

Chest: The Most Targeted Area in Homicidal Firearms Fatalities in Lahore

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ABSTRACT

Objective: This study was carried out with an objective to find out the most targeted areas amongst the vital areas aimed in homicidal firearm fatalities in Lahore.

This study is particularly aimed to analyze the homicidal fire-arms related deaths in Lahore during the period of 2006-2008. The objective is not only to find out the cause and manner of death but also to know the most targeted vital region on the body in homicidal fire-arms deaths.

Study Design: Retrospective study

Place and Duration: This study was carried out at Department of Forensic Medicine & Toxicology, King Edward Medical University, which is one of the main autopsy centers at Lahore during the period from 2006 to 2008.

Materials and Methods: The study included all the firearm fatalities, on which the autopsy was conducted.

Results: Out of 2979 total autopsies, firearm fatalities were 1285 cases (43.13%). Male were 83% as compared to Females, which were 17%. The highest incidence was of 3rd decade of age 38.9%. Homicides were 61.32%, suicide 3.58%, accidental 7.55% and 27.55% undetermined. Highest homicidal incidence was in 3rd decade 38.58%, then suicidal 39.13% in 2nd decade and accidental 30.93% in 3rd decade. Rifled firearm weapons were used in 92% of cases and non-rifled in 8%. With rifled 52.9% had multiple entry wounds and 47% had single entry? And non-rifled caused 66% single entries and 34% multiple entries. Distant wounds were in 69.6% in homicidal deaths and close range wounds were 30.4%. Regarding the targeted areas, the most frequent vital area involved was chest 44.2%, then was head 37.58% and followed by abdomen which was 36.65%.

Key Words: Homicidal, Firearms, Fatalities

INTRODUCTION

The objective of medico legal autopsy is to find out the cause, mode and manner of death¹. Besides these the autopsy also gives complete information applying various parameters and this information can be used for not only the benefits of the medicine but law also to frame various laws. All the sudden deaths and deaths occurring under suspicious circumstances should be subjected to autopsy².

On the other hand the medical autopsy is done to determine the disease process, confirm diagnosis and know about the effectiveness of the treatment³.

The manner of death is always homicide, suicide and accidental. This can be established after the complete examination of the dead body and in some cases the circumstantial evidence is very important to finalize the opinion⁴.

Always the homicidal manner of killings remains on the top in every society⁵. And it remains a big threat to the community's health. So the law and the public health authorities have vastly studied it and both the forums have devised various measures to develop a healthier community^{6,7}.

Fire-arms are the common used weapons amongst the homicidal killings. In United States the number of fire-arms related deaths is also high. Even when compared with other countries, homicides with fire-arms still

remain high. Small fire-arms weapons are the most common used weapons in United States^{8,9}.

MATERIALS AND METHODS

This study was carried out on the 2979 medico-legal autopsies conducted at Department of Forensic Medicine & Toxicology, K.E.M.U. Lahore, during the period of 2006-2008. The variables used were, age, sex, manner of death, weapon used and location of injuries on the body. The data was collected from the autopsy reports, police documents and the record of the hospital where applicable.

RESULTS

Manner of Death: Out of total 2979 conducted autopsies, homicidal incidence was 70.36%, suicidal 3.42%, accidental 7.42%, undetermined 7.15% and natural deaths were 11.65%. (Table No. 1).

Kind of Weapon: Amongst the Un-natural deaths of 2979, the incidence of fire-arms is highest 1285 (43.14%). Out of these the male victims were 1066 (44.36%) and females were 219 (38.02%). Next in numbers was the deaths by blunt means, total 403 (13.52%) and in these males were 346 (14.40%) & females were 57 (13.42%). Then was the deaths by sharp edged weapons 256 (8.59%), males were 180 (7.49%) and females were 76 (8.59%). (Table No. 2).

Table No. 1 Manner of Death in 2979 Cases

Manner of Death	2006	2007	2008	Total	%age
Homicidal	771	632	693	2096	70.36
Suicidal	22	44	36	102	3.42
Accidental	75	81	65	221	7.42
Un-ascertained	62	88	63	213	7.15
Natural	87	140	120	347	11.65
Total	1017	985	977	2979	100.00

Table No. 2: Kind of Weapons Used in All 2979 Deaths.

