

Spectrum of Firearm Fatalities in Larkana Region

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ABSTRACT

Objective: To determine frequency of firearm fatalities in Larkana region.

Study Design: Descriptive study.

Place and Duration of Study: The study was conducted at causality and department of forensic medicine and toxicology Chandka Medical College @ SMBBMU Larkana from 1st June 2013 to 31st May 2015.

Materials and Methods: Out of 1870 dead bodies brought for autopsy at causality Chandka Medical College Hospital Larkana and those 357 (19%) cases were selected in whom death occurred due to firearm as mentioned in police inquest report and autopsy record conducted, with the permission of authorities data was collected and analyzed and cause of death was determined by external and internal examination of body.

Results: Autopsy record shows that among 357 cases males with 309 (87%) were dominated on females with 48 (13%) with Male/Female ratio of 6:1. The victim ages range from 11 years to 70 years and with location of injuries as 127 (35.57%) on Chest, 92 (25.77%) on Head & Neck, 59 (16.52%) on Abdomen, 38 (10.64%) on Head&Chest, chest & abdomen 31 (8.68%) and 10 (2.82%) on limbs and other parts, with manner of homicide in majority (78.15%) of cases

Conclusion: The majority of victims were young males belonging to rural areas with rifled firearm injuries on Chest, and Head & Neck as a cause of death.

Key Words: Firearm, fatalities, young males, Larkana.

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INTRODUCTION

The Firearm begins with invention of gunpowder, which was discovered by Chinese and it is considered as one of four earliest inventions. The first portable Firearm is "Gonne" used in battle¹. The first practical Pistol single shot wheel lock originated in Germany during 1520.² In 1718 a tripod mounted single barreled flint lock gun fitted with a multi shot revolving cylinder "Puckle gun" was invented by James Puckle of London England.³

Firearm is any instrument or device designed to propel a projectile by means of expansive force of gases generated by combustion of an explosive substance.⁴ Firearm is categorized as, (a) According to condition of barrel 1. Smooth bore firearm eg . Shot gun 2. Rifled (non smooth) firearm 3. Country made firearm 4. Air gun 5. Paradox gun. (b) According to muzzle velocity

1. Low velocity (up to 1200 ft./sec) eg. revolver pistol
2. Medium velocity (between 1200 -2500 ft./sec) 3. High velocity (more than 3000 ft./sec) eg. Machine gun.⁵ Firearm consists of, 1. Barrel. A hollow metal cylinder for occupying propellant charge its lumen is called bore with (a). Muzzle end & (b). Breech end. 2. Action consists of Bolt, Striker or hammer & Trigger. 3. Butt / Grip back side of stock in shoulder. 4. Magazine⁶.

The cases of firearm fatalities have been remarkably increased in the recent years and still increasing day by day this is due to increasing population, poverty, unemployment, frustration, social and political disputes, tribal and land disputes, irrigation water disputes and moreover easy availability of firearm weapons with no check and balance and issuance of the unauthorized gun license. The aim of this study is to control over this menace in Larkana& Pakistan.

MATERIALS AND METHODS

This descriptive study was conducted at causality and department of forensic medicine and toxicology CMC @ SMBBMU Larkana from 1st June 2013 to 31st May 2015. Non probability (purposive) sampling was done and from total of 1870 autopsies only those 357 cases were selected in which death was caused by firearm, while in cases in which death due to other causes like mechanical, explosive and thermal injuries, asphyxia and poisoning were excluded. The comprehensive and

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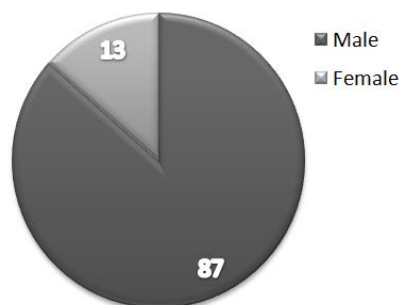
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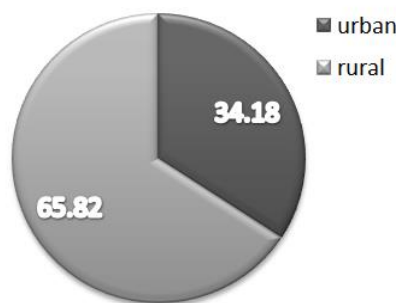
elaborated post mortem examination (autopsy) including external examination like age, sex, and number of injuries noted and internal examination for presence of any firearm residue like pellets bullets was carried out. The finding were entered into proforma and data was analyzed about gender, age, area of body involved, number of injuries and whether victim belongs to urban or rural area. Autopsy record of all 357 cases of firearm fatalities was collected and data was entered and analyzed by using SPSS version 17 software. Frequency of age and gender of victim along with body parts injured by firearm were determined and shown in number and percentage.

