

Rifled Fire-Arm: The Predominant Weapon in All Medico-Legal Deaths in Lahore

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ABSTRACT

Objective: The main objective of Medico-legal autopsy is to find out the cause of death but it also helps in finding the manner of death. From this we also find out the criminal behavior of the society and usage of different kinds of weapons related with the cause of death and particularly the types of fire-arm weapons which is more in concern with the present study. This study was especially conducted to find out the predominance of rifled fire-arms weapons amongst all fire-arm deaths.

Study Design: Observational / descriptive study.

Place and Duration of Study: This study was conducted at the Department of Forensic medicine & Toxicology K.E.M.U. Lahore during the period of 2006-2008.

Materials and Methods: This study includes 2979 medico-legal autopsies. The information was gathered from post-mortem reports, police documents and hospital records. Not only the kind of weapon was studied but all other parameters were taken into consideration like, cause & manner of death, sex, age, season and areas of injuries on the body.

Results: The analysis quite distinctly highlighted that amongst 2979 deaths 1285 were because of fire-arms weapons (43.13%). Out of these 1192 (92%) deaths were by rifled weapons, whereas 103 (8%) were by smooth bored fire-arm weapons. Total number of male deaths by fire-arms was 1066 (82.95%), whereas females were 219 (17.05%). All homicidal cases were 788, 46 suicidal, 97 accidental and in 354 the manner remained un-determined. The manner amongst males was, 652 homicidal, 42 suicidal, 82 accidental and in 290 it was un-determined. And in females 136 were homicidal, 4 were suicidal, 15 accidental and in 64 the manner remained un-determined. The ratio of homicidal to suicidal was 17.1:1 and homicidal to accidental ratio was 8.1:1. In 92% cases the rifled fore-arms weapons was used and in 8% it was smooth bored. The rifled fire-arms injuries had multiple entry wounds in 52.9% of deaths and there was single entry wound in 47% deaths. While there was single entry wound in 66% deaths in smooth bored weapons and in 34% of cases multiple wounds were observed. The range of fire in (56.8%) homicidal deaths was distant, whereas in 30.4% it was close range. Close contact fire was seen in 1.4% of suicidal deaths. 16% cases showed blackening, 10.58% cases had tattooing and in 2.25% cases there was burning.

Conclusion: The fire-arms weapon is the most predominant mean of un-natural deaths. Amongst them the usage of rifled weapons is more than the smooth bored. So this needs formulation of effective law for control of these weapons.

Key Words: Kind of Weapon, Rifled, Smooth Bored, Manner of Death, Homicide, Suicide

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INTRODUCTION

The objectives of medico-legal autopsy are to find out the kind of weapon, whether blunt, sharp or fire-arm etc. and the nature of injury which may be ante-mortem or post-mortem. It also helps to find out not only the cause of death but also the medical cause of death.

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Which means it finds out the organic or systemic damage and the chain of events which is the mode of death. It also gives important information about the manner of death i.e., homicidal, suicidal or accidental.¹ The un-Natural deaths, either caused by physical damage or poisoning, must be thoroughly investigated². Any mark of injury raises a suspicion of foul play, so it must be thoroughly investigated. At times it becomes difficult to declare the injury as homicidal, suicidal or accidental, however the opinion can be framed by thorough investigation. This includes the autopsy findings and other relevant facts of the case under investigation. These facts include circumstantial evidence, crime scene investigation, all the details about injuries and kind of weapon also³.

Most of the medico-legal autopsies are homicidal, which reflects the criminal tendency of the society^{4,5}. Religion of Islam takes very strict notice of homicide,

and it is declared a heinous crime against humanity. In Holy Quran it is said as, "Whoever kills another person is as if he killed the whole humanity (human race)"⁶.

In 1993 in USA the homicidal deaths were at its maximum but in 1998 it was reduced tremendously which was almost equal to that of 1968. In USA this number of homicidal deaths is higher than any other developed nation. The Colombia having 146.5 homicidal deaths per 100,000 males is at highest level. The South Africa & Nigeria have similar tendency. The highest toll of homicidal killings in USA is by raising the number of fire-arm deaths. When this was compared with other countries where fire-arms are common, even then this number in USA was more. Small fire-arms are most common cause of homicidal killings in USA as compared to other countries where rifled and smooth bored guns are common.⁸

MATERIALS AND METHODS

This study was carried out at the Department of Forensic medicine & Toxicology K.E.M.U. Lahore, during the period of 2006-2008.