	Males (2403)	%age	Female (576)	%age	Total	%age
Blunt Means	346	14.40	57	13.52	403	13.52
Sharp Means	180	7.49	76	8.59	256	8.59
Fire-arms	1066	44.36	219	38.02	1285	43.14
Poisoning	48	2.00	26	4.51	74	2.48
Burns	26	1.08	24	4.17	50	1.68
Throttling	29	1.21	23	3.99	52	1.75
Ligature Strangulation	43	1.79	21	3.65	64	2.15
Hanging	72	3.00	32	5.56	104	3.49
Suffocation	17	0.71	13	2.26	30	1.01
Electrocution	15	0.62	4	0.69	19	0.64
Drowning	16	0.67	1	0.17	17	0.57
Bomb Blast	65	2.70	00	00	65	2.18
Natural	302	12.57	45	7.81	347	11.65
Un-Determined	178	7.41	35	6.02	213	7.15
Total	2403		576		2979	100.00

Sex and Age Distribution: In overall 2979 deaths, males were 2403 and females were 576. Amongst all the deaths, the highest incidence was in 3rd decade of life (30.58%), then the 4th decade (24.51%) and next lower incidence was in 5th decade of life (14.84%). (Table No. 3).

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 years	35	1.46	28	4.86	63	2.12
11 - 20 years	200	8.32	124	21.53	324	10.88
21 - 30 years	738	30.71	173	30.03	911	30.58
31 - 40 years	620	25.80	110	19.10	730	24.51
41 - 50 years	382	15.90	60	10.42	442	14.84
51 - 60 years	213	8.86	22	3.82	235	7.89
61 - Onward years	185	7.70	44	7.64	229	7.67
Total	2403	80.66	576	19.34	2979	100.00

The females showed higher incidence both in homicidal and suicidal deaths 76.74% & 5.21% than males which

had 68.83% & 3% respectively. Males had higher incidence of accidental 8.20%, natural 12.57% and un-determined 7.41% as compared to females 4.17%, 7.81% and 6.08% respectively. (Table No. 4)
Suicidal was higher in 2nd decade (39.13%) than the rest ages of life, next was in 3rd decade (32.61%). Accidental fire-arms deaths were highest in 3rd decade, and then in 4th decade (22.68%). (Table No. 4)

Table No. 4: Manner of Death & Sex Distribution in All 2979 Cases

Manner of Death	Male	%age	Female	%age
Homicidal	1654	68.83	442	76.74
Suicidal	72	3.00	30	5.21
Accidental	197	8.20	24	4.17
Un-Determined	178	7.41	35	6.08
Natural	302	12.57	45	7.81
Total	2403	100.00	576	100.00

Whereas out of 1285 of total fire-arms related deaths the homicidal deaths were 788, in these the males showed predominance, 652 (50.7%) and females were 136 (10.58%). (Table No. 5)

Table No. 5: Sex Distribution in Fire-arms Deaths (1285)

Manner of Death	Male	%age	Female	%age	Total	%age
Homicidal	652	50.7	136	10.58%	788	61.4%
Suicidal	42	3.2	4	0.33%	46	3.5%
Accidental	82	6.3	15	1.24%	97	7.5%
Un-Determined	290	22.5	64	4.90%	354	27.6%
Total	1066	82.78	219	17.05	1285	100.00

Table No. 6: Target Area and Internal Damage

Area	Internal Damage	Total	%age
Head and Neck	Skull bones & brain (72.46%, facial bones (27.54%))	483	37.58%
Neck	Muscles & blood vessels (98%), larynx & cervical vertebrae (2%)	103	8.01
Chest	Muscles, ribs & major blood vessels (12.32%), lungs (72.18%) and heart (47.35%)	568	44.20
Abdomen	Stomach & liver (82.37%), spleen (3.2%), kidneys (2.5%), gut (5.3%) and other viscerae (6.6%)	471	36.65
Upper Limb	Muscles & blood vessels (60.12%), bones (28.48%)	158	12.29
Lower Limb	Muscles (56.75%), bones (48.64%)	111	8.63

Target Area and Internal Damage: Regarding the targeted vital areas in fire-arms deaths (1285), the homicidal deaths were 788 (Table No. 4), Chest showed the most leading incidence 44.2% of internal damage, Head & Face 37.58%, Abdomen 36.54% and Neck the least 8.01%.

