Original Article

Homicidal Firearms

Predominance of Homicidal Fire-Arms Deaths in Medico-Legal Autopsies in Lahore

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ABSTRACT

Background: The objective of Medico-legal autopsy is not only to find out the cause of death but it also helps in establishing the manner of death. It also provides information about the criminal behavior of the society and usage of different weapons. This study was carried out to find out the predominance of fire-arms weapons in homicidal deaths.

Study Design: Observational study

Place and Duration of Study: This study was carried out on medico legal autopsies conducted at Forensic Medicine Department K.E.M.U. Lahore during the years 2006-2008.

Material & Methods: Total number of autopsies during the period was 2979. Data was extracted from autopsy reports, police papers and hospital notes. Besides the causative weapon, the cases were examined for other factors too. Like age, sex, manner of death, cause of death, seasonal variations, kind of weapon and extent of damage on the body.

Results: The results clearly showed that out of these cases 1285 deaths (43.13%) were due to fire-arm weapon. Men were showing higher frequency (83%) as compared to that of female which is (17%). Homicidal cases were 61.32%, suicidal 3.8% and accidental were 7.5%. Un-determined cases were 27.5%. Homicidal incidence was highest in 3rd decade (38.58%), suicidal incidence was in 2nd decade (39.13%) and accidental incidence was high in 3rd decade of life. Homicidal/suicidal ratio was 17.1:1 and homicidal/accidental ratio was 8.1:1. Use of rifled fore-arms weapons was in 92% and smooth bored in 8.0%. In rifled fire-arms multiple entry wounds were in 52.9% cases and 47% were single entry wounds. Whereas in smooth bored single entry wounds were 66% and multiple wounds were 34%. In 56.8% homicidal deaths range of fire was distant, while it was close range in 30.4%. It was contact fire in 1.4%of suicidal cases. The blackening was seen in 16% case, tattooing in 10.58% and burning in 2.25% cases.

Conclusions: There is marked predominance of homicidal deaths by fire-arms weapons and strict control over legislation will help in decreasing fire-arm fatalities.

Key Words: Firearm injury, homicide, entry wounds, manner of death, autopsy

INTRODUCTION

Medico-legal is performed not only to find out the cause and manner of death but it also gives an important data in relation to legal incidents in the cities where the autopsies are done[1]. It is a very difficult task which the autopsy surgeon comes across. Deaths which have been caused by un-natural means, either by physical trauma or poisoning, needa thorough investigation. All deaths occurring suddenly and under suspicious circumstances are also subjected to autopsy[3]. The immediate cause of death and its correlation with the disease process being present in the deceased is ascertained by medical autopsy[2].

Conduction of medico-legal autopsy is a statutory duty of the authorized medical officer, being designated by the provincial government[4].

Manner of death may be homicide, suicide or accidental. Any physical mark of violence arises a suspicion of foul play, which needs to be investigated thoroughly. Sometimes it cannot be determined with certainty, that the injury under question is homicidal, suicidal or accidental while in other cases a firm opinion can be given after a thorough investigation. Which not only includes the autopsy, but all the facts relevant to the case under investigation are studied. Such facts & circumstances include, scene of crime, details of injury, details of the causative weapon and circumstantial evidence[5].

As homicides comprise a major portion of medico-legal autopsies, therefore, they get special importance in general criminal profile of the society[6,7]. The religion of Islam also takes strong notice regarding homicide, and it is condemned as a heinous crime against humanity in words of Holy Quran, “Whoever kills another person is as if he killed the whole humanity (human race)”[8].

Homicide ever was and is a threat to a society. In 1990’s it was recognized as a public health issue. Homicide has traditionally been viewed through the lens of crime, though both criminal justice and public | health approaches can be useful in efforts to reduce homicide. [9, 10, 11, 12, 13]

Homicide rate in the United States peaked in 1993, dropped substantially, and the homicide rate in 1998 was the same as that was in 1968. The United States has a much higher homicide rate than other industrialized countries. Colombia actually has the highest rate of 146.5 homicides per 100,000 males. Similar is the situation in South Africa & Nigeria. This discrepancy is

likely due to the rising number of firearms related deaths in the United States. Even when compared to the other countries where fire-arms are relatively common, homicide rates in United States are higher. Handguns are the leading method of homicide in the United States, whereas in other countries the guns are mostly rifles and shotguns. [14, 15, 16, 17]

Statistical data on homicide patterns from some of the cities of Pakistan is emerging on medical journals. [18-27] Suicide and homicide are both violent deaths, albeit with a clear difference: the later directs violence outwards to others while the former directs it inwards towards oneself[28,29]. The human costs of both suicide & homicide are severe and they are compelling public health & legal issues in any country. [28]