This study includes 2979 medico-legal autopsies. The information was gathered from post-mortem reports, police documents and hospital records. Not only the kind of weapon was studied but all other parameters were taken into consideration like, cause & manner of death, sex, age, season and areas of injuries on the body.

RESULTS

Kind of Weapon: Various means were used to cause un-natural death. Out of these 2979 un-natural deaths the deaths caused by fire-arms weapons were 1285 which was 43.13% of total deaths. This was highest amongst other cause of deaths (Table No. 1).

Table No. 1 Kinds of Weapon in all 2979 Deaths

Kind of Weapon	Total No. of Cases	%age of Weapon
Blunt Weapons	403.0	13.52%
Sharp Edged Weapons	256.0	8.5%
Fire-arm Weapons	1285.0	43.13%
Poisoning of All Kinds	74.0	2.48%
All types of Burns	50.0	1.68%
Asphyxial Deaths	220.0	7.38%
Electrocution Cases	19.0	0.64%%
Drowning Cases	17.0	0.57%
Bomb Blast Deaths	65.0	2.18%
Natural Deaths	347.0	11.65%
Un-Determined Cases	213.0	7.15%
Total No. of Cases	2979.0	100.00%

Manner of Death: In these 2979 cases, the incidence of homicide was 70.36%, suicidal 3.42%, accidental 7.42%, un-determined 7.15% and 11.65% deaths were because of natural causes. (Table No. 2)

Table No. 2: Percentage of 2979 cases in reference to manner of death

Manner of Death	Total Cases	%age
Homicidal	2096	70.36
Suicidal	102	3.42
Accidental	221	7.42
Un-Determined	213	7.15
Natural	347	11.65
Total	2979	100.00

Table No. 3: Age and Sex Distribution of Total 2979 Cases

Age	Male	%age	Female	%age	Total	%age
0 - 11 months	30	1.25	15	2.60	45	1.51
1 - 10 yrs	35	1.46	28	4.86	63	2.12
11 - 20 yrs	200	8.32	124	21.53	324	10.88
21 - 30 yrs	738	30.71	173	30.03	911	30.58
31 - 40 yrs	620	25.80	110	19.10	730	24.51
41 - 50 yrs	382	15.90	60	10.42	442	14.84
51 - 60 yrs	213	8.86	22	3.82	235	7.89
61 -	185	7.70	44	7.64	229	7.67
Onward yrs						
Total	2403	80.66	576	19.34	2979	100.00

Age and Sex Distribution: When all 2979 cases of un-natural deaths were scrutinized, it was highlighted that males were more in number 2403 as compared to 576 females. The age group which was predominant was between 21-30 years of age. (Table No. 3).

Type of Fire-Arm Weapon: Out of 1285 deaths caused by fire-arms weapons, 1182 (92%) were caused by rifled arms and only 103 (8%) were by smooth bored weapons. (Table No. 4) (Fig No. 1)

Table No. 4: Percentage of Type of Weapons in all 1285 fire-arm Deaths

Type of Fire-Arm	Number of Cases	Percentage
Rifled Weapon	1182.0	92.0%
Smooth Bored Weapon	103.0	8.0%
Total No. Of Cases	1285.0	100.0%

