

# Spectrum of Firearm autopsy cases brought to autopsy lab of Allama Iqbal Medical College Lahore

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## ABSTRACT

**Aim:** To study the different pattern variation of firearm injuries in firearm deaths brought to the mortuary of Allama Iqbal Medical College, Lahore.

**Design:** Observational descriptive study

**Duration of study:** One year

**Methods:** The study was conducted in Akhtar Saeed Medical & Dental College, Lahore and data of all firearm fatalities, were collected from the mortuary of the Allama Iqbal Medical College, Lahore and data collected during the period from January 2010 to December 2010.

**Results:** 100 firearm fatalities autopsied taken during the period January 2010-December 2010 were studied. 80% were victims of homicidal attacks, 10 cases (10%) had history of accidental firearm injuries obtained; and in 5 cases (5%) fatalities were suicidal and in the remaining 5(5%) the cause(s) of firearm injuries were dacoits.

**Conclusion:** The firearm injury is more frequent in 21-30 years age group. The Young males are more commonly affected and must be targeted for lifestyle adjustments such as training to refrain from anger or disputes. The most common site of injury is Thorax and frequently injured organs are lungs.

**Keywords:** Firearm injury, autopsy

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## INTRODUCTION

Despite stringent legislation in the UK and elsewhere in the world, the use of firearms in criminal activities continues to increase. Weapons are becoming cheaper and easier to obtain as a result of the excessive and sometimes indiscriminate supply of arms and ammunition by governments and the acts and actions of national and international terrorist groups<sup>1</sup>. Violent injuries are the eighth leading cause of death, worldwide<sup>2</sup>, and the incidences of violent crimes with gunshot injuries have become increasingly more common, reflecting the deterioration of law and order in our society. These are common in the low and middle income countries (3) According to 2011 and 2010 local public health data, the annual count of firearm deaths and injuries in New York City exceeded 2000; there were 366 firearm fatalities, 999 firearm hospitalizations, and 691 firearm injury emergency department visits. The

Corresponding rates were 4.3 deaths per 100,000, 11.8 hospitalizations per 100,000 and 8.1 emergency department visits per 100,000 population<sup>4</sup>. There is an unequal ratio when we compare death rates due to firearm among developed and developing countries<sup>5</sup>. The graph of firearm related deaths continue to fall among countries like United States of America<sup>6</sup> England<sup>7</sup>, Saudi Arabia<sup>8</sup> whereas its considerably high when we compare them to India<sup>9</sup>, Nigeria<sup>10</sup>, Egypt<sup>11</sup>, Kenya<sup>12</sup>, Bangladesh<sup>13</sup>. In Pakistan, especially according to the statistical data, the use of firearm weapon continues to increase with each passing year<sup>14</sup>. Due to tribal culture and borders with Afghanistan, almost all kinds of sophisticated weapons manufactured are smuggled throughout Pakistan. Studies on patterns of firearm related homicide well-documented almost among all the western countries. However, in a country as Pakistan where illegal use of firearms is a common practice, proper documentation of homicidal firearms are available of few cities<sup>5</sup>.

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## MATERIALS AND METHODS

The study was conducted in Akhtar Saeed Medical & Dental College, Lahore and data of all firearm fatalities, were collected from the mortuary of the Allama Iqbal Medical College, Lahore, and data collected during the period from January 2010 to December 2010. Our study was attempted to define

the circumstances, motives, extent and severity of firearm-related injuries in their victims. All firearm death records were thoroughly reviewed the information like, Demographic data of the victim and time interval between incidence, death and postmortem Examination & Examination of the characteristics of firearm injuries like range and number of entry/exit wound, type of weapon used and the cause of death . A detailed history was taken from attendants or the persons accompanying the dead body. Police papers like, inquest report (Panchnama) was thoroughly studied and relevant findings were noted at same time. This is an Observational descriptive study and data of 100 cases of deaths due to firearms were recorded, compiled and analyzed.

### RESULTS

A total of 100cases of firearm injuries were recorded during the study period. Data were analyzed on using SPSS version 22. Firearm victims were composed of 90(90%) males and 10(10%) females and the ages of victims ranged from 0 to more than 60 years with a mean age of 21.74±S.D 10.56yrs. The most frequent cases of firearm found at the age of 21-30yrs, 35(35%) and 2<sup>nd</sup> most common in age group of 31-40yrs, 20(20%). In 3rd group which includes 11-20yrs

and 41-50yrs containing same no of cases 15 (15%) each. And 7 no(7%) of cases were present in age group from 51-60yrs and more than 60yrs each, and very least age group was 0-10yrs in which only one case was found. The most common region found in fire arm injuries were Thorax 40(40%), and the 2<sup>nd</sup> most common region in firearm injuries were Abdomen 25(25%), and the 3<sup>rd</sup> common region were head & neck 15(15%) was found. Very least regions in firearm injuries were upper limb and lower limb which includes 5(5%) each. In all above regions 75% from far distance injuries and 25% from near distance injuries were found. History of incidence, weapons used during the incidence and pattern of injuries mentioned 80% were rifled firearm injuries and 20% from smooth bore weapons used for such injuries. Occupational history showed, 30(30%) victims were jobless, 20(20%) were farmers, 15(15%) were labourers, 10(10%) were students, 10(10%) were drivers, 10(10%) were housewives, 5(5%) were shopkeepers were seen in cases. In 80(80%) of firearm cases, the injuries were caused by homicidal attacks, whereas in 10 cases (10%) had history of accidental firearm injuries obtained; in 5 cases (5%) fatalities were suicidal and in the remaining 5(5%) the cause(s) of firearm injuries were dacoity.