Accidental deaths mostly include road traffic accidents. In 2002, road traffic injuries were ranked as the 11th leading cause of death in the world. The aggregate rates of road traffic fatality per 100,000 persons were lowest in high-income countries in the European region (11.0), whereas the highest rates were reported in the low income and middle income countries in Eastern Mediterranean (26.4) and African region (28.3). [30]

MATERIALS AND METHODS

The study comprised of 2979 cases of medico-legal autopsies conducted at Forensic Medicine Department K.E.M.U. Lahore during 2006-2008. Out of these 2979 autopsies, 1285 (43%) were the fire-arm fatalities. The data was collected from autopsy reports, police documents and hospital notes. The cases with a confirm diagnosis of fire-arm injury as a cause of death were extracted out. Other cases in which the cause of death was other than fire-arm injury were excluded. The cases under study were clearly differentiated as homicidal, suicidal and accidental. Various variables like, age, sex, cause of death, manner of death, causative weapons and location of fatal injuries on the body were studied.

RESULTS

Manner of Death: Out of these 2979 cases, the homicidal incidence was 70.36%, suicidal 3.42%, accidental 7.42%, un-determined 7.15% and 11.65% were natural deaths. Year 2006 showed the highest incidence (75.81%). In 2007 suicidal (4.47%), accidental (8.22%) and natural deaths (14.21%) showed their peak. (Table No. 1)

Table No.1: Percentage of 2979 cases in reference to manner of death

Manner of Death	2006	%	2007	%	2008	%	Total Cases	%age
Homicidal	771	75.81	632	64.16	693	70.93	2096	70.36
Suicidal	22	2.16	44	4.47	36	3.69	102	3.42
Accidental	75	7.38	81	8.22	65	6.65	221	7.42
Un-Determined	62	6.10	88	8.93	63	6.45	213	7.15
Natural	87	8.55	140	14.22	120	12.28	347	11.65
Total	1017	100.00	985	100.00	977	100.00	297	100.00

Table No.2: Percentage of Fire-arm weapons

Type of Weapon	No. of Cases	%age
Rifled	1182	92
Non-Rifled	103	8
Total	1285	100

Type of Weapon: Un-natural deaths by fire-arms were highest (43.14%). Out of these victims males were 44.36% and females were 38.02%. Rifled weapon was used in 92% of cases and smooth bored in 8%. (Table No. 2).

Table No. 3: Causative Agent with Sex Distribution

	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

Table No. 4: Manner of Death & Sex Percentage with Ratio

Manner	Male	%age	Female	%age	Male/Female Ratio
Homicidal	1654	68.83	442	76.74	3.74:1
Suicidal	72	3.00	30	5.21	2.40:1
Accidental	197	8.20	24	4.17	8.21:1
Un-Determined	178	7.41	35	6.08	5.09:1
Natural	302	12.57	45	7.81	6.71:1
Total	2403	100.00	576	100.00	4.17:1

Table No. 5: 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 – 0nward years	185	7.70	44	7.64	229	7.67
Total	2403	80.66	576	19.34	2979	100.00

The second highest incidence was by means of sharp edged weapons (13.53%). Of these males were 14.40% and females were 9.90%. (Table No. 3)

Ratio Between Homicide, Suicide and Accidental: Female had more homicidal & suicidal incidence 76.74% and 5.21 %, as compared to males which showed 68.83% and 3% respectively. Male had high incidence of accidental, natural and un-determined (8.20%, 12.57% and 7.41% respectively), whereas females showed lesser incidence of these 4.17%, 7.81% and 6.08% respectively. (Table No. 4)

Distribution of Sex: Sex distribution of total 2979 cases shows male higher incidence 80.66% as compared to female 19.34%.The male/female ratio 4.17:1. (Table No. 5).

The natural deaths had an incidence of 11.65%, males were 12.57% and females were 7.81%. The incidence of undetermined deaths was 7.15%, males 7.41% and females 6.02%. (Tables No. 4)

DISCUSSION

Our study revealed that out of 2979 cases, the homicidal deaths were 2096 with an incidence of 70.36%. Out of these fire-arm injuries were on 1285 of total autopsies having an incidence of 43.13%. This number is too high as far as fatalities by other means. This was comparable to Parveen et al who reported 41% in Lahore in 1996[18], but lower than that of Marri et al in Peshawar in 2002[24], Hussain et al 91.87% in Peshawar[25], Malik et al 65.5% in Lahore in 2003[19], Shah et al 64.9% in D. I. Khan[31],Hassan et al 62,5% in Abotabad[32], Sahito et al 61.8% in Sindh[33], Aziz K. et al 58.3% in Lahore in 1991-95[20], Molina and Di Maio 52% in Be-xar[34], Bashir et al 49.4% in Faisalabad in 2001-02[15], Qadir & Aziz 46% in 1998 in Larkana[35]. Our study showed higher incidence than Azmak 17.03% in Edirne[36]. It is lower than that of Malik et al 65% in 2003 and showing a decline after it in Lahore[19].