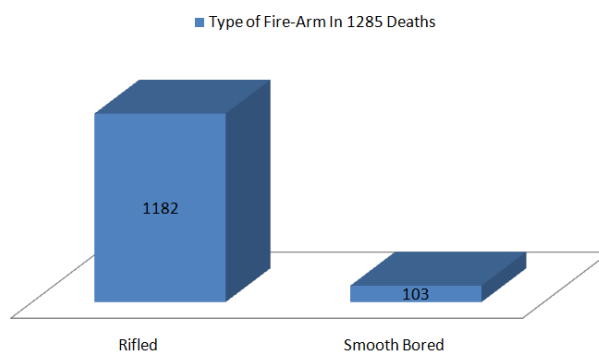


Figure No.1: Type of Fire Arm in 1285 Deaths

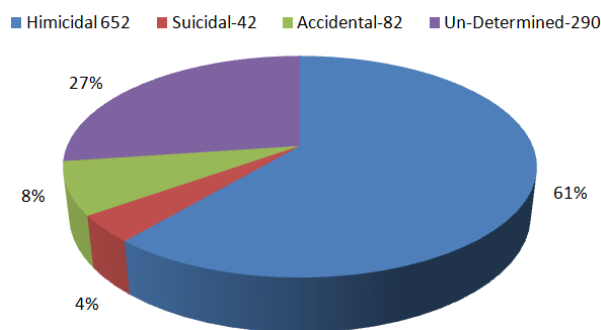


Figure No. 2: Manner of Death in Males = 1060

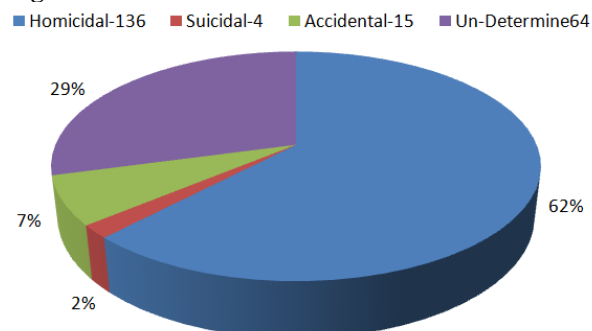


Figure No.3: Manner of Deaths in Females=219

Manner of death in both genders: In 1060 fire-arms deaths in males 652 (61%) were homicidal, in 290 (27%) manner remained un-determined. 82 (8%) were accidental and in 42 (4%) the manner of death was suicidal. Figure 2

Whereas in 219 females with fore-arms deaths 136 (62%) were homicidal, in 64 (29%) manner remained un-determined. 15 (7%) deaths were accidental and in 4 females (2%) it was suicidal. Figure 3

DISCUSSION

In our study of 2979 cases it was distinctly observed that, 2096 deaths were homicidal having an incidence of 70.36%. In these 2979 deaths, those caused by fire-arms weapons were 1285 showing an incidence of 43.13%. This was a quite higher in number as compared to deaths caused by other means. It is lower as compared to the study carried out at Peshawar by Marri et al in 2002²⁴. Similarly it is again lower than the studies carried out by Sahito 61.80% in the Province of Sindh¹³, by Molina and Di Maio 52.0% in Bexar¹⁴, by Qadir & Aziz 46.0% in Larkana in 1998¹⁵. In our study incidence is higher than the study carried out Azmak 17.03% in Edirne¹⁶.

The incidence of fire-arm deaths was low in Newfoundland and Costa Rica because the fire-arms are not available freely as shown in the study of Avis³⁷ & Lester³⁸. In contrast to that fire-arm deaths are rising in number in our USA. This was shown in the study of Chu⁷ in California, also in Italy the number is more as shown Solarino¹⁹ and Verzeletti²⁰, and by

Demetriades⁶ in Los Angeles. This higher incidence is because of free and easy access to fire-arms.

Kind of Weapon: Out of 2979 medico-legal autopsies 1285 deaths were due to fire-arms weapons as shown in our study. In 92% of cases the fire-arm weapon was rifled and smooth bored in 8%. This finding is quite similar to that Chaudhry²³ quoting rifled weapons as 87% and smooth bored 12.7%. The handguns were used in 100% of suicidal cases as shown in the studies carried out by Verzeletti in Bari, Italy²⁰ and Alfawal Saudi Arabia²¹. In our study the most common weapon used was rifled, which is quite in contrast to that quoted by Avis¹⁷ which showed shot-gun as common weapon.

Manner of Death: The homicidal incidence in our study of 2979 cases subjected to autopsy at Lahore is 70.36%, which is almost the same as other previous studies (68%, 68.73%)^{27,28}. It was higher than that of study in 91-95 (55.2%)²⁹. Other cities showed higher incidence than our study as, Faisalabad (79.66%)³⁰, Peshawar (77.7%)³¹, and D. I. Khan (76%)³⁴.