RESULTS

Among 1870 dead bodies brought for autopsy at casualty CMCH Larkana 357 (19.09%) were selected in which death was caused by firearm. From autopsy record which shows 309 (87%) males and 48 (13%) females with male to female ratio of 6:1 shown in the Pie Chart number1, the ages of victim were grouped from 11 to 70 years with maximum number of fatalities among 20 to 29 years 123 (34.05%) with the least among 60 to 70 years 17 cases (4.7%) as shown in the Bar Chart.



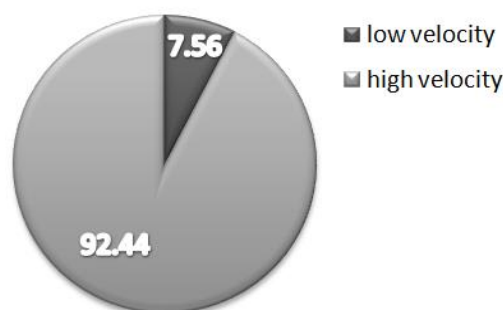
Pie Chart No.1: Male / female ratio



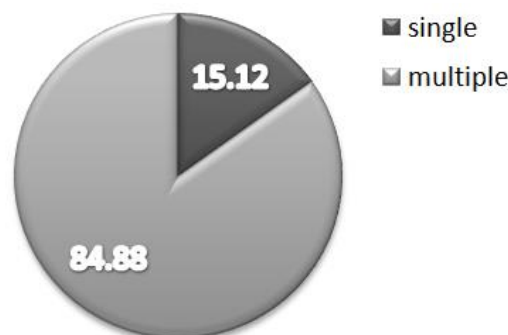
Pie Chart No.2: area

Regarding distribution of injuries and body part involved the maximum number of victims had received injuries on Chest 127 (35.5%) followed by on Head & Neck 92 (25.77%), abdomen 59 (16.52%), Head and Chest 38 (10.64%), Chest and abdomen 31 (8.68%) and limbs 10 (2.80%) as shown in the Table number1. The majority of victims 235 (65.82%) belongs to rural areas as shown in pie chart number 2, with manner of the

death as homicidal in 279 (78.15%) cases, suicidal 45 (12.60%), accidental 20 (5.61%) and intruder 13 (3.64%) as shown in the Table number2.



Pie Chart No.3: Type of weapon



Pie Chart No.4: No of firearm entry wound

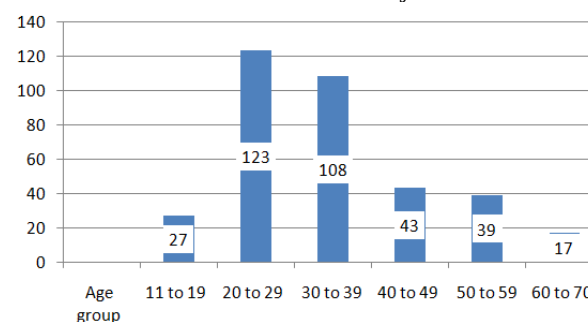


Chart:

Table No.1: Distribution of Injuries (n:357)

Area of body involved (n= 357)	Frequency	%age
Chest	127	35.57
Head & Neck	92	25.77
Abdomen	59	16.52
Head & chest	38	10.64
Chest & Abdomen	31	8.68
Limbs	10	2.82
Total	357	100

The use of high velocity weapon (Rifle and Kalashnikov) were responsible for 330 (92.44%) and only 27 (7.56%) by low velocity (Pistol and Revolver) as shown in Pie Chart number 3.

Among 303 (84.88%) victims had multiple firearm injuries when only 54 (15.12%) had single firearm

injury as shown in Pie Chart number 4, and with the recovery of the firearm bullets/pellets in 47 (13.16%) subject.

Table No.2: Manner of death n=357

Manner of death	Frequency	Percentage
Homicide	279	78.15
Suicide	45	12.60
Accident	20	5.61
Intruder	13	3.64
Total	357	100

DISCUSSION

The violent injuries are 8th leading cause of death in world⁷. While study conducted by Jiaquan Xu and Others reveals that it is 10th leading cause of death in USA²⁰. Every year approximately 1.6 million deaths in world occur as a result of violent trauma by Gunshot and more than 5.8 million people die due to violent injuries by other weapons and Road traffic accidents. TheGun related fatalities are mostly by hand guns like (Pistol, Revolver and rifles).⁸The firearm injuries cause high death rate and significant morbidity as well as increased physical and psychological incapacibilities among individuals, families and communities.⁹The number of licensed Firearm owners in Pakistan reported are 7000000, and still many possessing unlicensed and unauthorized guns.A study conducted in four districts (Rawalpindi, Abbottabad, Sialkot and Bannu) of Pakistan, 2025 autopsies were conducted during the January 2010 to 2014. Proportion of firearm injuries was 60.7%¹¹ which is very high compared to our study which is 19%