In Newfoundland and Costa Rica incidence of fire-arm fatalities was low because of non- availability of these freely as studied by Avis[37]& Lester[38]. On the other hand deaths by fire-arms, in our country & other parts of the world, are rising. As it was reported by Chu[14] in California, in Italy quoted by Solarino[39] and Verzeleti[40], and in Los Angles quoted by Demetriades[6]. This increase is by free and easy access to the firearms.

Manner of Death: Homicidal incidence was 61.32%, suicidal 3.58%, accidental 7.55% and un-determined 27.55%. Verzelletti had reported 35.9% homicide, 60.4% suicide and 3.7% accidental in Bressica Italy[40]. Solarino had quoted as 88.42% homicide, 11.43% suicide and 0.13% accidental in Bari[39]. Elfawal had quoted homicide 48.0%, suicide 28.0% and accidental 24.0% in Eastern Saudi Arabia[41]. Kohli had quoted 92.6% homicide, 6.5% suicide and 0.9% accidental in Delhi[42]. Azmak quoted 58.3% homicide in Turkey[36]. Molina had quoted 52.2% homicide, 45.8% suicide, 1.6% accidental and 0.4% un-determined[34]. Shah had quoted 60.8% homicide, 5.45% suicide, 9.5% accidental and 24% deaths as un-determined in Peshawar[31].

Homicidal incidence is almost the same as compared to other studies, while suicidal and accidental incidence is much lower than the western countries. The main factors responsible for such a high incidence of suicidal and accidental deaths by fire-arms are, because of careless handling of the weapons, failure to identify the victim, covering the victim during the game, stray bullets, ricocheting projectiles, improper storage of weapons and defective weapon and ammunition. The

other main causes of accidental deaths are reckless behavior while handling the weapons, usage by children, foolish attitude just to impress others and gun cleaning.

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%[43]. Verzeletti et al in Bari, Italy[40], and Alfawal et al in Eastern Saudi Arabia had quoted as usage of handguns in 100% suicidal cases, 56% in homicidal and 71% accidental cases[41]. Commonest weapon used in our study was rifled in contrast to Avis who quoted short guns as the frequent[37].

Incidence of Sex: Our study also highlighted the higher incidence of homicidal death 80.6% in males than females 19.3%%. Parveen et al quoted 82.4% males and 17.56% females[18], Aziz et al quoted 89.6% males and 10.4% females in Lahore[20]. Shah quoted 90.5% males and 9.5% females in Peshawar[31], Bashir quoted 88% males and 22% females in Lahore[15]. Qadir quoted 85.5% males and 19.5% females[35], Malik quoted 65.5% males and 34.5% females[19]. Chaudhry 91% males and 9% females[43], Azmak quoted 82% males and 18% females in Edirne[36] and Kohli 90.7% males & 9,3% females in India[42]. This high incidence of males is because of the male dominated structure of our society. Where females remain confined to their homes, hence remain protected from exposure to violence. On the other hand in some of more urbanized cities, females are involved in doing jobs and other work places and thus are exposed to violence. Sahito et al had quoted high frequency of females involved in Sindh, where they are victimized in traditional KaroKari[33].

Incidence of Age: Our study showed higher incidence (38.9%) in 3rd decade and after that in 4th decade (25.4%). This is same as that of Bashir 42%[15], Qadir[35], Malik [19], Aziz k 58%[20], Azmak 54%[36], Kohli 46.7%[42], Chaudhry 38%[43], and Marri 86%[26] in 3rd decade. In another study Molina et al quoted mean age of 41.6 years for suicide and 32.6 for the homicide[34]. In almost all the studies the victims were mostly young. This proves that, the young especially males have an access to fire-arm weapons as compared to females and they get involved more in rivalry & disputes.The extreme young & old ages were less vulnerable. The most vulnerable were also compared with Chao[44] and Dikshi45t but differs from Chu[14] and Rachuba[46], who reported as 15-19 and 10-25 most vulnerable respectively.

CONCLUSION

Our study indicated that, there is higher incidence of homicidal deaths by fire-arms, especially in young males. So this shows the increase usage of fire-arms and endangers the society. So the need of the time is to analyze & improve the factors which are responsible of this increase, like poverty, Illiteracy and weak enforcement of legislation.

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