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## MEDICOLEGAL AUTOPSIES; AUDIT OF MEDICOLEGAL AUTOPSIES IN FAISALABAD CITY.

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**ABSTRACT... Background:** Due to high increase in the population, there is sharp increase in the accidental, homicidal, suicidal and natural deaths. **Objectives:** To evaluate and audit the frequency of death patterns in the city of Faisalabad. **Study Design:** It is a cross sectional study. **Setting & Duration:** Study was conducted in the Department of Forensic Medicine, Faisalabad Medical University (FMU) Faisalabad for a period of one year i.e. 1st January, 2017 to 31st December, 2017. **Methodology:** The record of all unnatural deaths brought for medicolegal autopsies during the study period were examined in detail with special reference to the frequency of death patterns, manners & modalities of those cases. The data was entered in the predesigned performa & analysed by using SPSS. **Results:** Study revealed that frequency of unnatural death in Faisalabad is similar to those conducted in other cities, but higher rates may be due to the fact that Faisalabad is thickly populated & third largest city of Pakistan. Out of total 255 cases of unnatural deaths reported for medico-legal autopsies in FMU Faisalabad (80.40 %) were male and (19.6%) females. Accidental deaths occurred in (28.62%) cases, homicidal deaths involved (50.58%), suicide took the lives of (3.9%) cases and (2.7%) persons died of natural causes whereas manner of death remained undetermined in (14.11%) cases. Unnatural deaths were reported more frequently in the age group 20–29 years involving (24.70%) cases. **Conclusion:** Homicide is higher in this region and Firearm is the weapon of choice for assailants. This increasing death toll of homicide may be due to increase in frustration and intolerance in the society.

**Key words:** Accidental, Audit, Homicidal, Medicolegal Autopsy, Pattern, Unnatural Deaths.

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### INTRODUCTION

When heart beat, breathing and brain activity function is stopped the death is said to be happened. Undoubtedly, the death is guaranteed for every living but if the death occurs due to violence it may spread its effect on the mindset of the society.<sup>1</sup> The death will be tasted by every soul & this reality could not be denied at all.<sup>2</sup> Occurrences of the unnatural deaths may reflect the violent impression of the society. That may be due to improper law & order situation and lack of justice in the society. If the justice is not provided to the community, it evolves the chapter of criminality and illegal activities leading ultimately towards violence and intolerance. Increased violence may lead to increased use of weapons, increased terrorism, kidnapping, smuggling and many

social evils. However, murders sharply increase in such kind of society that leads to increase in unnatural patterns of deaths in the community. The manner of unnatural deaths include accidental, homicidal and suicidal. Accidental trauma has been increased due to road traffic crashes. Untrained drivers, over speeding, one wheeling and lack of awareness with traffic rules are the main factors of RTA in Pakistan. Immature children are driving without license. Un-educated drivers of tractor trolley, trucks, buses and motorcycle rickshaw are not optimizing the RTA traumas.<sup>3</sup> Killings by the law enforcement agencies also take places as in the Police stations as well as in illegal police raids. Sometimes police kills unknown persons under custody by using different methods of torture which indicates the merciless attitude of

the law enforcement agencies by violating the fundamental human rights.<sup>2,4</sup> Homicidal trauma is the most prevalent all over the world and is declared as punishable offence in all societies of the world. Although capital punishment exists for such crimes but it is still out of control and majority of youngsters are frequently involved in these crimes.<sup>5</sup> Youth is more sentimental, violent and have more aggression than the old aged. The most trends in homicidal death are due to firearm, blunt force trauma, sharp edged weapons, poisoning, asphyxia and burn.

Sharp force and blunt force traumas are more common, more crucial and condemnable method of fatalities either in the cases of homicide or suicide.<sup>6,7</sup> However in case of suicidal deaths the trend of hanging, drowning, self poisoning and firearms are the common methods. This violence is more due to sentiments, depression and mental instability. This study is aimed to audit the deaths by accidental means, homicide, suicide and some natural deaths including myocarditis, pregnancy & ischemic heart diseases in Faisalabad city. This study will invite attention of the concerned regulatory authorities towards such critical issues in the third largest city of the Pakistan.

