.

## AUTHORSHIP AND CONTRIBUTION DECLARATION

AUTHORS	Contribution to The Paper	Signatures
<b>Dr. Shahid Nadeem</b> Assistant Professor (OPS) Department of Forensic Medicine Sahiwal Medical College, Sahiwal	Data Collection, preparation & analysis of results, helped in manuscript writing	
<b>Dr. Altaf Pervez Qasim</b> Associate Professor, Head of the Forensic Medicine Department Sahiwal Medical College, Sahiwal	Literature review, Authentication of references, Proof Reading	
<b>Dr. Umm-e-Habiba</b> Woman Medical Officer, RHC Chak No. 120 / 9-L, Sahiwal	Data collection, tabulation of results, manuscript writing, statistical analysis.	
<b>Dr. Fareeha Tariq</b> Assistant Professor, Forensic Medicine Sahiwal Medical College, Sahiwal	Review of literature, Proof Reading, Co author	
<b>Dr. Junaid Altaf Qasim</b> MBBS Student Aziz Fatima Medical College, Faisalabad	Helped in correction & verification of references, Proof reading.	