Fig.1 Gender

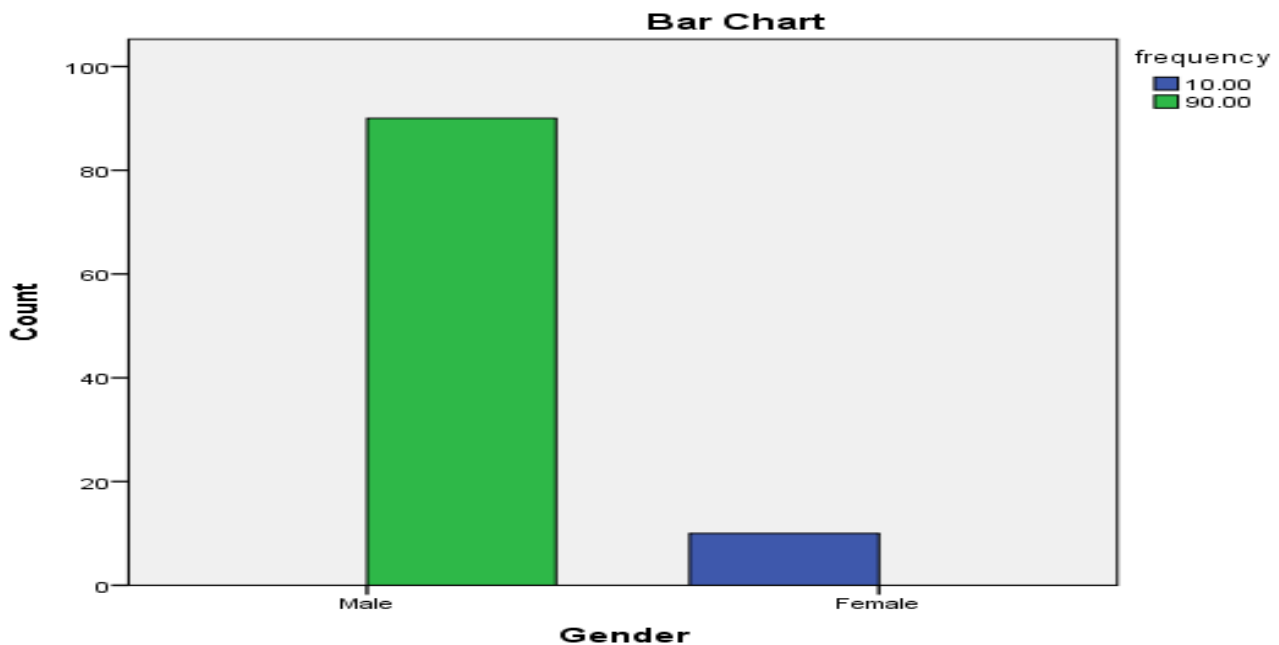


Fig. 2: Age of victims

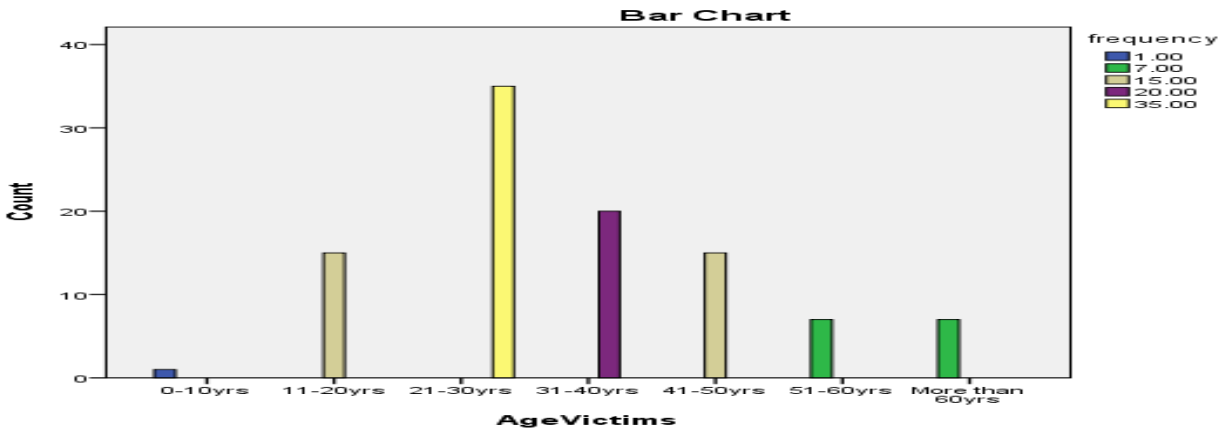
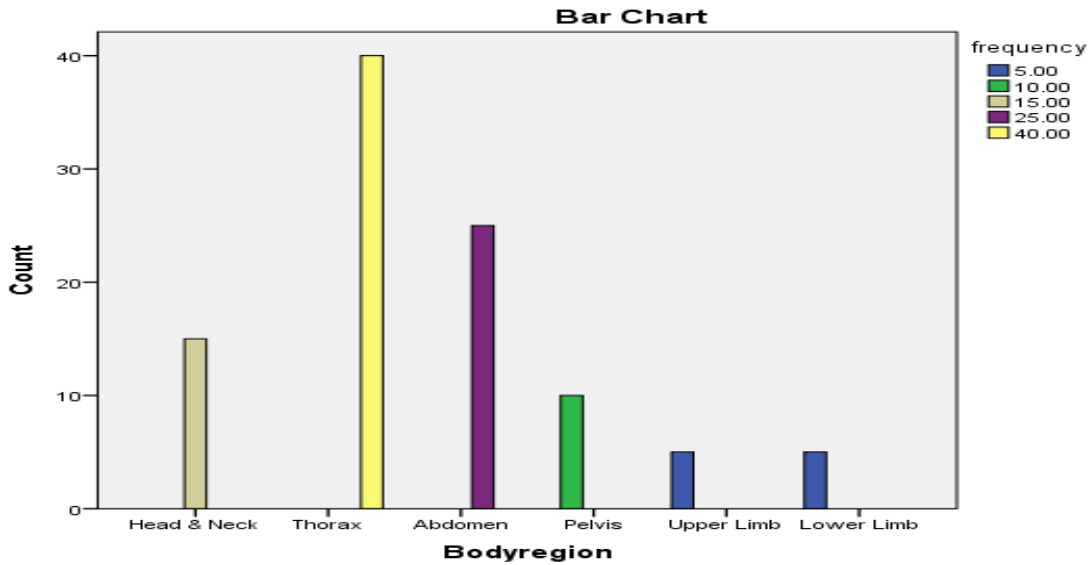


Fig. 3: body of region



## DISCUSSION

Firearm Injuries are commonly encountered and a major health problem that severely affects the criminal justice and health-care systems. Studies from the United States and other developed countries reported that firearms are used in more than 60% of all homicides, over 25% of all assaults, more than 35% of all robberies and almost half of all suicides<sup>15,16</sup>. In our study we found the most frequent cases of firearm injuries were found between the age of 21-30yrs, 35(35%) and 2<sup>nd</sup> most common in between the age group of 31-40yrs, 20(20%) with a geographical distribution mostly in the major cities of Lahore. There is no any association of occupation was found in risk of firearm injuries, in which most of the victims were engaged in simple occupations such as labour, farming, taxi driving; a good number of students were also victims. In almost all the cases,

high velocity weapons were used as firearms. The manner of injury in vast majority of cases was homicidal with few accidental suicidal and robbery cases. The victims received an average of 2 wounds to the body, with a distribution in the Thorax, abdomen in the majority of cases, followed by the pelvis & in extremities. Multiple internal injuries were also sustained by most of the victims. Such findings are in agreement with other studies on firearm injuries from various parts of Pakistan. Several studies have pointed out that young males are most often the victims of firearm injury<sup>17</sup> in their study on homicidal deaths in Peshawar concluded that males constituted 86.15% of the victims of homicide and 32% of victims were in the third decade of life<sup>18</sup> in their 12-year study from Lahore conclude that 88% were males with 42% being in the age range of 21–30 years. Studies from other parts of Pakistan also report similar