**MATERIAL AND METHODS**

This was a descriptive and cross-sectional study conducted for one year i.e. January 1, 2017 to December 31, 2018. The observations include all reported deaths autopsied at Allied Hospital, Faisalabad during this period. The cases belonging to accidental, homicidal, suicidal and some natural deaths that attributed to such violence or criminality and did not included those deaths which were not autopsied at the post mortem unit or the dead bodies were handed over directly to the relatives. Total 255 cases were autopsied at Allied Hospital Faisalabad during the study period. The data analyzed by using Excel data analysis package. Frequencies and percentages were computed for the data set regarding to all the specified variables.

**RESULTS**

255 medico-legal deaths were reported in total during

the year 2017 regarding to the autopsies held at Allied Hospital Post Mortem Unit Faisalabad. Out of 255 deaths 205 (80.39%) were males and 50 (19.61%) female.

Age Group	Male	Female	Total
0 – 9	8(3.9%)	4(8%)	12(4.7%)
10 – 19	26(12.68%)	9(18%)	35(13.7%)
20 – 29	52(25.36%)	11(22%)	63(24.7%)
30 – 39	41(20%)	9(18%)	50(19.6%)
40 – 49	33(16.9%)	7(14%)	40(15.68%)
50 – 59	21(10.24%)	5(10%)	26(10.19%)
60 – 69	19(9.2%)	3(6%)	22(8.62%)
70 – 79	4(1.95%)	2(4%)	6(2.35%)
80 – 89	1(0.48%)	0(0.0%)	1(0.39%)
Total	205 (80.39%)	50 (19.61%)	255

**Table-I. Age & gender distribution among unnatural deaths in Faisalabad during 2017 (n=255)**

Table-I indicated the age distribution of male and female death in Faisalabad during the year 2017. The age group of 20-29 was the most sensitive age group in which male were reported 52(25.36%) and 11(22%) were female. The age group 30-39 is the second most sensitive age group in which males death were reported 41(20%) and females were 9(18%), however 10-19 age group is also sensitive for female which were reported the 9(18%). Table-III indicates the manner wise pattern of deaths of male during the year 2017. Results indicated that In March and in October the death percentage is higher than other months which is 11.2% respectively.

Table-II indicates that only 60 accidental deaths were reported in total during year 2017. RTA indicates that male proportionate is reported as 47 (78.33%) which is higher than bomb blast. Further study reported 101 homicidal deaths of males in total during year 2017, out of which Firearm attacks were 63 (62.37%) which were higher than other manners of death. However 8 Suicidal deaths of males were reported and out of these 8 asphyxial deaths were reported 7(87.5%) and only (12.5%) were due to firearm and undermined cases were 32.

Table-III indicated that only 13 deaths of female caused due to accidental incidents during year 2017.

Pattern of Deaths	Manner	Male	%	Female	%	Total	%
Accidental	RTA	47	78.33%	13	100%	60	82.19%
	Burn	1	1.67%	0	0%	1	1.36%
	Electronic	2	3.33%	0	0%	2	2.74%
	Drowning	3	5%	0	0%	3	4.10%
	Bomb Blast	6	10%	0	0%	6	8.21%
	Firearm	1	1.67%	0	0%	1	1.36%
	Total	60	100%	13	100%	73	100%
Homicidal	Firearm	63	62.37%	11	39.28%	74	57.36%
	Sharp Weapon death	8	7.90%	6	21.42%	14	10.82%
	Asphyxial	9	8.9%	6	21.42%	15	11.62%
	Firearm + Blunt	20	19.8%	4	14.28%	24	18.60%
	Burn	1	0.99%	1	3.5%	2	1.55%
	Total	101	100%	28	100%	129	100%
Suicidal	Asphyxial	7	87.5%	2	100%	9	90%
	Firearm	1	12.5%	0	0.00%	1	10%
	Total	8	100	2	100%	10	100%
Natural	Cardiac Disease	2	50%	2	66.67%	4	57.14
	Pregnancy	0	0.00%	1	33.33%	1	14.28
	Ischemic Heart Diseases	2	50%	0	00.00%	2	28.57
	Total	4	100%	3	100%	7	100%
Undetermined		32	100%	4	100%	36	100%
Total	Value	205		50		255	

Table-II. Manner wise pattern of deaths during year 2017

All deaths were due to RTA. During the year 2017, 28 cases of Homicidal deaths of female were reported at post mortem unit Allied Hospital, Faisalabad. In the case of homicidal deaths 11 (39.28%) deaths were due to firearms, However Sharp weapon deaths and asphyxial deaths caused female deaths 6 (21.42%) and 6 (21.42%) respectively. Firearm and blunt mix injuries caused 4(14.28%) deaths and burn deaths were reported 1(3.5%) during the year 2017. Only 2 cases were reported regarding to the suicidal deaths and these deaths caused due to asphyxia. Further 3 deaths were reported due to natural deaths and out of which 2 (66.67%) and 1 (33.33%) were due to myocardial and pregnancy respectively. Only 4 cases were reported as undetermined.