In our study the suicidal incidence is higher (3.5%), than the previous studies carried out in Lahore (0.62%)²⁷, (0.58%) in D. I. Khan³⁴, (1.26%) in Peshawar³¹, but lower than 19.50% in India and Western countries³³. Accidental incidence is 7.42% is lower than 17.13%³⁴ in D. I. Khan and 17.7%³¹ in Peshawar.

Incidence of Sex: There is higher incidence of homicidal deaths 80.60% in males as compared to females which were 19.30% in our study. In study of Qadir it was 85.50% males and 19.50% females¹⁵. The study carried out by Chaudhry⁴³ showed 91.0% males and 9.0% females, In Edirne¹⁶ Azmak noted 82.0% males and 18.0% females and Kohli²² in India found 90.70% males & 9.30% females in as homicide. The males showing the higher incidence because of the reason that it is a male dominated society. In big cities however females are exposed to outside house society for education, jobs and other house-hold works, for which they becomes exposed to physical violence. In Sind Sahito¹³ had shown higher incidence of females because of KaroKari.

Incidence of Age: In this study it is highlighted that, there is higher incidence of 38.90% in 3rd decade of age and then in 4th decade 25.40%. This result is similar to those of Qadir¹⁵, Azmak 54%¹⁶, Kohli 46.7%²², and Chaudhry 38%²³ in 3rd decade of life. Molina¹⁴ pointed out the mean age of 41.60 years for the suicide and 32.60 in cases of homicide. All the studies showed that, the victims were mostly young. So it that, the young people especially the males has easy access to fire-arms in comparison to females. The extreme age groups both in young & old ages were not vulnerable. The studies of Chao²⁵ and Dikshit²⁴ showed the same results but it differs from those of Chu⁷ and Rachuba²⁶, in which they have found out 15-19 years and 10-25 years the most vulnerable respectively.

Type of Weapon: Our study revealed that out of 2979 medico-legal autopsies, 1285 death were because of fire-arm injuries. The rifled weapons were used in 92% of cases and non-rifled in 8%. It is similar as Chaudhry quoted rifled 87% and non-rifled 12.7%²³. Verzeletti et al in Bari, Italy²⁰, and Alfawal et al in Eastern Saudi Arabia had quoted as usage of handguns in 100% suicidal cases, 56% in homicidal and 71% accidental cases²¹. Commonest weapon used in our study was rifled in contrast to Avis who quoted short guns as the frequent¹⁷.

Manner n Fire-Arms Death: Our study showed that in 61.32% the manner is homicidal, in 3.58% it is suicidal and in 7.55% it is accidental. In 27.55% of cases the manner remained un-determined. The study of Verzelletti in Italy showed that 60.40% of the deaths were suicidal, 35.90% were homicidal and 3.70% cases were accidental in Bressica²⁰. At Bari¹⁹ Solarino reported that, the homicidal manner was the commonest (88.42%), the suicidal was 11.43% and the accidental manner was only 0.13%. Elfawal²¹ had reported the homicidal manner in 48.0%, the suicidal were 28.0% and accidental manner was 24.0% in Saudi Arabia. In Delhi Kohli²² showed that, the homicide was 92.60%, the suicide 6.50% and in 0.90% the manner was accidental. Azmak¹⁶ in a study in Turkey reported that in 58.30% deaths the manner was homicidal. Molina¹⁴ reported 52.20% deaths were homicidal, in 45.80% the manner was suicidal, in 01.60% accidental and in 0.40% the manner of death remained un-ascertained.

CONCLUSION

Our study has shown that the usage of fire-arms weapon is most common kind of weapon used in all un-natural deaths. Homicidal manner showed a higher incidence in these deaths by fire-arms weapons. The most vulnerable age found in this study is young especially the 3rd decade. Males showed a higher incidence than those of females. The other important finding is that amongst all fire-arms weapons used for all un-natural deaths, the rifled weapon is the most common weapon. This clearly shows that there is increase in the usage of fire-arms and it is a great threat to the society. The need of the time is to analyze the factors which are responsible. The strong enforcement of legislation is required.

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

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