Head and Face showed 72.46% of internal damage of skull bones and brain. Neck muscles had 98% damage. Chest showed 72.18% damage to lungs, 47.35% heart and in Neck 12.32% major blood vessels were damaged.

Abdomen showed stomach and liver damage in 82.37%, spleen 3.2%, kidney 2.5%, gut 5.3% and other viscerae 6.6%.

In upper limb muscles & blood vessels damage was 60.12% and of bones was 28.48%. In lower limbs 56.75% muscles & blood vessels were damaged, while on bones it was 48.64%. (Table No. 6)

DISCUSSION

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%)^{10, 11}. It was higher than that of study in 91-95 (55.2%)¹². Other cities showed higher incidence than our study as, Faisalabad (79.66%)¹³, Peshawar (77.7%)¹⁴, and D. I. Khan (76%)¹⁵.

In our study the suicidal incidence is higher (3.5%), than the previous studies carried out in Lahore (0.62%)¹⁰, (0.58%) in D. I. Khan¹⁵, (1.26%) in Peshawar¹⁴, but lower than 19.50% in India and Western countries¹⁶. Accidental incidence is 7.42% is lower than 26.8%¹⁷, 17.13%¹⁵ in D. I. Khan and 17.7%¹⁸ in Peshawar.

Kind of Weapon: The most common weapon used in un-natural homicidal deaths was fire-arm (43.14%). Whereas the highest number of fire-arm fatalities in our country was 92%¹⁸, 85.96%¹⁴ and 60.8%¹⁷ in Peshawar. Our figures are less than those of Lahore 56.6%¹¹ & 58.3%¹², 49.4%¹³ in Faisalabad, 64.9%¹⁷, 59.75%¹⁵ in D. I. Khan, 61.8%¹⁹ in Sind, 46%²⁰ in Larkana, and 57.5%²¹ in Abbotabad.

Bomb blasts have become another weapon recently, which had an incidence of 2.18% and is equal to 2.12% in Peshawar¹⁴, but lower than D. I. Khan which was 32.96%¹⁵. Similar study in Sri Lanka showed 39% deaths with explosives and was the 2nd highest cause.

Age and Sex Distribution: The male and female had almost equal incidence in our study and highest incidence was in 3rd decade of life. Our study is consistent with that of Qadir G et al (38%)²⁰, Aziz K et al (36.8%)¹², Malik A R et al (35.9%)¹¹ and Bashir M Z et al (28.19%)¹³. The study carried out by Sahito¹⁹ et al in Sind, quoted that the incidence of males and females is equal because of the fact that both are victimized equally due to Karoo Kari tradition.

This is also comparable with the study carried out in Turkey by Ahmet¹ H et al and by Mandong²² B M et al in Nigeria.

Area of Damage: In our study the head, chest and abdomen were the main targeted areas in homicidal fire-arms deaths, which was similar to the previously

carried out studies by Malik AR¹¹ and Aziz K¹². Chaudhry²³ quoted that in suicide 100% entry wounds were on head.

Blumenthal²⁴ quoted 41% on head, Molina²³ 79.4%. Other studies showed that the head was targeted in Mujahid M. (49.5%)¹⁷, Humayun M. (32.8%)¹⁵, Bashir MZ (31.8%)¹³ and Murri MZ (29.13%)¹⁴.

In our study chest showed 44%, head and face 37.6%, abdomen 36.6% and neck 8% involvement. Kohli²⁶ quoted 39% chest 29% head, Molina²⁴ 21% head 17% chest, Azmak²⁷ head 32.8% chest 32%. Bashir¹³ quoted 31.78% head 34.10% chest and 23.25% abdomen in Faisalabad.

Elfawall²⁸ observed 34% head 41% chest. Almadni²⁹ quoted 70.31% head 54.68% chest, Seleye³⁰ 42.65% head 22.1% chest 11.8% abdomen and 7.41% neck. Hussain¹⁸ quoted head and neck 26.9% chest 25.9% abdomen 15.6% and 31.6% on extremities

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