Manner of Death	Male	Female	Total
Accidental	60 (29.26%)	13(26%)	73(28.62%)
Homicidal	101(49.26%)	28(56%)	129 (50.58%)
Suicidal	8(3.9%)	2(4%)	10(3.9%)
Natural	4(1.9%)	3(6%)	7(2.7%)
Undetermined	32(15.6%)	4(8%)	36(14.11%)
Total	205(100%)	50(100%)	255(100%)

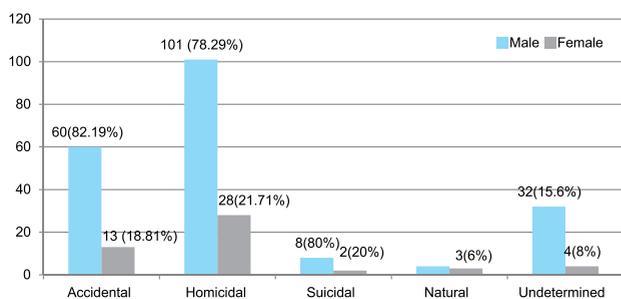
Table-III. Male and female death patterns in Faisalabad vertical percentage analysis

Table-III indicates the manner of death patterns in Faisalabad in a vertical percentage point of view regarding to the males and females in Faisalabad during the year 2017. Out of 205 deaths of males the accidental deaths were 60 (29.26%), homicidal deaths were 101(49.26%), suicidal deaths were 8(3.9%), natural deaths were 2 (1.9%) and the undetermined were 32(15.6%). However, out of 50 cases of female deaths accidental deaths were 13(26%), homicidal deaths were 28 (56%), suicidal deaths were 2(4%), natural deaths were 3(6%) and the undetermined were 4(8%).

Manner of Death	Male	Female	Total
Accidental	60 (82.19%)	13(18.81%)	73(100%)
Homicidal	101(78.29%)	28(21.71%)	129 (100%)
Suicidal	8(80%)	2(20%)	10(100%)
Natural	4(57.14%)	3(42.85%)	7(100%)
Undetermined	32(88.88%)	4(11.12%)	36(100%)
Total	205(80.40%)	50(19.60%)	255(100%)

Table-IV. Male and female death patterns in Faisalabad horizontal percentage analysis

Table-IV indicates the manner of deaths in aggregate regarding to the males and females in Faisalabad during the year 2017. Out of 255 deaths 205 (80.40%) were male and 50 (19.60%) were female. In case of Accidental deaths, out of 73 cases 60 (82.19 %) were males and 13 (18.81%) were females. However, out of 129 cases of homicidal deaths 101 (78.29%) deaths were males and 28(21.71%) were females. Moreover in case of suicidal deaths, 10 deaths were reported and out of which 8(80%) were male and 2 (20%) were female.



**Figure-1. Gender distribution of Accidental, Homicidal, Suicidal, Natural and Undetermined Deaths**

The above graph indicated the comparison of accidental, homicidal, suicidal, natural and undetermined deaths between male and females. The strength of female ratio is less than male ratio in each category.