findings<sup>19,20</sup>. This reflects the fact that males are more involved in disputes and rivalry at younger ages and have ready access to firearms as compared to females; in most cases, the females are considered accomplices or partners of the intended victim or are innocent bystanders<sup>21</sup>. However the high frequency (52.5%) of females involved in Sindh<sup>23</sup> may reflect different life styles in which females and males have almost equal access to victimization or that females are targeted in particular in Sindh where the tradition of 'karo- kari' is in practice<sup>21</sup>. The homicide is the leading cause of firearm injury in our study (80%) and is also reflected in other studies from various parts of the country. The body regions involved in firearm injuries do not reflect a uniform pattern. In our study, the most frequently targeted part was the Thorax, Another study in Peshawar supports the same. There is a need to decrease the number of firearms weapons used and sold in Pakistan. We need to eradicate illicit local community gun manufacturing units. It is obvious that private gun ownership should be strictly limited and the illegal availability should be prevented. Elimination of these illegal countries made fire arms is of the utmost importance in order to curb the high homicidal firearm fatality rate in this region<sup>15</sup>.

## CONCLUSION

- The firearm injury is more frequent in 21-30 years age group
- The Young males are more commonly affected and must be targeted for lifestyle adjustments such as training to refrain from anger or disputes.
- The most common site of injury is Thorax and frequently injured organs are lungs.

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