The study conducted in Multan indicates that in majority of cases of firearms deaths there was male dominancy with male/female ratio of 3:1 among ages from 21 to 30 years.¹²And in our study majority of them (65.82%) belongs to rural areas. This is due to that males (landlords and farmers) keep the weapon of firearm for their own protection and safety of land so the minor dispute especially on land give rise to the catastrophe of firearm fatalities. This ratio is inconsistent as compared to the study of author in respect of male/female ratio but consistent with author's study, Arif A.¹² and others and Chotani HA.¹⁴and others in respect of age. In another study conducted at Karachi, Pakistan shows that firearm is most common cause of death in young males in Karachi and this picture of violent death is consistent with other low income countries.¹³This study is also matching our results. This is not astonishing because of certain reasons like males are more than half of population and engaged in working in different categories whereas the women are confined to home because of our customs and they are injured or killed by protecting their males. And it is estimated that males are more indulged in criminal activities because of emotional disturbance,

erratic decisions, aggressive behavior, poverty and unemployment even due to honor stigmata.

The study of 240 cases conducted at Allama Iqbal Memorial Teaching Hospital Sialkot reveals male and female ratio of 6.2:1 and in 3rd decade of the life.¹⁴ This is consistent with the author's study. Regarding the fatalities among young ages are more because of the secretion of the hormones and at this reproductive age so more prone to develop anger quickly. The study conducted in Lahore from January 2010 to December 2010 of 100 autopsies of firearm fatalities shows manner as homicidal 80%, accidental 10%, suicidal 5% and as a result dacoit attempt (intruder) 5%.¹⁵ This study is almost matching our study but inconsistent with study by Marwah S.¹² and others conducted abroad (India).

Regarding manner of firearm fatalities the picture of Peshawar study is not different from other big cities of Pakistan which show that from June 2005 to February 2006 among 100 cases of homicidal deaths by firearm (33.88%) on Chest and (25.61%) on Head & Neck and (91%) injuries were caused by high velocity firearms weapons with (96%) victims having multiple firearm entry wounds.¹⁶This study also resembles with our study. The males especially in tribal areas almost keep sophisticated/automatic firearm weapons e.g Rifle and Kalashnikov for their personal safety and protection but time comes they use this weapon to kill others (homicide). Another study conducted abroad shows that frequently targeted body regions are Chest, Head & Neck, Abdomen and Pelvis.¹⁷ This study is consistent with the author's study regarding multiple firearm wounds is due to reason that the offender has a idea that the targeted person will be imminently killed by many fires especially on Chest, Head & Neck because of the vulnerability and vitality of these body parts.Whilestudy conducted in Peshawar from June 2005 to February 2006 indicate that among 100 cases of homicide death by firearm 25.61%were on Head & Neck.In India the record of firearm fatalities during 2008 reveals that there were 6219 deaths by firearm reported with manner of 4101(66%) by (Homicide), 1639 (26.5%)by accident and 479 (7.7%) by suicide in top three dangerous states of Bihar, Jharkhand & Uttar Pardesh.¹⁸The 04 years study conducted during 2007 to 2010 in USAshowsthat there were 121084 firearm fatalities with state to state variation of maximum of 17.9% in Louisiana to lowest 2.9% in Hawaii per 100000 individual per year.¹⁹This number of firearm fatalities is inconsistent with the number of fatalities (357) at Larkana. In another study conducted in USA during 2013 reports that during 2013 total of 2596993 deaths were reported and registered and that among 15 leading causes of death in USA the firearm was labeled as 10th leading cause of death with 41149 at 1.6%.²⁰

CONCLUSION

Almost every third person in Larkana has weapon of firearm which is responsible for high rate of mortality. Young males are at utmost target with vulnerable sites like Chest, and Head & Neck are mostly involved. The majority of firearm fatalities were caused by Rifled firearm. The proponents contend that guns produce more crime than they prevent. The prevention of firearm fatalities and wounding is one of the most complex and controversial issue arisen in especially in recent years and law effects in reducing crime and firearm related deaths and injuries have been disappointing.

Recommendation: 1. Efforts should be made to control or discourage private gun ownership and especially to eliminate guns from the hands of criminals.
2. To educate the people for safer use of firearms.
3. Strict surveillance on the borders to prevent illegal transport (smuggling) of firearm weapons to Pakistan.

Conflict of Interest: The study has no conflict of interest to declare by any author.

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