**DISCUSSION**

Our study reported 255 deaths during Jan, 2017 to Dec, 2017 being autopsied at Postmortem Unit, Allied Hospital Faisalabad, Out of 255 deaths 205 (80.40%) deaths were male and 50 (19.60%) were female. The most deaths occurred in the age group of 20-29 years which were 24.7 %, however out of 205 deaths of males the accidental deaths were 60 (29.26%), homicidal deaths were 101(49.26%), suicidal deaths were 8(3.9%), natural deaths were 2 (1.9%) and the undetermined were 32(15.6%). However, out of 50 cases of female deaths accidental deaths were 13(26%), homicidal deaths were 28 (56%), suicidal deaths were 2(4%), natural deaths were 3(6%) and the undetermined were 4(8%). In a similar study held at autopsy unit of Faisalabad in year 2016, 288 autopsies were reported out of which 226 were male and 62 were females. Most of the specific age

group was 20 years to 29 years (29.86%). They reported that, homicidal death cases were 142, accidental deaths were reported 98. They reported that 119 deaths were due to firearm injuries and RTA caused 98 cases of death and 19 cases were due to poisoning.<sup>8</sup> In similar study held at DHQ Hospital Rawalpindi total 318 autopsies were performed; involving 239 male and 79 females. Most commonly the age group remained 21-30 years of the victims. They subdivided the autopsies into deaths due to fire arm weapons 132 (41.51%), by sharp edged 24 (7.55%), by blunt edged 9 (3.76%), by police torture 8(2.52%), by poisoning (64%) females and (36%) were males and by RTA 53.5% remaining deaths occurred. However a minor percentage of deaths cause due to electrocution (0.63%) and due to hanging, strangulation and suffocation caused 37(11.64%) casualties in Rawalpindi district.<sup>1</sup> In another study held at Multan regarding to unnatural death patterns during the period January 2015 to December 2015, it is identified that out of 139 cases (63.5%) deaths were homicidal, accidental deaths were 30.7% and suicidal deaths were 5.8%. However, in homicidal 42.5% deaths were due to firearm injury and the second highest most deaths were due to sharp edged weapons (23.3%) and asphyxia deaths were 10% and smothering were 2.5%. However poisoning caused no death but suicidal poisoning rated on top with 36.4% and deaths caused due to hanging were 27.3%. Further firearm and cut throat caused 18.2% deaths. The railway track accidents and road side accidents caused 24.1% and 58.6 % respectively.<sup>9</sup> Same like results were also reported in the studies held at Quetta and Hyderabad respectively.<sup>10,11</sup>

To make more essence in the study we have taken into the international studies as well. In this regard in a recent similar international retrospective study was being held at Addis Ababa, Ethiopia during period January 2014 to December, 2014. 4206 autopsies were conducted at Department of Forensic Pathology at Menelik II Hospital, the

ratio of male to female were 3:1. It is identified that most common Age group is 16-30 years (41.5%) preceded by 31-55 years (38.3%). Accidental deaths were identified 1615 (38.4%) proceeded by natural death in 1156 (27.5%). However homicidal deaths were 698 (16.6%) and suicide deaths were 508 (12%). Undetermined death cases were identified 229 (5.4%). Homicidal deaths were identified 698(16.6%), blunt weapon caused 61.4% death injuries caused bullets were 15.4%. However out of accidental deaths, RTA injuries were 1092 (67.6%) proceeded by fall accident with a figure 170 (10.5%). Further suicide cases through hanging were (88.4%) and suicidal death through poisoning were 51 (10%). The study reported that natural death were 1190 (27.5%) and followed by cardiac diseases and respiratory diseases 453 (38%) and 240 (20.2%) respectively.<sup>12</sup> In an Indian study context held at MVJ medical college regarding to the patterns of unnatural deaths during period 2014 and 2015. They identified 236 (87%) cases of unnatural deaths out of 273 causalities. They reported that deaths were more common in males 152 (64.4%) than in females 84 (35.6%). Most common age group of 31–40 years is identified in which death occurred more. Unnatural deaths patterns indicated that 67% were RTAs (accidental), homicidal deaths were 7% and suicidal deaths were 26%. Poisoning caused more deaths in suicide with 36 (58%) out of 61 suicidal cases, and then hanging with a figure of 14 (24%). Further burn cases were 5 (9%), drowning 3 (5%) and fallen from height 3 (4%).<sup>13</sup>

## CONCLUSION

Homicidal deaths were more than accidental deaths followed by undetermined deaths, suicidal and natural deaths. Hence it is clear that unnatural deaths proportionate is greater than the natural deaths in Faisalabad city during this study period. Male deaths were exceeded enormously than the females. However homicidal deaths were the most dominant manner of death among the unnatural deaths patterns. Firearm was the commonest modality among homicidal deaths. However in accidental deaths it is concluded that RTA were the highest manner of deaths. However remaining fatalities caused by blunt weapon

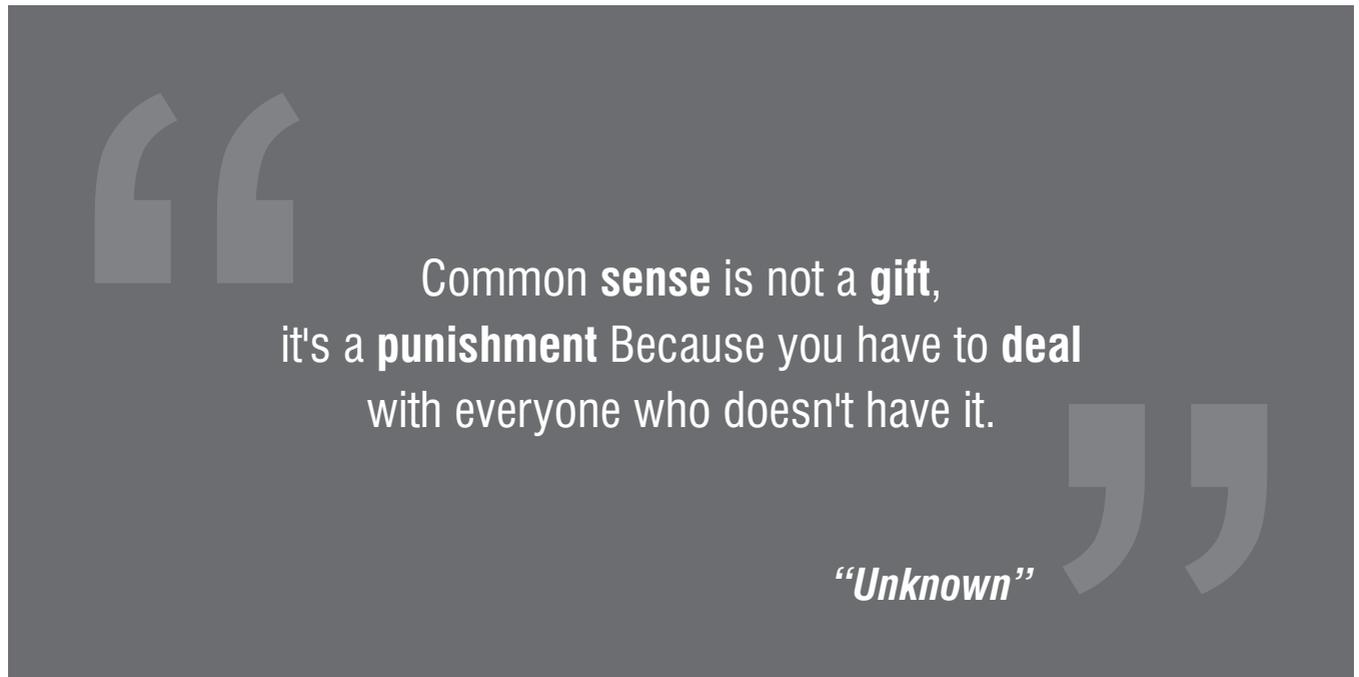
injuries and asphyxial modalities respectively, In case of suicide, asphyxia remained most common modality of deaths. Myocardial and ischemic heart diseases played top role in natural deaths. It is concluded that death turnover could be controllable if proper preventive measures were taken. There is a need to train and aware the masses regarding to the traffic laws to avoid RTA, to control murders there is a need of patience, guidance and provision of proper justice to avoid criminal behaviors by the state as well. Thus the death rate can be turn down in the society by adopting such behaviors which may not lead towards criminality.

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AUTHORSHIP AND CONTRIBUTION DECLARATION			
Sr. #	Author-s Full Name	Contribution to the paper	Author=s Signature
1	Kishwar Naheed	Main author, Study designing, CollectionProcessing data, Preparation of result.	
2	Shirza Nadeem	Tabulation of Results discussion and Reference writing, Statistical Analysis.	
3	Muhammad Iqbal	Review of literature, Layout of Manuscript, Proof reading.	
4	Altaf Pervez Qasim	Helped in typing the manuscript, Proof reading, Help in Literature Review and Authentication of References.	
5	Summyia Sadia	Data collection and Proof reading.	
6	Bashir Ahmad Siddiqui	Proof reading.	